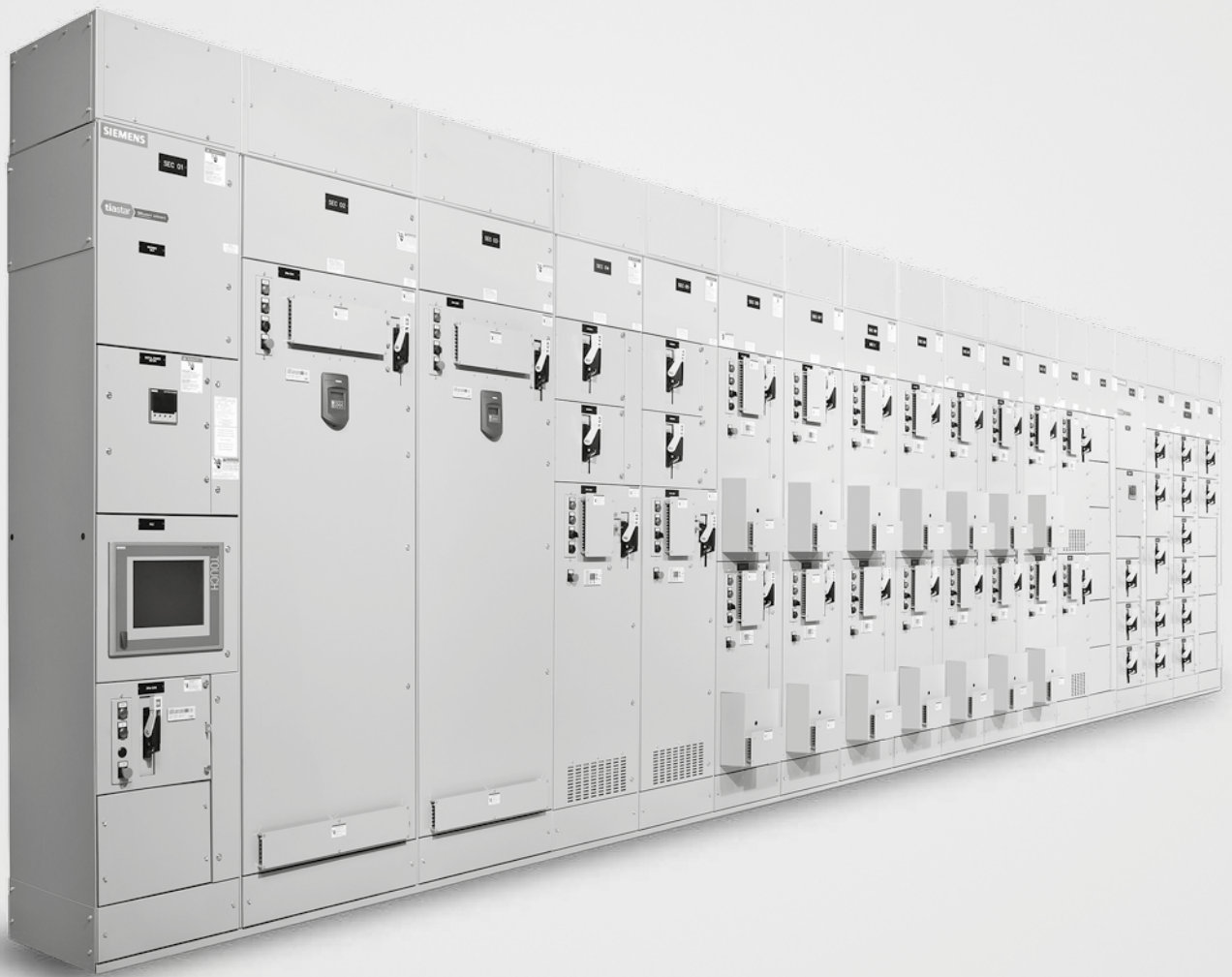


# Control Reference Manual

USA Edition



## tiastar MCC Simocode Pro

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**SIEMENS**



# tiastar Smart MCC SIMOCODE Pro Control

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# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## 1. Introduction

The intent of this manual is to familiarize the reader with a library of standard control circuits to be used in conjunction with Sirius Motor Management and Control Devices, also known as SIMOCODE Pro.

SIMOCODE Pro is a flexible, modular motor management system that combines virtually all functions required for a complete motor feeder. The only additional components required are switching and short-circuit protection mechanisms of the main circuit (contactors, circuit breakers, fuses, etc.).

SIMOCODE Pro replaces large, complex sections of the control circuit and automatically implements all required connections. It provides a considerable amount of operating, service and diagnostic data, increasing the actionable information provided by the motor feeder. It completely integrates the motor feeder into a comprehensive automation system via Profibus DP communication.

There are two varieties of SIMOCODE Pro:

- SIMOCODE Pro C - a compact system for full-voltage non-reversing and reversing starters providing control and monitoring capabilities via a standard Operator Panel.
- SIMOCODE Pro V – a variable system with many additional functions and features.
  - o Starter functions for star-delta; two-speed one-winding; two-speed two-winding and reduced voltage soft starters – with or without reversing control.
  - o Two digital modules to increase the number and type of binary inputs and outputs.
  - o A Current/Voltage Measuring Module that provides additional measurement and monitoring of voltage and other power-related values (power management).
  - o A Temperature Module to evaluate analog temperature sensors.
  - o An Earth-Fault detection system integrated with a summation current transformer for sensitive grounding systems.
  - o An Analog Module to extend the system by adding analog inputs and outputs, such as fill level or flow-rate monitoring.
  - o An Operator Panel with Display (OPD) that provides control, indication and status of all data stored within the device.

SIMOCODE Pro C is upward-compatible with SIMOCODE Pro V. This means both levels can be used simultaneously to meet specific requirements throughout a facility.

SIMOCODE Pro is customized for a particular application by storing one of the functional circuits described in this manual into programmable, non-volatile memory of each device. Each control circuit includes the input commands and output control logic required for a specific application.

SIMOCODE Pro functions can also be customized using an optional Windows-based software application to develop highly specialized control circuits or to modify a standard control circuit. SIMOCODE ES is a powerful, user-friendly program that uses pull-down menus to select the desired functionality. The program then translates these selections for download to the SIMOCODE Pro non-volatile memory.

For more information, or to purchase SIMOCODE Pro or SIMOCODE ES, please contact your local SIEMENS sales office.

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## 2. General terms

**Control Command:** Input sent from the control station screen to start, stop, and/or change the direction of a motor.

**Control Method:** There are four input locations (Local Control, PLC/DCS, PC, and Operator Panel) from which commands may be sent to control SIMOCODE Pro operations. Each may be set independently from the others. (See Control Method Releases & Operation Mode Selector.)

**Control Method Releases:** For each control mode, there are four stations (Local Control, PLC/DCS, PC, and Operator Panel) that can have control enabled (ON) and/or disabled (OFF). (See Control Method & Operation Mode Selector.)

**Control Selection:** The act of choosing between Local Control, Remote Control, and Remote Parameterization Control (if available) using the Operation Mode Selector.

**Control Station:** Interface screen in SIMOCODE ES used to assign operation mode selection and operations control within each control method.

**FAST:** Describes the higher capacity contactor in a two speed motor starter. Used as the designation on contactor coils, push buttons, and operator panel buttons.

**Fixed Level:** A setting within the SIMOCODE ES software that provides a maintained high (1) or low (0) signal. Used in logic circuits to limit the number of variables or provide a constant signal.

**FVNR:** The non-reversing starter uses the 1M contactor to connect the motor terminals directly across the line for single-speed, single-direction, full-voltage operation.

**FVR:** The reversing starter uses the FWD & REV contactors to connect the motor terminals in positive or negative phase sequence for single-speed, dual-direction, and full-voltage operation. The FWD & REV contactors are mechanically and electrically interlocked to prevent short circuiting of the input lines.

**FWD:** Abbreviation for forward. Describes the clockwise rotating contactor in a reversing motor starter. Used as the designation on contactor coils, push buttons, and operator panel buttons.

**Local Operation Mode:** To command the starter unit using hardwired inputs or the operator panel.

**Local Control (LC):** Control method used to assign the actions for controls placed at the SIMOCODE Pro inputs.

**Local Overload Operation – Remote Monitoring:** To bypass the SIMOCODE Pro for command of the starter unit and use PROFIBUS DP communication for monitoring.

**OFF Control Command:** Input used to send a STOP command. Note: Local Control (LC) Method requires a normally closed contact. This will ensure shut down if a wire break occurs.

**OL/FVNR; OL/FVR; OL/2S1W; OL/2S2W:** Use of the SIMOCODE Pro as an overload only. Control commands must be performed external to the Simocode Pro. Monitoring over Profibus DP is still possible.

**ON > Control Command:** Input used to send a FWD and SLOW run command.

**ON < Control Command:** Input used to send a REV and SLOW run command.

**ON >> Control Command:** Input used to send a FWD and FAST run command.

**ON << Control Command:** Input used to send a REV and FAST run command.

**Operation Mode Selector:** A two input truth table used to choose between up to four different control modes (Local 1, Local 2, Local 3, and Remote). See Control Methods & Control Method Releases.

**Operator Panel (OP):** Control method used to assign the actions from the SIMOCODE Pro Operator Panel buttons.

**PC (DPV1):** Control Method used to assign the actions sent from a remote Class II workstation or laptop via Profibus DP. Must be able to utilize Profibus DPV1 protocol.

**PLC/DCS (DP):** Control method used to assign the actions sent from a remote Class I master PLC/DCS via Profibus DP.

**Profibus Cyclic Receive Bit:** Control information sent from the PLC/DCS to the SIMOCODE Pro via Profibus DP.

**Profibus Cyclic Send Bit:** Status information sent from the SIMOCODE Pro to the PLC/DCS via Profibus DP.

**Remote Operation Mode:** To control the starter unit via PROFIBUS DP communication without rights to change parameter data.

**Remote Parameterization Operation Mode:** To control the starter unit via Profibus DP communication with rights to change parameter data.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## 2. General terms (continued)

**SIMOCODE ES:** Windows-based software program used to parameterize the SIMOCODE Pro motor management device.

**SLOW:** Describes the lower capacity contactor in a two speed motor starter. Used as the designation on contactor coils, push buttons, and operator panel buttons.

**Two Wire Control:** Characterized by maintained contact closure. Signal must always be present for operation of the contactor. Typically, two wire control provides voltage release protection, but no voltage return protection. In the event of control circuit power loss, the contactor would de-energize (voltage release protection), but would re-energize once control circuit power was restored, if the maintained contact was still closed (no voltage return protection). Proceed with caution.

**Three Wire Control:** Characterized by momentary contact closure. Signal needs only a pulse for operation of the contactor. Typically three wire control provides voltage release protection and voltage return protection. In the event of control circuit power loss the contactor would de-energize (voltage release protection). Once control circuit power was restored, a momentary start contact closure would be required before the contactor would engage (voltage return protection).

**2S1W:** The two-speed, one-winding starter uses the SLOW contactor to select low-speed and the FAST & SHORT contactors to select high-speed for dual-speed, single-direction, full-voltage operation. The SLOW and SHORT contactors are mechanically and electrically interlocked to prevent short circuits on the input lines.

**2S2W:** The two-speed, two-winding starter uses the SLOW contactor to select low-speed and the FAST contactor to select high-speed for dual-speed, single direction, full-voltage operation. The SLOW and FAST contactors are mechanically and electrically interlocked to prevent short circuits on the input lines.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## 3. Program block selection

Starter Type	Program Block	Mode Selection Type	Control Type	Input Assignments				Output Assignments																	
				BU IN1	BU IN2	BU IN3	BU IN4	OP B1	OP B2	OP B3	OP B4	DM1 IN1	DM1 IN2	DM1 IN3	DM1 IN4	DM2 IN1	DM2 IN2	DM2 IN3	DM2 IN4	BU OUT1	BU OUT2	BU OUT3	DM1 OUT1	DM1 OUT2	DM2 OUT1
FVNR	PB01	Fixed	Local OL - Remote Monitoring																						
FVNR	PB02	Profibus Bit	Local 2 wire SS - Remote 2 wire	ON															FWD COIL						
FVNR	PB03	Profibus Bit	Local 2 wire SS - Remote 3 wire	ON															FWD COIL						
FVNR	PB04	Profibus Bit	Local 3 wire PB - Remote 2 wire	START	STOP														FWD COIL						
FVNR	PB05	Profibus Bit	Local 3 wire PB - Remote 3 wire	START	STOP														FWD COIL						
FVNR	PB06	Profibus Bit	Local 3 wire OP - Remote 2 wire								START	STOP							FWD COIL						
FVNR	PB07	Profibus Bit	Local 3 wire OP - Remote 3 wire								START	STOP							FWD COIL						
FVNR	PB08	Profibus Bit	No Local - Remote 2 wire	ON															FWD COIL						
FVNR	PB09	Profibus Bit	No Local - Remote 3 wire	ON															FWD COIL						
FVNR	PB10	Selector Switch	Local 2 wire SS - Remote 2 wire	HAND				AUTO											FWD COIL						
FVNR	PB11	Selector Switch	Local 2 wire SS - Remote 3 wire	HAND				AUTO											FWD COIL						
FVNR	PB12	Selector Switch	Local 3 wire SS/PB - Remote 2 wire	HAND START	STOP			AUTO											FWD COIL						
FVNR	PB13	Selector Switch	Local 3 wire SS/PB - Remote 3 wire	HAND START	STOP			AUTO											FWD COIL						
FVNR	PB14	Operator Panel	Local 3 wire OP - Remote 2 wire						AUTO		START	STOP							FWD COIL						
FVNR	PB15	Operator Panel	Local 3 wire OP - Remote 3 wire						AUTO		START	STOP							FWD COIL						
FVR	PB16	Fixed	Local OL - Remote Monitoring																FWD COIL	REV COIL					
FVR	PB17	Profibus Bit	Local 2 wire SS - Remote 2 wire	FWD		REV													FWD COIL	REV COIL					
FVR	PB18	Profibus Bit	Local 2 wire SS - Remote 3 wire	FWD		REV													FWD COIL	REV COIL					
FVR	PB19	Profibus Bit	Local 3 wire PB - Remote 2 wire	FWD	STOP	REV													FWD COIL	REV COIL					
FVR	PB20	Profibus Bit	Local 3 wire PB - Remote 3 wire	FWD	STOP	REV													FWD COIL	REV COIL					
FVR	PB21	Profibus Bit	Local 3 wire OP - Remote 2 wire							REV	FWD	STOP							FWD COIL	REV COIL					
FVR	PB22	Profibus Bit	Local 3 wire OP - Remote 3 wire							REV	FWD	STOP							FWD COIL	REV COIL					
FVR	PB23	Profibus Bit	No Local - Remote 2 wire	FWD		REV													FWD COIL	REV COIL					
FVR	PB24	Profibus Bit	No Local - Remote 3 wire	FWD		REV													FWD COIL	REV COIL					
FVR	PB25	Selector Switch	Local 2 wire SS - Remote 2 wire	HAND FWD		HAND REV	AUTO												FWD COIL	REV COIL					
FVR	PB26	Selector Switch	Local 2 wire SS - Remote 3 wire	HAND FWD		HAND REV	AUTO												FWD COIL	REV COIL					
FVR	PB27	Selector Switch	Local 3 wire SS/PB - Remote 2 wire	HAND FWD	STOP	HAND REV	AUTO												FWD COIL	REV COIL					
FVR	PB28	Selector Switch	Local 3 wire SS/PB - Remote 3 wire	HAND FWD	STOP	HAND REV	AUTO												FWD COIL	REV COIL					
FVR	PB29	Operator Panel	Local 3 wire OP - Remote 2 wire						AUTO	REV	FWD	STOP							FWD COIL	REV COIL					
FVR	PB30	Operator Panel	Local 3 wire OP - Remote 3 wire						AUTO	REV	FWD	STOP							FWD COIL	REV COIL					



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## 3. Program block selection

Starter Type	Program Block	Mode Selection Type	Control Type	Input Assignments								Output Assignments															
				BU IN1	BU IN2	BU IN3	BU IN4	OP B1	OP B2	OP B3	OP B4	DM1 IN1	DM1 IN2	DM1 IN3	DM1 IN4	DM2 IN1	DM2 IN2	DM2 IN3	DM2 IN4	BU OUT1	BU OUT2	BU OUT3	DM1 OUT1	DM1 OUT2	DM2 OUT1	DM2 OUT2	
251W	PB31	Fixed	Local OL - Remote Monitoring																	FAST COIL	SLOW COIL	SHORT COIL					
251W	PB32	Profibus Bit	Local 2 wire SS - Remote 2 wire	SLOW		FAST														FAST COIL	SLOW COIL	SHORT COIL					
251W	PB33	Profibus Bit	Local 2 wire SS - Remote 3 wire	SLOW		FAST														FAST COIL	SLOW COIL	SHORT COIL					
251W	PB34	Profibus Bit	Local 3 wire PB - Remote 2 wire	SLOW	STOP	FAST														FAST COIL	SLOW COIL	SHORT COIL					
251W	PB35	Profibus Bit	Local 3 wire PB - Remote 3 wire	SLOW	STOP	FAST														FAST COIL	SLOW COIL	SHORT COIL					
251W	PB36	Profibus Bit	Local 3 wire OP - Remote 2 wire						FAST	SLOW	STOP									FAST COIL	SLOW COIL	SHORT COIL					
251W	PB37	Profibus Bit	Local 3 wire OP - Remote 3 wire						FAST	SLOW	STOP									FAST COIL	SLOW COIL	SHORT COIL					
251W	PB38	Profibus Bit	No Local - Remote 2 wire	SLOW		FAST														FAST COIL	SLOW COIL	SHORT COIL					
251W	PB39	Profibus Bit	No Local - Remote 3 wire	SLOW		FAST														FAST COIL	SLOW COIL	SHORT COIL					
251W	PB40	Selector Switch	Local 2 wire SS - Remote 2 wire	HAND SLOW		HAND FAST	AUTO													FAST COIL	SLOW COIL	SHORT COIL					
251W	PB41	Selector Switch	Local 2 wire SS - Remote 3 wire	HAND SLOW		HAND FAST	AUTO													FAST COIL	SLOW COIL	SHORT COIL					
251W	PB42	Selector Switch	Local 3 wire SS/PB - Remote 2 wire	HAND SLOW	HAND STOP	HAND FAST	AUTO													FAST COIL	SLOW COIL	SHORT COIL					
251W	PB43	Selector Switch	Local 3 wire SS/PB - Remote 3 wire	HAND SLOW	HAND STOP	HAND FAST	AUTO													FAST COIL	SLOW COIL	SHORT COIL					
251W	PB44	Operator Panel	Local 3 wire OP - Remote 2 wire					AUTO	FAST	SLOW	STOP									FAST COIL	SLOW COIL	SHORT COIL					
251W	PB45	Operator Panel	Local 3 wire OP - Remote 3 wire					AUTO	FAST	SLOW	STOP									FAST COIL	SLOW COIL	SHORT COIL					
252W	PB46	Fixed	Local OL - Remote Monitoring																	FAST COIL	SLOW COIL	SHORT COIL					
252W	PB47	Profibus Bit	Local 2 wire SS - Remote 2 wire	SLOW		FAST														FAST COIL	SLOW COIL	SHORT COIL					
252W	PB48	Profibus Bit	Local 2 wire SS - Remote 3 wire	SLOW		FAST														FAST COIL	SLOW COIL	SHORT COIL					
252W	PB49	Profibus Bit	Local 3 wire PB - Remote 2 wire	SLOW	STOP	FAST														FAST COIL	SLOW COIL	SHORT COIL					
252W	PB50	Profibus Bit	Local 3 wire PB - Remote 3 wire	SLOW	STOP	FAST														FAST COIL	SLOW COIL	SHORT COIL					
252W	PB51	Profibus Bit	Local 3 wire OP - Remote 2 wire						FAST	SLOW	STOP									FAST COIL	SLOW COIL	SHORT COIL					
252W	PB52	Profibus Bit	Local 3 wire OP - Remote 3 wire						FAST	SLOW	STOP									FAST COIL	SLOW COIL	SHORT COIL					
252W	PB53	Profibus Bit	No Local - Remote 2 wire	SLOW		FAST														FAST COIL	SLOW COIL	SHORT COIL					
252W	PB54	Profibus Bit	No Local - Remote 3 wire	SLOW		FAST														FAST COIL	SLOW COIL	SHORT COIL					
252W	PB55	Selector Switch	Local 2 wire SS - Remote 2 wire	HAND SLOW		HAND FAST	AUTO													FAST COIL	SLOW COIL	SHORT COIL					
252W	PB56	Selector Switch	Local 2 wire SS - Remote 3 wire	HAND SLOW		HAND FAST	AUTO													FAST COIL	SLOW COIL	SHORT COIL					
252W	PB57	Selector Switch	Local 3 wire SS/PB - Remote 2 wire	HAND SLOW	HAND STOP	HAND FAST	AUTO													FAST COIL	SLOW COIL	SHORT COIL					
252W	PB58	Selector Switch	Local 3 wire SS/PB - Remote 3 wire	HAND SLOW	HAND STOP	HAND FAST	AUTO													FAST COIL	SLOW COIL	SHORT COIL					
252W	PB59	Operator Panel	Local 3 wire OP - Remote 2 wire					AUTO	FAST	SLOW	STOP									FAST COIL	SLOW COIL	SHORT COIL					
252W	PB60	Operator Panel	Local 3 wire OP - Remote 3 wire					AUTO	FAST	SLOW	STOP									FAST COIL	SLOW COIL	SHORT COIL					

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## 3. Program block selection

Starter Type	Program Block	Mode Selection Type	Control Type	Input Assignments				Output Assignments																	
				BU IN1	BU IN2	BU IN3	BU IN4	OP B1	OP B2	OP B3	OP B4	DM1 IN1	DM1 IN2	DM1 IN3	DM1 IN4	DM2 IN1	DM2 IN2	DM2 IN3	DM2 IN4	BU OUT1	BU OUT2	BU OUT3	DM1 OUT1	DM1 OUT2	DM2 OUT1
3RW40 WI ISO	PB62	Profibus Bit	Local 2 wire SS - Remote 2 wire	ON		RVSS FAULT	RVSS RUN												ISO COIL	RVSS COIL					
3RW40 WI ISO	PB63	Profibus Bit	Local 2 wire SS - Remote 3 wire	ON		RVSS FAULT	RVSS RUN												ISO COIL	RVSS COIL					
3RW40 WI ISO	PB64	Profibus Bit	Local 3 wire PB - Remote 2 wire	START	STOP	RVSS FAULT	RVSS RUN												ISO COIL	RVSS COIL					
3RW40 WI ISO	PB65	Profibus Bit	Local 3 wire PB - Remote 3 wire	START	STOP	RVSS FAULT	RVSS RUN												ISO COIL	RVSS COIL					
3RW40 WI ISO	PB66	Profibus Bit	Local 3 wire OP - Remote 2 wire			RVSS FAULT	RVSS RUN			START	STOP								ISO COIL	RVSS COIL					
3RW40 WI ISO	PB67	Profibus Bit	Local 3 wire OP - Remote 3 wire			RVSS FAULT	RVSS RUN			START	STOP								ISO COIL	RVSS COIL					
3RW40 WI ISO	PB68	Profibus Bit	No Local - Remote 2 wire	ON		RVSS FAULT	RVSS RUN												ISO COIL	RVSS COIL					
3RW40 WI ISO	PB69	Profibus Bit	No Local - Remote 3 wire	ON		RVSS FAULT	RVSS RUN												ISO COIL	RVSS COIL					
3RW40 WI ISO	PB70	Selector Switch	Local 2 wire SS - Remote 2 wire	HAND	RVSS RUN	RVSS FAULT	AUTO												ISO COIL	RVSS COIL					
3RW40 WI ISO	PB71	Selector Switch	Local 2 wire SS - Remote 3 wire	HAND	RVSS RUN	RVSS FAULT	AUTO												ISO COIL	RVSS COIL					
3RW40 WI ISO	PB72	Selector Switch	Local 3 wire SS/PB - Remote 2 wire	HAND START	HAND STOP		AUTO					RVSS FAULT	RVSS RUN						ISO COIL	RVSS COIL					
3RW40 WI ISO	PB73	Selector Switch	Local 3 wire SS/PB - Remote 3 wire	HAND START	HAND STOP		AUTO					RVSS FAULT							ISO COIL	RVSS COIL					
3RW40 WI ISO	PB74	Operator Panel	Local 3 wire OP - Remote 2 wire			RVSS FAULT	RVSS RUN	AUTO		START	STOP								ISO COIL	RVSS COIL					
3RW40 WI ISO	PB75	Operator Panel	Local 3 wire OP - Remote 3 wire			RVSS FAULT	RVSS RUN	AUTO		START	STOP								ISO COIL	RVSS COIL					
3RW40 WI BYP	PB77	Profibus Bit	Local 2 wire SS - Remote 2 wire	RVSS	RVSS FAULT	BYPASS	RVSS RUN												ISO COIL	RVSS COIL	BYP COIL	RVSS COIL			
3RW40 WI BYP	PB78	Profibus Bit	Local 2 wire SS - Remote 3 wire	RVSS	RVSS FAULT	BYPASS	RVSS RUN												ISO COIL	RVSS COIL	BYP COIL	RVSS COIL			
3RW40 WI BYP	PB79	Profibus Bit	Local 3 wire PB - Remote 2 wire	RVSS	STOP	BYPASS						RVSS FAULT	RVSS RUN						ISO COIL	RVSS COIL	BYP COIL	RVSS COIL			
3RW40 WI BYP	PB80	Profibus Bit	Local 3 wire PB - Remote 3 wire	RVSS	STOP	BYPASS						RVSS FAULT	RVSS RUN						ISO COIL	RVSS COIL	BYP COIL	RVSS COIL			
3RW40 WI BYP	PB81	Profibus Bit	Local 3 wire OP - Remote 2 wire			RVSS FAULT	RVSS RUN			BYPASS	RVSS	STOP							ISO COIL	RVSS COIL	BYP COIL	RVSS COIL			
3RW40 WI BYP	PB82	Profibus Bit	Local 3 wire OP - Remote 3 wire			RVSS FAULT	RVSS RUN			BYPASS	RVSS	STOP							ISO COIL	RVSS COIL	BYP COIL	RVSS COIL			
3RW40 WI BYP	PB83	Profibus Bit	No Local - Remote 2 wire	RVSS	RVSS FAULT	BYPASS	RVSS RUN												ISO COIL	RVSS COIL	BYP COIL	RVSS COIL			
3RW40 WI BYP	PB84	Profibus Bit	No Local - Remote 3 wire	RVSS	RVSS FAULT	BYPASS	RVSS RUN												ISO COIL	RVSS COIL	BYP COIL	RVSS COIL			
3RW40 WI BYP	PB85	Selector Switch	Local 2 wire SS - Remote 2 wire	HAND RVSS	HAND BYPASS	AUTO							RVSS FAULT	RVSS RUN					ISO COIL	RVSS COIL	BYP COIL	RVSS COIL			
3RW40 WI BYP	PB86	Selector Switch	Local 2 wire SS - Remote 3 wire	HAND RVSS	HAND BYPASS	AUTO							RVSS FAULT	RVSS RUN					ISO COIL	RVSS COIL	BYP COIL	RVSS COIL			
3RW40 WI BYP	PB87	Selector Switch	Local 3 wire SS/PB - Remote 2 wire	HAND RVSS	HAND START	HAND BYPASS	AUTO						RVSS FAULT	RVSS RUN					ISO COIL	RVSS COIL	BYP COIL	RVSS COIL			
3RW40 WI BYP	PB88	Selector Switch	Local 3 wire SS/PB - Remote 3 wire	HAND RVSS	HAND START	HAND BYPASS	AUTO						RVSS FAULT	RVSS RUN					ISO COIL	RVSS COIL	BYP COIL	RVSS COIL			
3RW40 WI BYP	PB89	Operator Panel	Local 3 wire OP - Remote 2 wire			RVSS FAULT	RVSS RUN	AUTO	BYPASS	RVSS	STOP								ISO COIL	RVSS COIL	BYP COIL	RVSS COIL			

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## 3. Program block selection

Starter Type	Program Block	Mode Selection Type	Control Type	Input Assignments										Output Assignments													
				BU IN1	BU IN2	BU IN3	BU IN4	OP B1	OP B2	OP B3	OP B4	DM1 IN1	DM1 IN2	DM1 IN3	DM1 IN4	DM2 IN1	DM2 IN2	DM2 IN3	DM2 IN4	BU OUT1	BU OUT2	BU OUT3	DM1 OUT1	DM1 OUT2	DM2 OUT1	DM2 OUT2	
3RW44	PB92	Profibus Bit	Local 2 wire SS - Remote 2 wire	ON		RVSS FAULT	RVSS RUN													RVSS COIL	RVSS RESET	ISO COIL					
3RW44	PB93	Profibus Bit	Local 2 wire SS - Remote 3 wire	ON		RVSS FAULT	RVSS RUN													RVSS COIL	RVSS RESET	ISO COIL					
3RW44	PB94	Profibus Bit	Local 3 wire PB - Remote 2 wire	START	STOP	RVSS FAULT	RVSS RUN													RVSS COIL	RVSS RESET	ISO COIL					
3RW44	PB95	Profibus Bit	Local 3 wire PB - Remote 3 wire	START	STOP	RVSS FAULT	RVSS RUN													RVSS COIL	RVSS RESET	ISO COIL					
3RW44	PB96	Profibus Bit	Local 3 wire OP - Remote 2 wire			RVSS FAULT	RVSS RUN			START	STOP									RVSS COIL	RVSS RESET	ISO COIL					
3RW44	PB97	Profibus Bit	Local 3 wire OP - Remote 3 wire			RVSS FAULT	RVSS RUN			START	STOP									RVSS COIL	RVSS RESET	ISO COIL					
3RW44	PB98	Profibus Bit	No Local - Remote 2 wire	ON		RVSS FAULT	RVSS RUN													RVSS COIL	RVSS RESET	ISO COIL					
3RW44	PB99	Profibus Bit	No Local - Remote 3 wire	ON		RVSS FAULT	RVSS RUN													RVSS COIL	RVSS RESET	ISO COIL					
3RW44	PB100	Selector Switch	Local 2 wire SS - Remote 2 wire	HAND		RVSS FAULT	RVSS RUN													RVSS COIL	RVSS RESET	ISO COIL					
3RW44	PB101	Selector Switch	Local 2 wire SS - Remote 3 wire	HAND		RVSS FAULT	RVSS RUN													RVSS COIL	RVSS RESET	ISO COIL					
3RW44	PB102	Selector Switch	Local 3 wire SSPB - Remote 2 wire	HAND START	STOP	RVSS FAULT	RVSS RUN					RVSS FAULT	RVSS RUN							RVSS COIL	RVSS RESET	ISO COIL					
3RW44	PB103	Selector Switch	Local 3 wire SSPB - Remote 3 wire	HAND START	STOP	RVSS FAULT	RVSS RUN					RVSS FAULT	RVSS RUN							RVSS COIL	RVSS RESET	ISO COIL					
3RW44	PB104	Operator Panel	Local 3 wire OP - Remote 2 wire			RVSS FAULT	RVSS RUN		AUTO		STOP									RVSS COIL	RVSS RESET	ISO COIL					
3RW44	PB105	Operator Panel	Local 3 wire OP - Remote 3 wire			RVSS FAULT	RVSS RUN		AUTO		STOP									RVSS COIL	RVSS RESET	ISO COIL					
3RW44 WI BYP	PB107	Profibus Bit	Local 2 wire SS - Remote 2 wire	RVSS		BYPASS						RVSS FAULT	RVSS RUN							RVSS COIL	RVSS RESET	ISO COIL	ISO COIL BYP	ISO COIL BYP			
3RW44 WI BYP	PB108	Profibus Bit	Local 2 wire SS - Remote 3 wire	RVSS		BYPASS						RVSS FAULT	RVSS RUN							RVSS COIL	RVSS RESET	ISO COIL	ISO COIL BYP	ISO COIL BYP			
3RW44 WI BYP	PB109	Profibus Bit	Local 3 wire PB - Remote 2 wire	RVSS	STOP	BYPASS						RVSS FAULT	RVSS RUN							RVSS COIL	RVSS RESET	ISO COIL	ISO COIL BYP	ISO COIL BYP			
3RW44 WI BYP	PB110	Profibus Bit	Local 3 wire PB - Remote 3 wire	RVSS	STOP	BYPASS						RVSS FAULT	RVSS RUN							RVSS COIL	RVSS RESET	ISO COIL	ISO COIL BYP	ISO COIL BYP			
3RW44 WI BYP	PB111	Profibus Bit	Local 3 wire OP - Remote 2 wire							BYPASS	RVSS	STOP	RVSS FAULT	RVSS RUN						RVSS COIL	RVSS RESET	ISO COIL	ISO COIL BYP	ISO COIL BYP			
3RW44 WI BYP	PB112	Profibus Bit	Local 3 wire OP - Remote 3 wire							BYPASS	RVSS	STOP	RVSS FAULT	RVSS RUN						RVSS COIL	RVSS RESET	ISO COIL	ISO COIL BYP	ISO COIL BYP			
3RW44 WI BYP	PB113	Profibus Bit	No Local - Remote 2 wire	RVSS		BYPASS						RVSS FAULT	RVSS RUN							RVSS COIL	RVSS RESET	ISO COIL	ISO COIL BYP	ISO COIL BYP			
3RW44 WI BYP	PB114	Profibus Bit	No Local - Remote 3 wire	RVSS		BYPASS						RVSS FAULT	RVSS RUN							RVSS COIL	RVSS RESET	ISO COIL	ISO COIL BYP	ISO COIL BYP			
3RW44 WI BYP	PB115	Selector Switch	Local 2 wire SS - Remote 2 wire	HAND		BYPASS		AUTO				RVSS FAULT	RVSS RUN							RVSS COIL	RVSS RESET	ISO COIL	ISO COIL BYP	ISO COIL BYP			
3RW44 WI BYP	PB116	Selector Switch	Local 2 wire SS - Remote 3 wire	HAND		BYPASS		AUTO				RVSS FAULT	RVSS RUN							RVSS COIL	RVSS RESET	ISO COIL	ISO COIL BYP	ISO COIL BYP			
3RW44 WI BYP	PB117	Selector Switch	Local 3 wire SSPB - Remote 2 wire	HAND	STOP	BYPASS		AUTO				RVSS FAULT	RVSS RUN							RVSS COIL	RVSS RESET	ISO COIL	ISO COIL BYP	ISO COIL BYP			
3RW44 WI BYP	PB118	Selector Switch	Local 3 wire SSPB - Remote 3 wire	HAND	STOP	BYPASS		AUTO				RVSS FAULT	RVSS RUN							RVSS COIL	RVSS RESET	ISO COIL	ISO COIL BYP	ISO COIL BYP			
3RW44 WI BYP	PB119	Operator Panel	Local 3 wire OP - Remote 2 wire			BYPASS			AUTO		STOP	RVSS	RVSS FAULT	RVSS RUN						RVSS COIL	RVSS RESET	ISO COIL	ISO COIL BYP	ISO COIL BYP			
3RW44 WI BYP	PB120	Operator Panel	Local 3 wire OP - Remote 3 wire						AUTO		STOP	RVSS	RVSS FAULT	RVSS RUN						RVSS COIL	RVSS RESET	ISO COIL	ISO COIL BYP	ISO COIL BYP			

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## 4. Full voltage non-reversing

The non-reversing starter uses the 1M contactor to connect the motor terminals directly across the line for single-speed, single-direction, full-voltage operation.

The basic operation of this starter is as follows.

1. A local or remote start signal is given to the SIMOCODE Pro.
2. The SIMOCODE Pro Output 1 closes which energizes the coil of 1M Contactor.
3. A local or remote stop signal is given to the SIMOCODE Pro.
4. The SIMOCODE Pro Output 1 opens which de-energizes the coil of 1M Contactor.
5. If a fault occurs at any time, the SIMOCODE Pro will end the starter operation.

## Section 4

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB01

OL / FVNR – Fixed Operation Mode

Local Overload Operation – Remote Monitoring

### Operating Instructions

#### Local Control

1. All control external to device.
2. In the event of an Overload or any other General Fault event the SIMOCODE Output 3 will open.

#### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

#### NOTE:

This setup is not recommended as its use eliminates local control of the starter via Simocode Pro as well as remote control over Profibus DP network communication



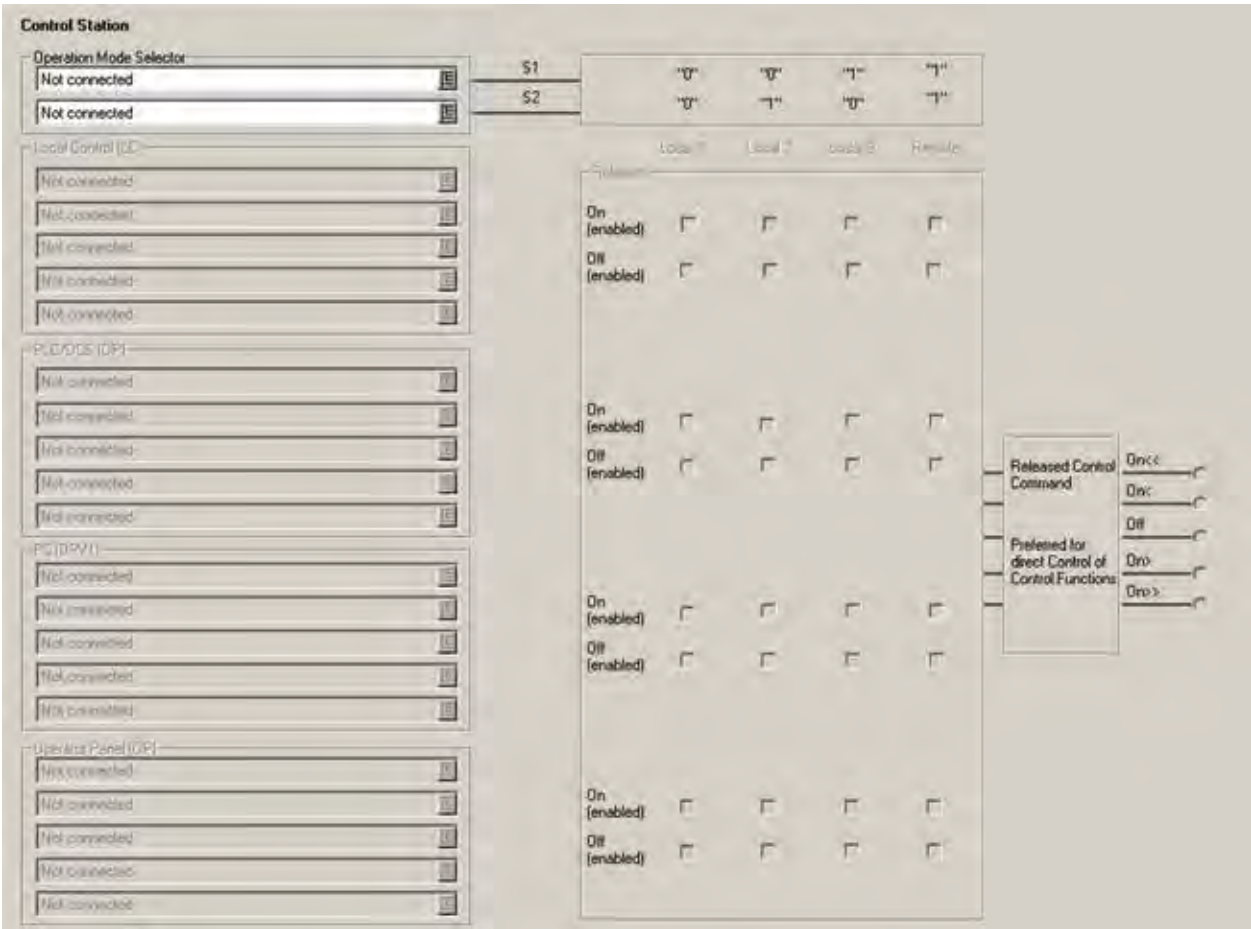
# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB01

OL / FVNR – Fixed Operation Mode –  
Local Overload Operation – Remote Monitoring

### Parameter Detail

Control Selection and Operation

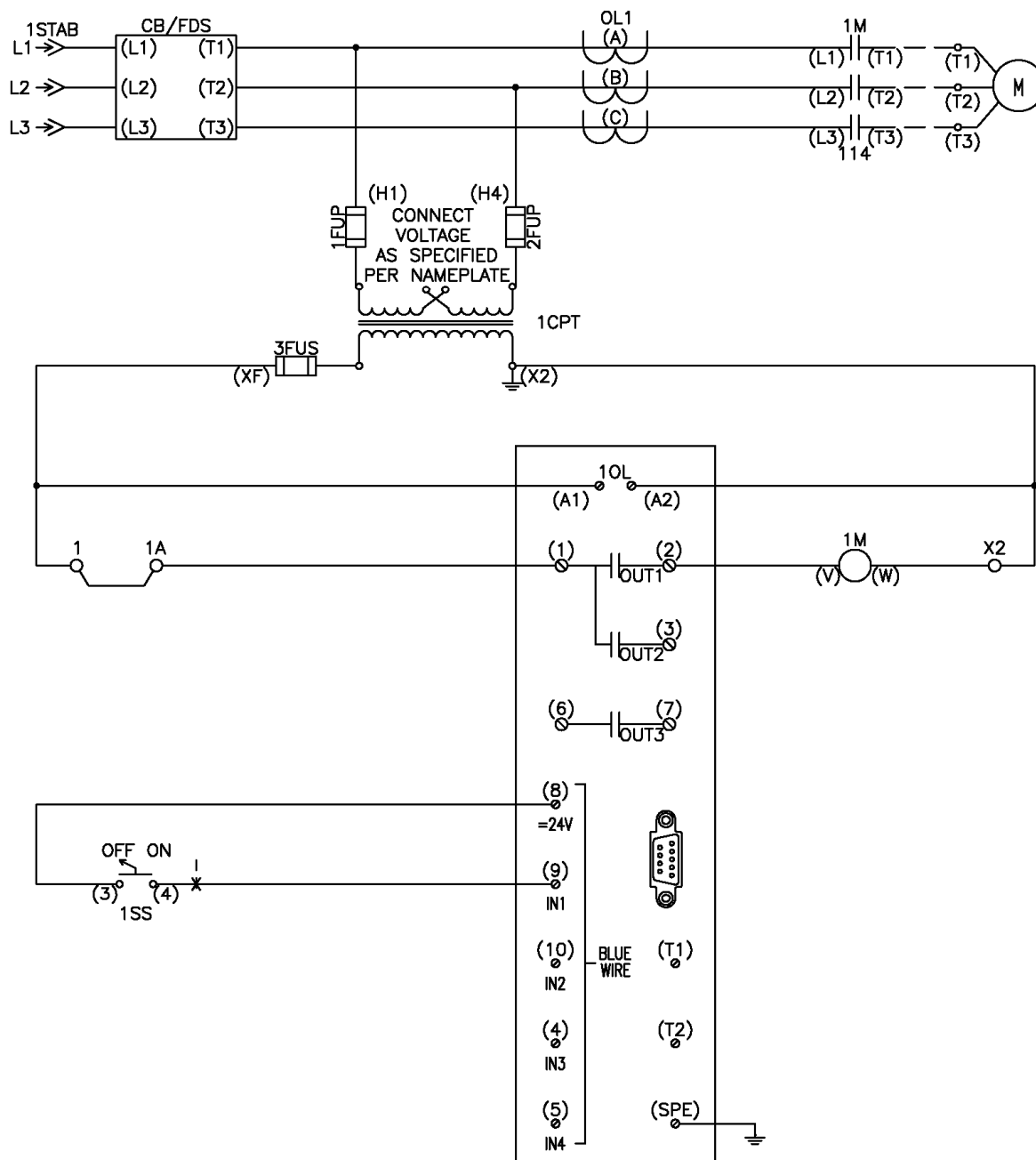


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB02

FVNR – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS – Remote 2-Wire

Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB02

### FVNR – Profibus Bit Operation Mode Selection – Local 2-Wire SS – Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command and the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the 1M Contactor the selector switch is placed into the ON position. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M contactor the selector switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
4. In the event of an overload or any other general fault event SIMOCODE Output 1 will open.

##### Remote Control

1. Profibus cyclic receive bit 0.2 is connected to the ON > Control Command and Signal Conditioner 1 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Profibus Cyclic Receive Bit 0.2 is connected to the Signal Conditioner 1 Input for inversion.
2. To engage the 1M Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M Contactor the Profibus Cyclic Receive Bit 0.2 is deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
4. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB02

FVNR – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS – Remote 2-Wire

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - Bit 0.5

Fixed Level - '1'

Local Control [LC]

Not connected

Not connected

BU - Input 1

BU - Input 1

Not connected

PLC/DCS [DP]

Not connected

Not connected

Signal Conditioner 1 - Output

Cyclic Receive - Bit 0.2

Not connected

PC [DPV1]

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel [OP]

Not connected

Not connected

Not connected

Not connected

Not connected

S1

S2

Off

On

Off

On

Off

On

Off

On

Off

On

Off

On

Off

On

Local 1

Local 2

Local 3

Remote

Released

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

Released Control Command

On<<

On<

On

On>

On>>

Preferred for direct Control of Control Functions

Signal Conditioner 1

Signal Conditioner - Type

inverting

Signal Conditioner - Input

Cyclic Receive - Bit 0.2

Signal Conditioner - Reset

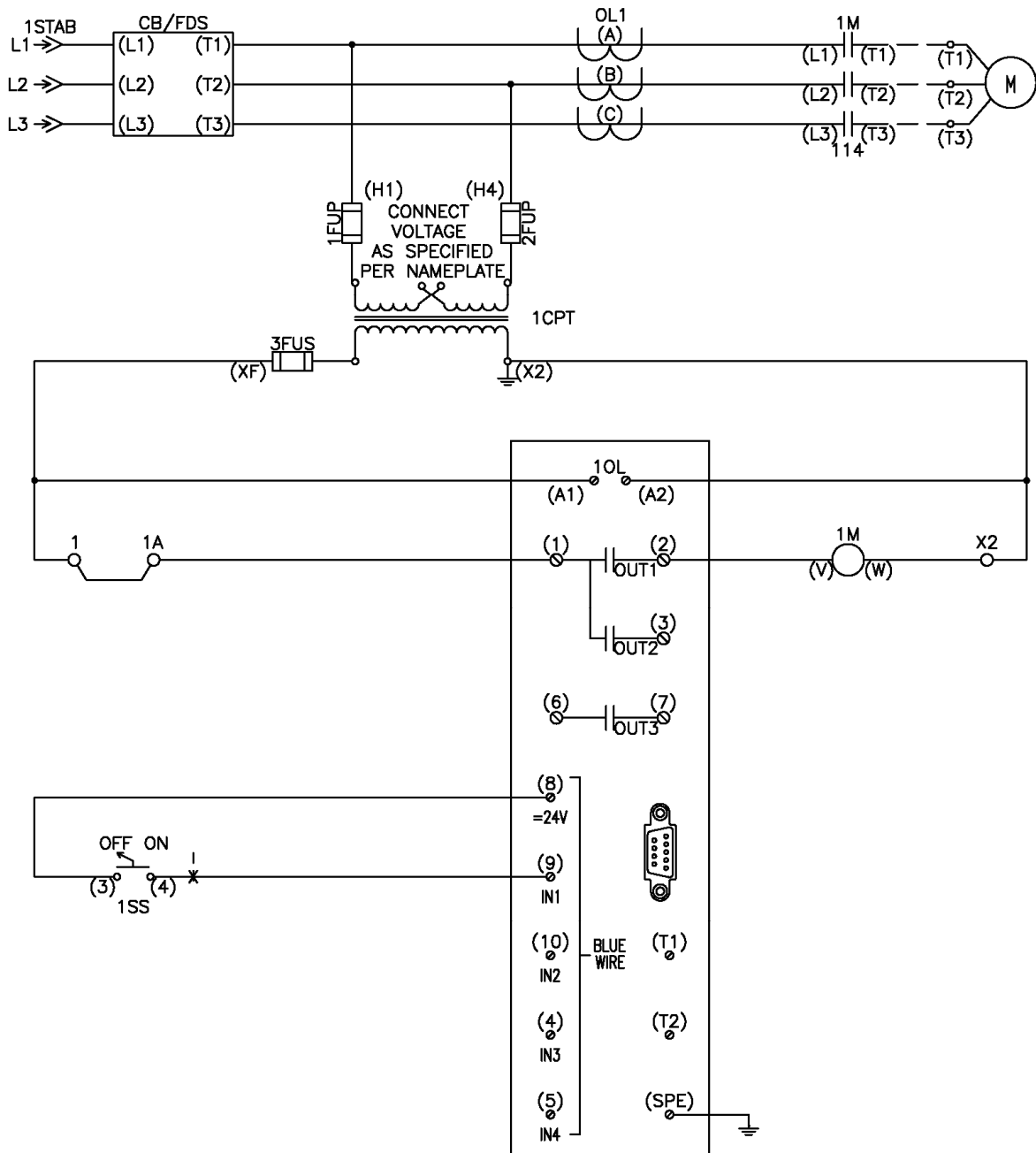
Not connected

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB03

FVNR – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS – Remote 3-Wire

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB03

### FVNR – Profibus Bit Operation Mode Selection – Local 2-Wire SS – Remote 3-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command and connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the 1M Contactor the Selector Switch is placed into the ON position. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M Contactor the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
4. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the 1M Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
4. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.







# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB04

### FVNR – Profibus Bit Operation Mode Selection – Local 3-Wire PB – Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the 1M Contactor the Start Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M Contactor the Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
4. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Signal Conditioner 1 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Profibus Cyclic Receive Bit 0.2 is connected to the Signal Conditioner 1 Input for inversion.
2. To engage the 1M Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M Contactor the Profibus Cyclic Receive Bit 0.2 is deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
4. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open, which in turn de-energizes the 1M Contactor Coil thus disengaging the 1M Contactor ceasing current flow to the motor.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB04

FVNR – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 2-Wire

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - Bit 0.5

Fixed Level - '1'

Local Control [LC]

Not connected

Not connected

BU - Input 2

BU - Input 1

Not connected

PLC/DCS [DP]

Not connected

Not connected

Signal Conditioner 1 - Output

Cyclic Receive - Bit 0.2

Not connected

PC [DPV1]

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel [OP]

Not connected

Not connected

Not connected

Not connected

Not connected

S1

S2

Off

On

Off

On

Off

On

Off

On

Off

On

Local 1

Local 2

Local 3

Remote

Releases

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

Released Control Command

On<<

On<

On

On>

On>>

Preferred for direct Control of Control Functions

Signal Conditioner 1

Signal Conditioner - Type

inverting

Signal Conditioner - Input

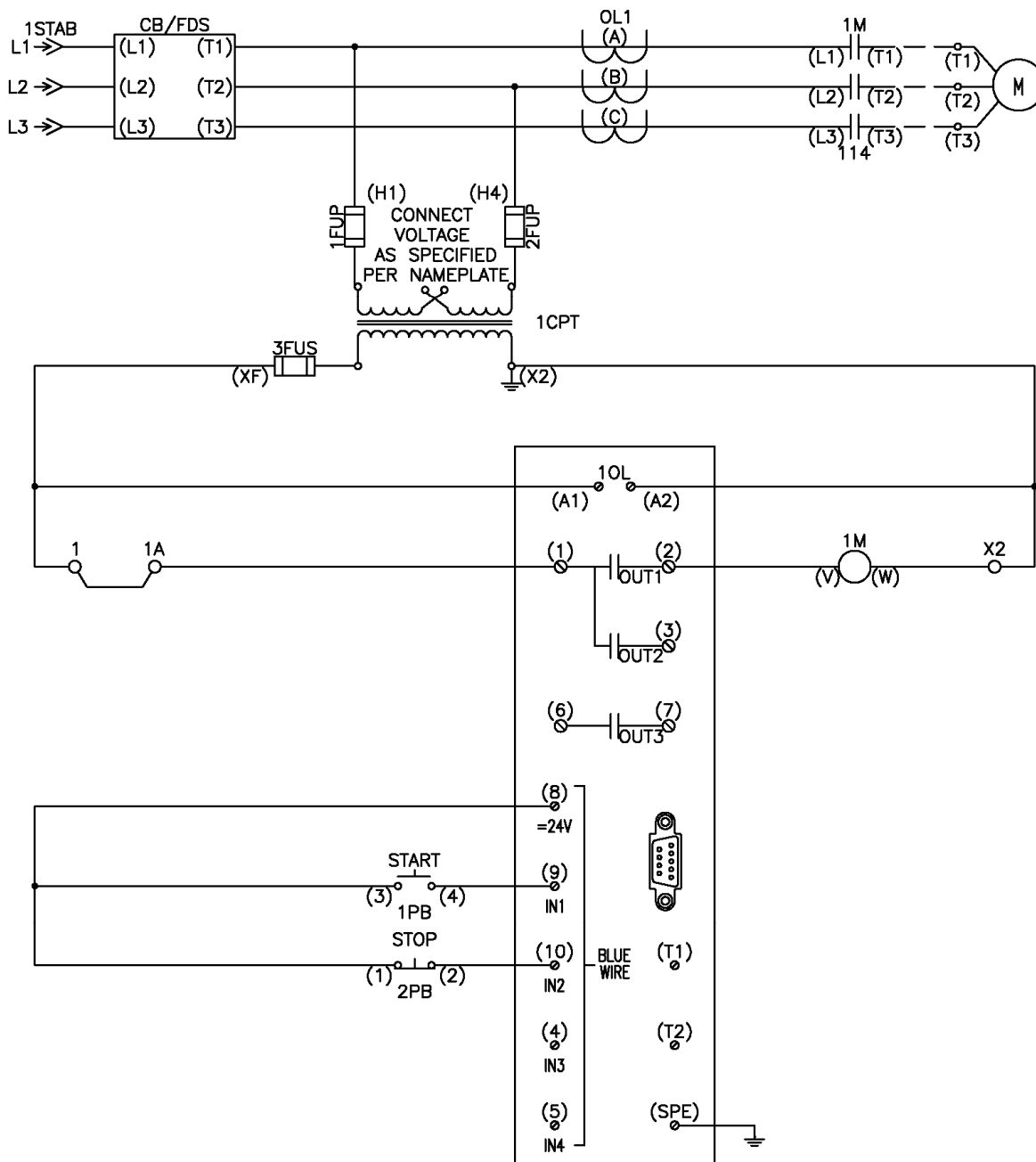
Cyclic Receive - Bit 0.2

Signal Conditioner - Reset

Not connected

## Section 4

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB05

#### FVNR – Profibus Bit Operation Mode Selection – Local 3-Wire PB – Remote 3-Wire

##### Operating Instructions

###### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

###### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the 1M Contactor the Start Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M Contactor the Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
4. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

###### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the 1M Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
4. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

###### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB05

FVNR – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 3-Wire

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - Bz 0.5

Fixed Level - '1'

Local Control [LC]

Not connected

Not connected

BU - Input 2

BU - Input 1

Not connected

PLC/DCS [DP]

Not connected

Not connected

Cyclic Receive - Bz 0.1

Cyclic Receive - Bz 0.2

Not connected

PC [DPV1]

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel [OP]

Not connected

Not connected

Not connected

Not connected

Not connected

51

52

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

Local 1

Local 2

Local 3

Remote

Released Control Command

Preferred for direct Control of Control Functions

On<<

On<

Off

On>

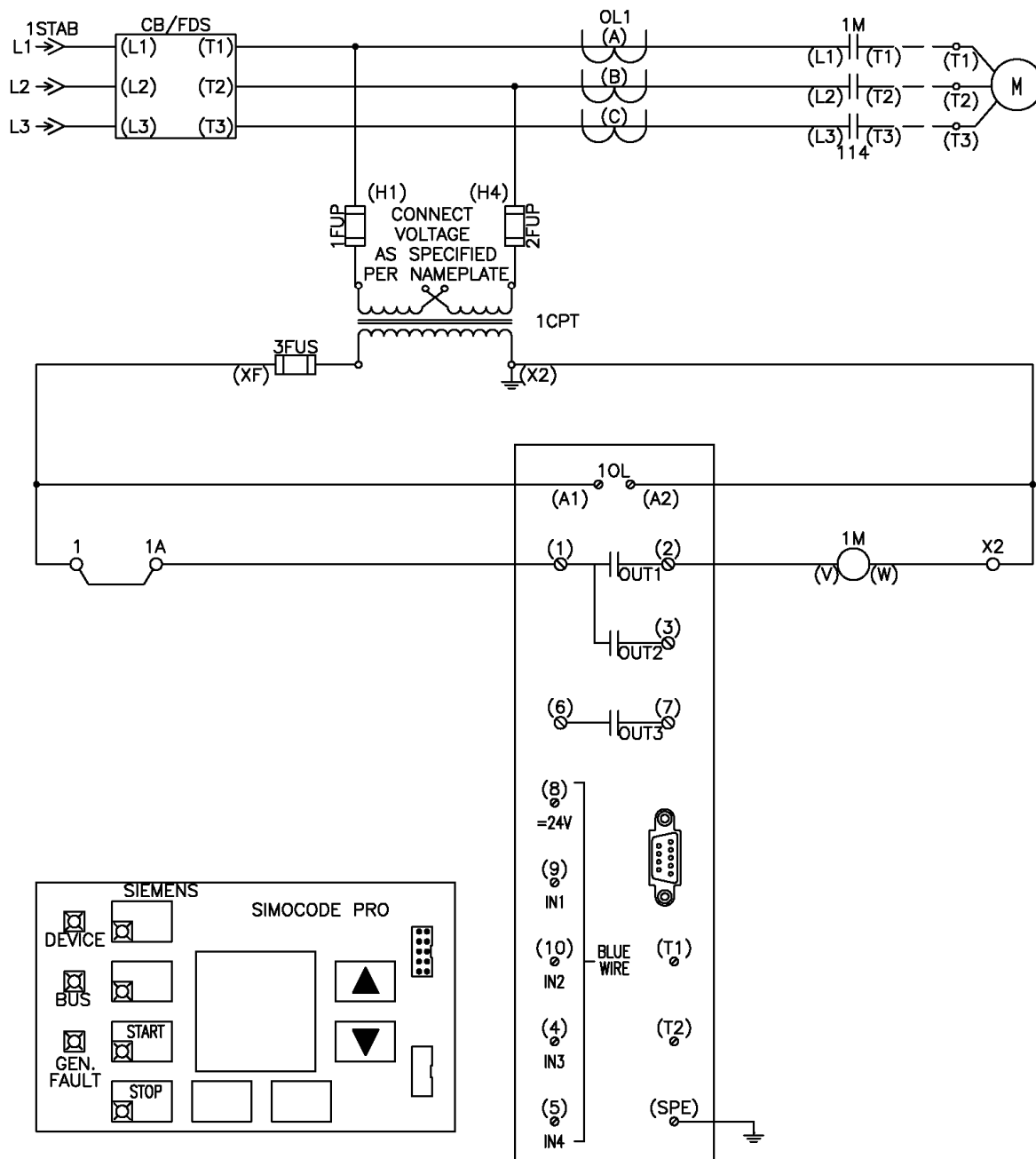
On>>

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB06

FVNR – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP – Remote 2-Wire

### Connection Diagram

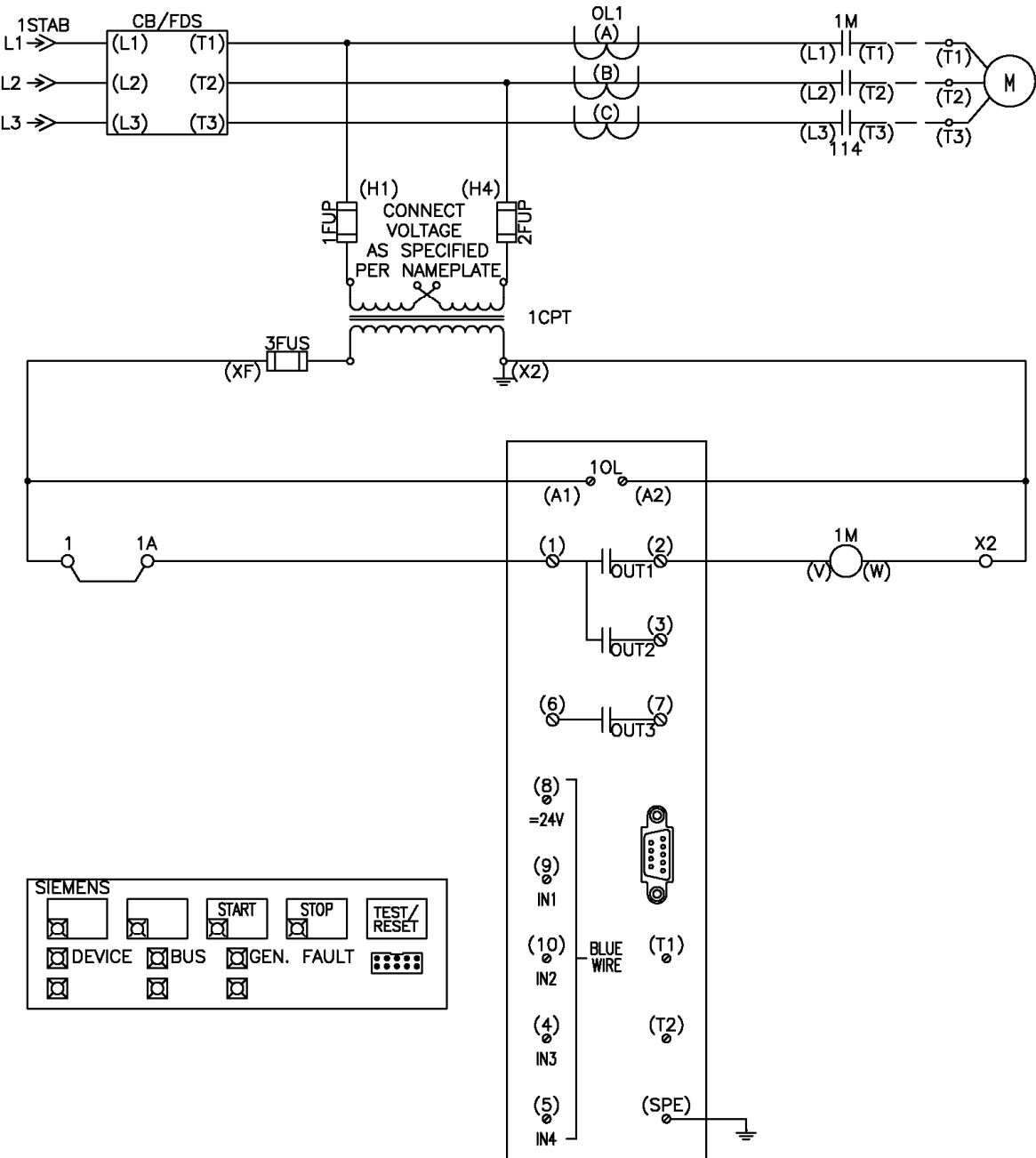


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB06

FVNR – Profibus Bit Operation Mode Selection –  
Local 3-Wire OPD – Remote 2-Wire

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB06

### FVNR – Profibus Bit Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. Operator Panel Button 3 (START) is connected to the ON > Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the 1M Contactor the OP Start Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M Contactor the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
4. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Signal Conditioner 1 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Profibus Cyclic Receive Bit 0.2 is connected to the Signal Conditioner 1 Input for inversion.
2. To engage the 1M Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M Contactor the Profibus Cyclic Receive Bit 0.2 is deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
4. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB06

FVNR – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP(OPD) – Remote 2-Wire

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - Bit 0.5

Fixed Level - 1'

Local Control [LC]

Not connected

Not connected

Not connected

Not connected

PLC/DCS [DP]

Not connected

Not connected

Signal Conditioner 1 - Output

Cyclic Receive - Bit 0.2

Not connected

PC [DPV1]

Not connected

Not connected

Not connected

Not connected

Operator Panel [OP]

Not connected

Not connected

OP - Button 4

OP - Button 3

Not connected

S1

S2

0'

0'

1''

1''

0'

1''

0'

1''

Local 1

Local 2

Local 3

Remote

Releases

On (enabled)

Off

On (enabled)

Off

On (enabled)

Off

On (enabled)

Off

On (enabled)

Off

On (enabled)

Off

On (enabled)

Off

On (enabled)

Off

Released Control Command

On/Off

On/Off

On/Off

On/Off

On/Off

Preferred for direct Control of Control Functions

On/Off

On/Off

On/Off

On/Off

Signal Conditioner 1

Signal Conditioner - Type

inverting

Signal Conditioner - Input

Cyclic Receive - Bit 0.2

Signal Conditioner - Reset

Not connected

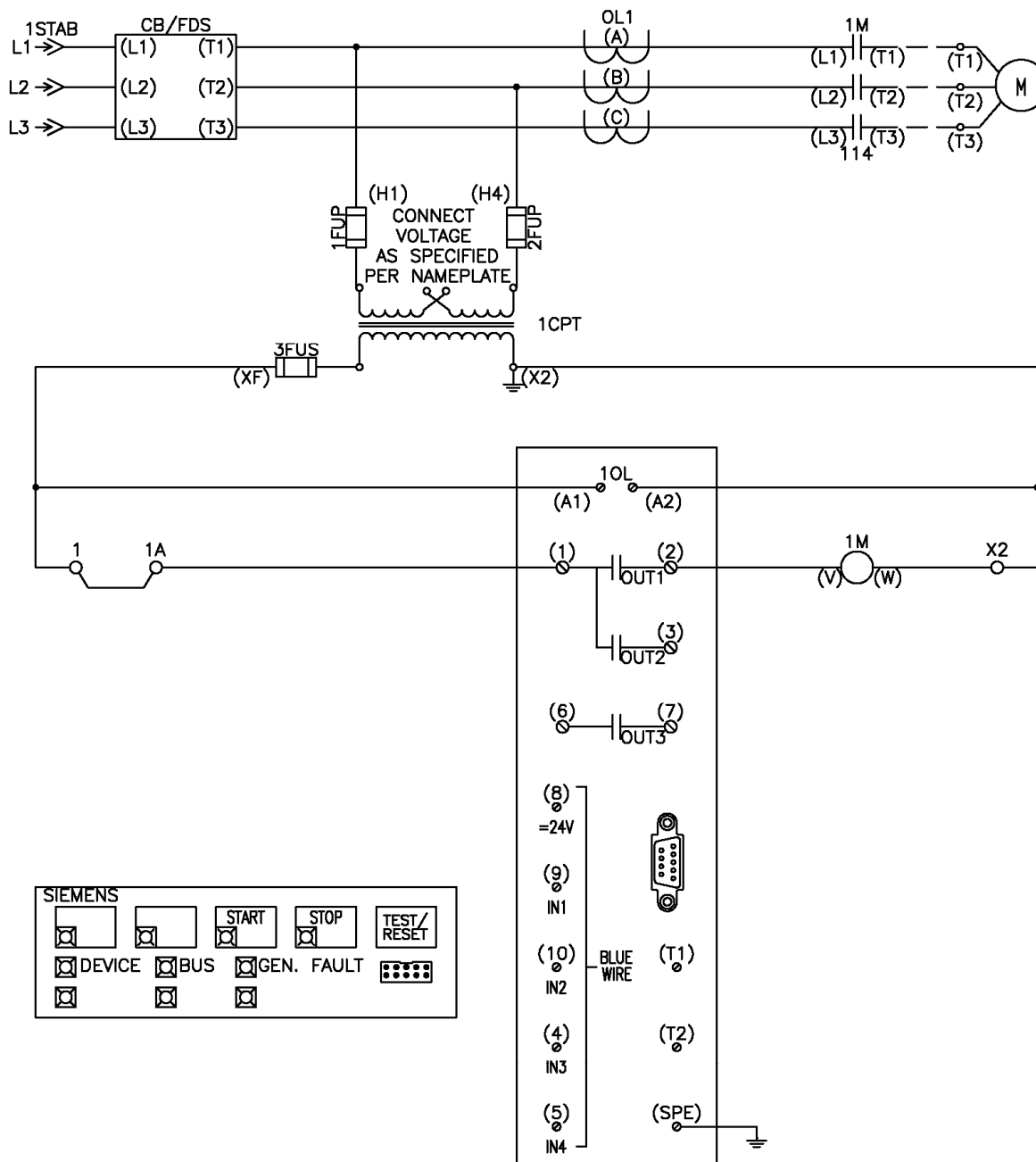
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB07

FVNR – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP – Remote 3-Wire

#### Connection Diagram





## Section 4

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB07

#### FVNR – Profibus Bit Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 3-Wire

##### Operating Instructions

###### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

###### Local Control

1. Operator Panel Button 3 (START) is connected to the ON > Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the 1M Contactor the OP Start Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M Contactor the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
4. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

###### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Signal Conditioner 1 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Profibus Cyclic Receive Bit 0.2 is connected to the Signal Conditioner 1 Input for inversion.
2. To engage the 1M Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M Contactor the Profibus Cyclic Receive Bit 0.2 is deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
4. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

###### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB07

FVNR – Profibus Bit Operation Mode Selection – Local 3-Wire OP(OPD) – Remote 3-Wire

### Parameter Detail

Control Selection and Operation

**Control Station**

**Operation Mode Selector**

Cyclic Receive - Bit 0.5 ☐

Fixed Level - '1' ☐

**Local Control (LC)**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**PLC/DCS (DP)**

Not connected ☐

Not connected ☐

Cyclic Receive - Bit 0.1 ☐

Cyclic Receive - Bit 0.2 ☐

Not connected ☐

**PC (DPV1)**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Operator Panel (OP)**

Not connected ☐

Not connected ☐

OP - Button 4 ☐

OP - Button 3 ☐

Not connected ☐

	Local 1	Local 2	Local 3	Remote
Releases				
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Released Control Command

Preferred for direct Control of Control Functions

On <<

On <

On

On >

On >>

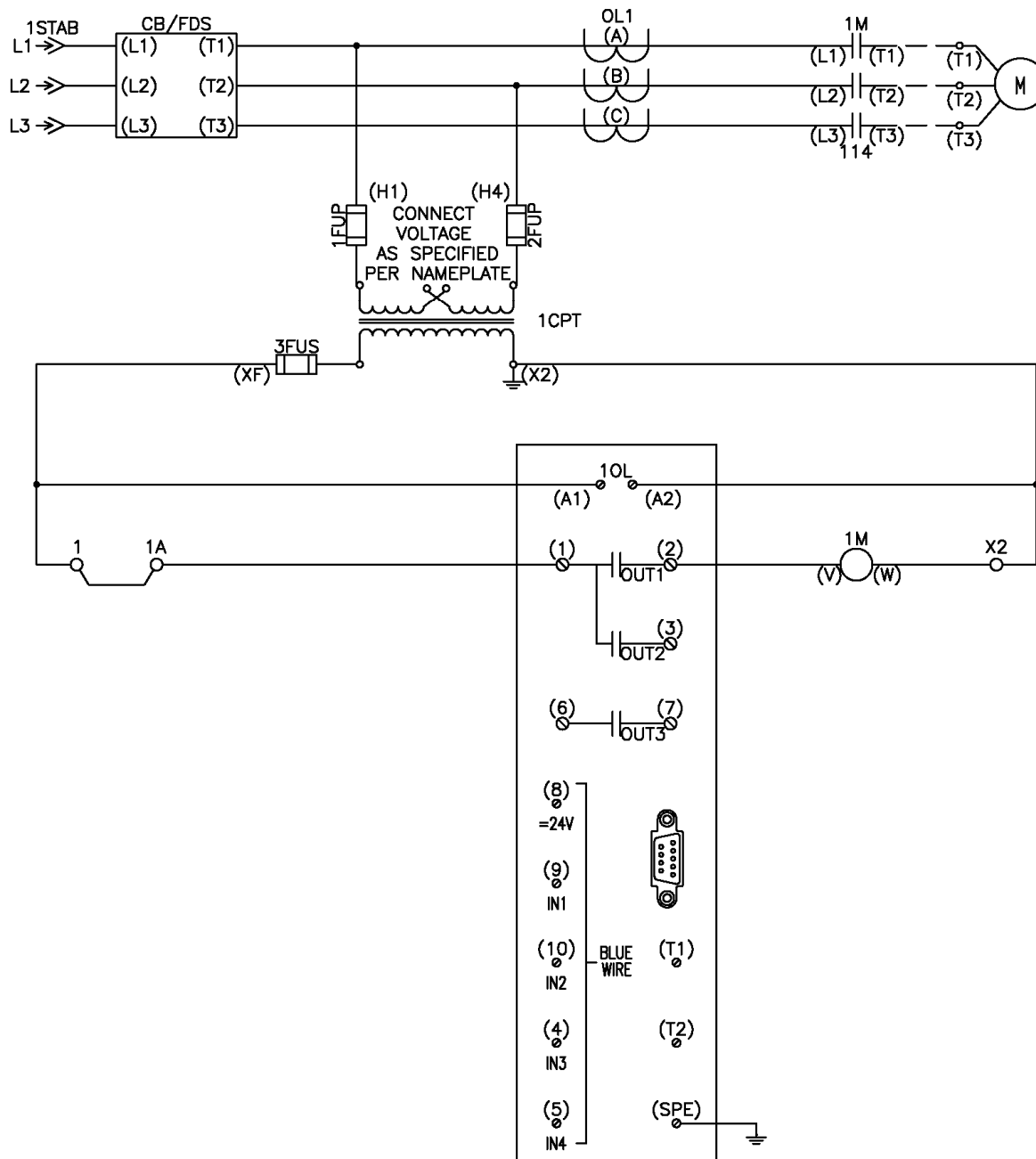
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB08

FVNR – Profibus Bit Operation Mode Selection –  
No Local – Remote 2-Wire

#### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB08

### FVNR – Profibus Bit Operation Mode Selection – No Local – Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command and connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the 1M Contactor SIMOCODE Input 1 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M Contactor SIMOCODE Input 1 is deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
4. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Signal Conditioner 1 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Profibus Cyclic Receive Bit 0.2 is connected to the Signal Conditioner 1 Input for inversion.
2. To engage the 1M Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M Contactor the Profibus Cyclic Receive Bit 0.2 is deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
4. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB08

FVNR – Profibus Bit Operation Mode Selection –  
No Local – Remote 2-Wire

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - Bit 0.5

Fixed Level - '1'

Local Control [LC]

Not connected

Not connected

BU - Input 1

BU - Input 1

Not connected

PLC/DCS [DP]

Not connected

Not connected

Signal Conditioner 1 - Output

Cyclic Receive - Bit 0.2

Not connected

PC [DPV1]

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel [OP]

Not connected

Not connected

Not connected

Not connected

Not connected

S1

S2

Off

On

Off

On

Off

On

Off

On

Off

On

Released

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

Local 1

Local 2

Local 3

Remote

Released Control Command

On<

On<

Off

On>

On>

Signal Conditioner 1

Signal Conditioner - Type

inverting

Signal Conditioner - Input

Cyclic Receive - Bit 0.2

Signal Conditioner - Reset

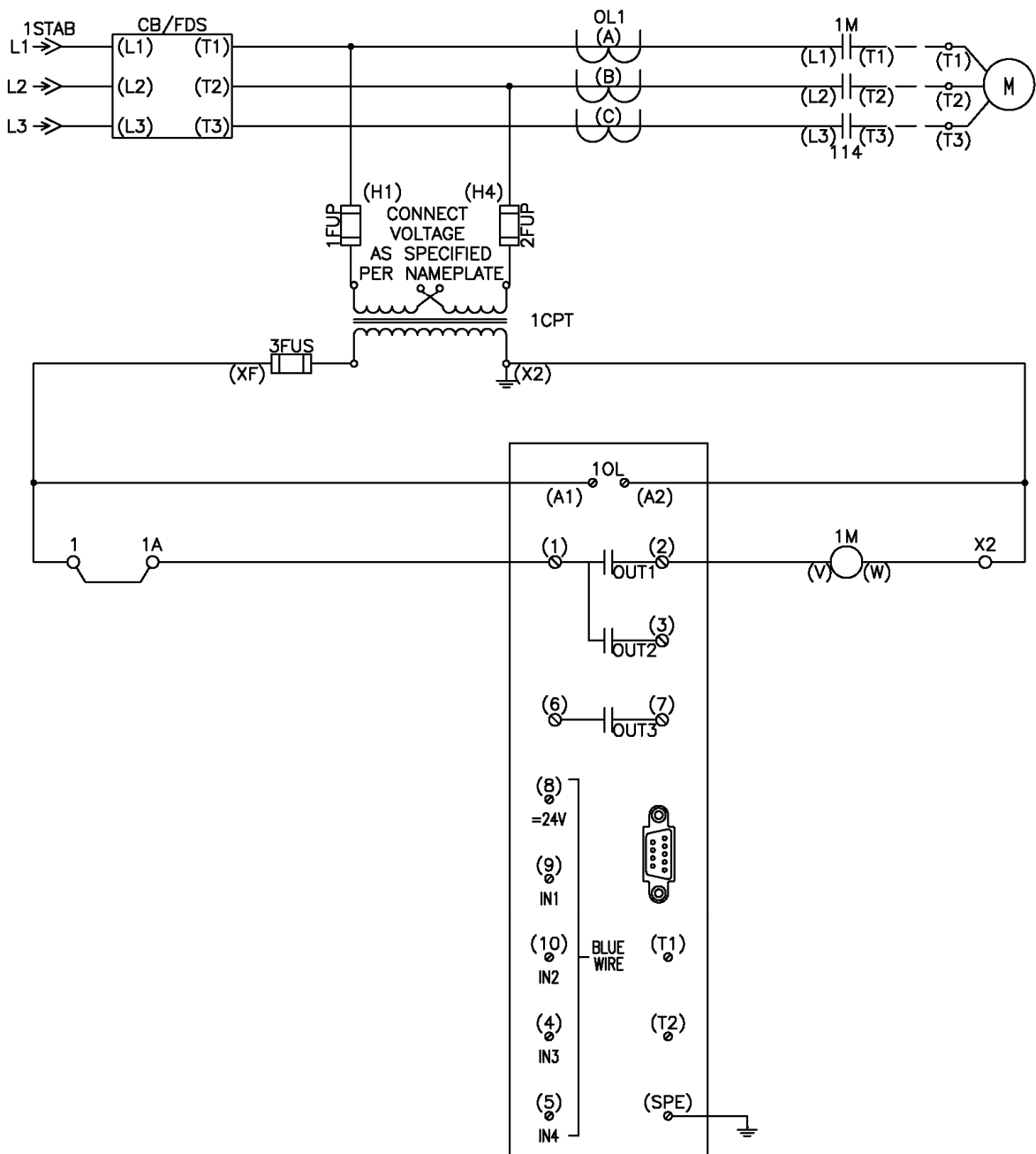
Not connected

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB09

FVNR – Profibus Bit Operation Mode Selection –  
No Local – Remote 3-Wire

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB09

### FVNR – Profibus Bit Operation Mode Selection – Local 3-Wire SS – Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control (for field commissioning purposes only)

1. SIMOCODE Input 1 is connected to the ON > Control Command and connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the 1M Contactor SIMOCODE Input 1 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M Contactor SIMOCODE Input 1 is deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
4. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the 1M Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
4. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.



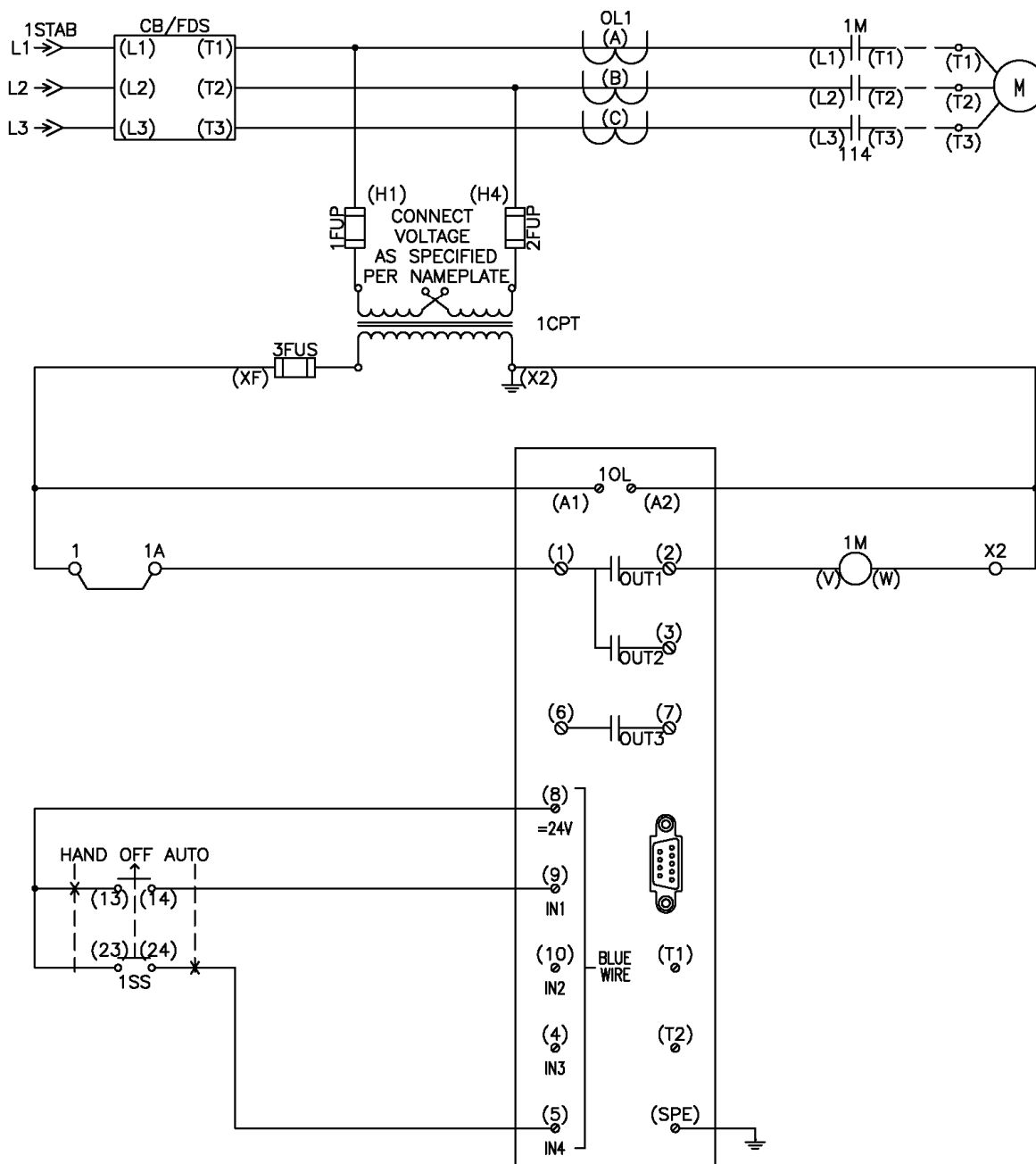


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB10

FVNR – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 2-Wire

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB10

### FVNR – Selector Switch Operation Mode Selection – Local 2-Wire SS – Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command and connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the 1M Contactor the Selector Switch is placed into the HAND position. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M Contactor the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
4. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Signal Conditioner 1 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Profibus Cyclic Receive Bit 0.2 is connected to the Signal Conditioner 1 Input for inversion.
2. To engage the 1M Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M Contactor the Profibus Cyclic Receive Bit 0.2 is deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
4. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB10

FVNR – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 2-Wire

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - Bit 0.5

BU - Input 4

Local Control [LC]

Not connected

Not connected

BU - Input 1

BU - Input 1

Not connected

PLC/DIC [DP]

Not connected

Not connected

Signal Conditioner 1 - Output

Cyclic Receive - Bit 0.2

Not connected

PC [DPV1]

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel [OP]

Not connected

Not connected

Not connected

Not connected

Not connected

S1

S2

Off

On

Off

On

Off

On

Off

On

Off

On

Released

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

Local 1

Local 2

Local 3

Remote

Released Control Command

On<

On<

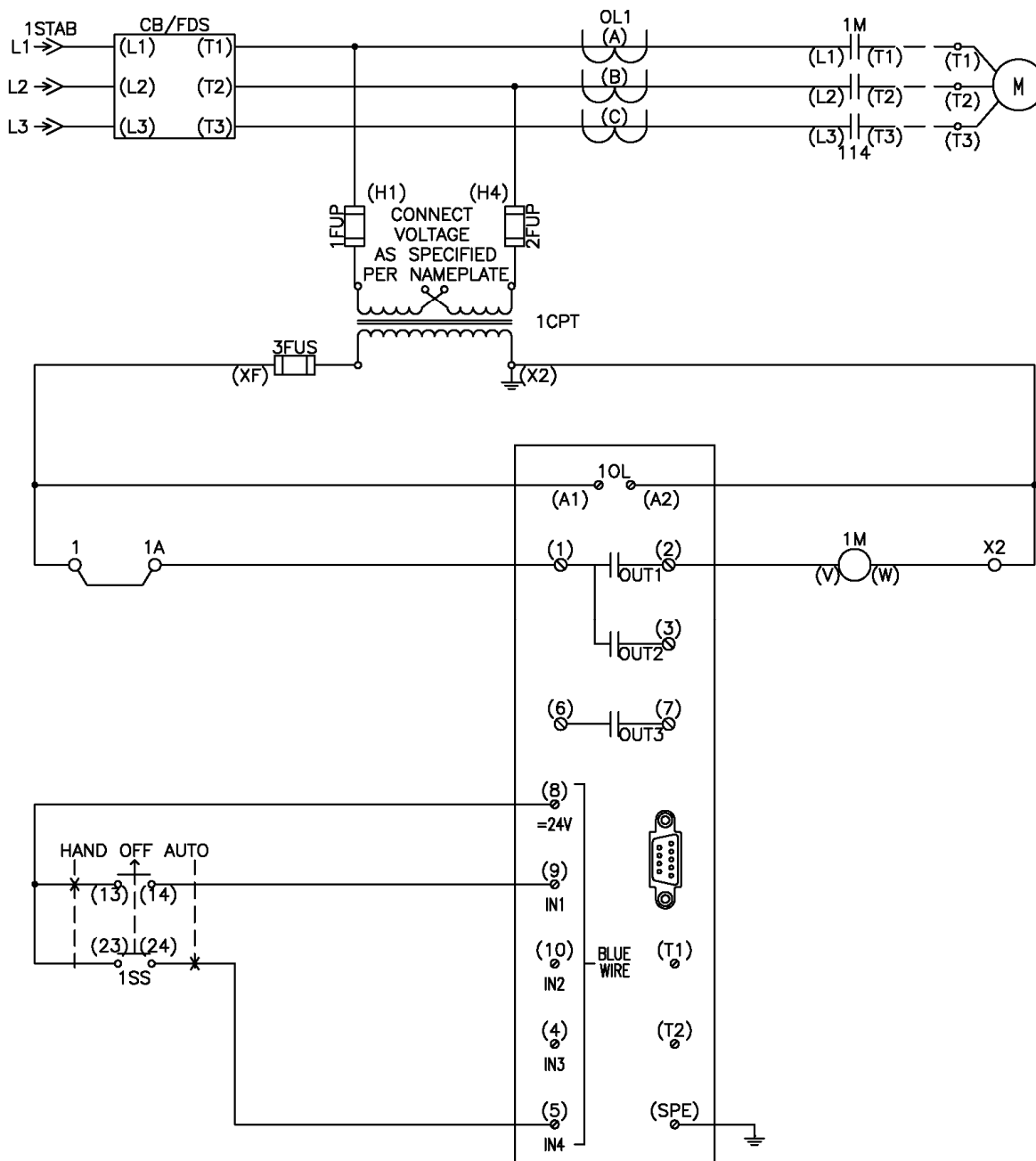
Off

On>

On>>

## Section 4

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB11

#### FVNR – Selector Switch Operation Mode Selection – Local 2-Wire SS – Remote 3-Wire

##### Operating Instructions

###### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

###### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command and connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the 1M Contactor the Selector Switch is placed into the HAND position. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M Contactor the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
4. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

###### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the 1M Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
4. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

###### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB11

FVNR – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 3-Wire

### Parameter Detail

Control Selection and Operation

**Control Station**

**Operation Mode Selector**

Cyclic Receive - Bit 0.5 ☐

BU - Input 4 ☐

**Local Control (LC)**

Not connected ☐

Not connected ☐

BU - Input 1 ☐

BU - Input 1 ☐

Not connected ☐

**PLC/OCS (DP)**

Not connected ☐

Not connected ☐

Cyclic Receive - Bit 0.1 ☐

Cyclic Receive - Bit 0.2 ☐

Not connected ☐

**PC (DPV1)**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Operator Panel (OP)**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Control Selection and Operation**

	Local 1	Local 2	Local 3	Remote
<b>Releases</b>				
On (enabled)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Released Control Command**

On < ☐

On < ☐

Off < ☐

On < ☐

On < ☐

**Preferred for direct Control of Control Functions**

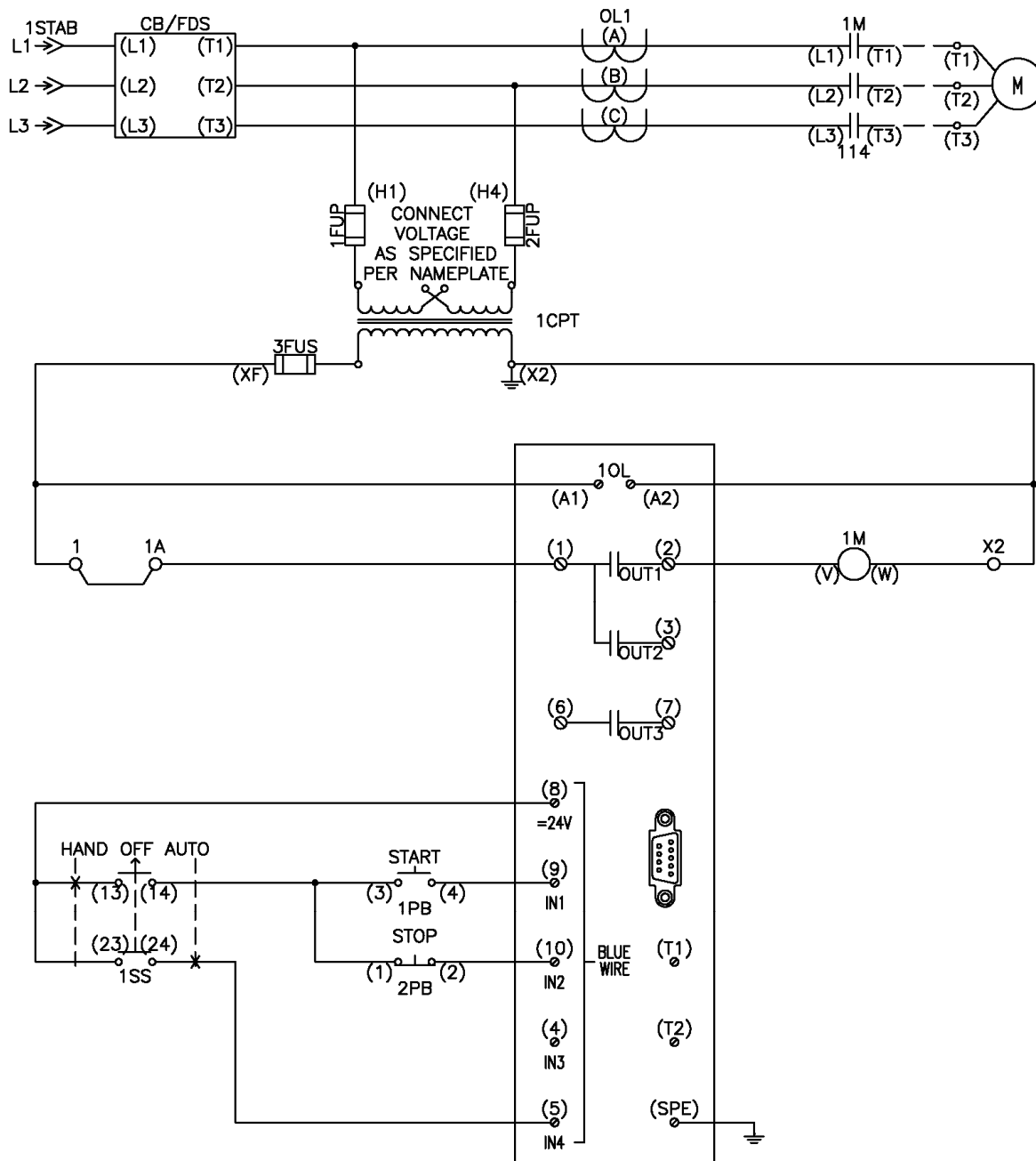
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB12

FVNR – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 2-Wire

Connection Diagram





# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB12

### FVNR – Selector Switch Operation Mode Selection – Local 3-Wire SS/PB – Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the 1M Contactor the Selector Switch is placed into the HAND position and the Start Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M Contactor two methods are available. First, while the Selector Switch is placed into the HAND position the Stop Pushbutton is depressed. Second, the Selector Switch is placed into the OFF position. For either action the OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
4. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Signal Conditioner 1 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Profibus Cyclic Receive Bit 0.2 is connected to the Signal Conditioner 1 Input for inversion.
2. To engage the 1M Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M Contactor the Profibus Cyclic Receive Bit 0.2 is deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
4. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB12

FVNR – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 2-Wire

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - Bit 0.5

BU - Input 4

Local Control (LC)

Not connected

Not connected

BU - Input 2

BU - Input 1

Not connected

PLC/DCS (DP)

Not connected

Not connected

Signal Conditioner 1 - Output

Cyclic Receive - Bit 0.2

Not connected

PC (DPV1)

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel (OP)

Not connected

Not connected

Not connected

Not connected

Not connected

Signal Conditioner 1

Signal Conditioner - Type

inverting

Signal Conditioner - Input

Cyclic Receive - Bit 0.2

Signal Conditioner - Reset

Not connected

S1

S2

Off

On

Off

On

Off

On

Off

On

Released

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

Local 1

Local 2

Local 3

Remote

Released Control Command

Preferred for direct Control of Control Functions

On<

On<

Off

On>

On>

48

Reference manual – MCC SIMOCODE Pro

A5E31640678A

## Section 4

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB13

### FVNR – Selector Switch Operation Mode Selection – Local 3-Wire SS/PB – Remote 3-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the 1M Contactor the Selector Switch is placed into the HAND position and the Start Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M Contactor two methods are available. First, while the Selector Switch is placed into the HAND position the Stop Pushbutton is depressed. Second, the Selector Switch is placed into the OFF position. For either action the OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
4. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the 1M Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
4. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB13

FVNR – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 3-Wire

### Parameter Detail

Control Selection and Operation

**Control Station**

**Operation Mode Selector**

Cyclic Receive - Bit 0.5 ☐

BU - Input 4 ☐

**Local Control (LC)**

Not connected ☐

Not connected ☐

BU - Input 2 ☐

BU - Input 1 ☐

Not connected ☐

**PLC/DCS (DP)**

Not connected ☐

Not connected ☐

Cyclic Receive - Bit 0.1 ☐

Cyclic Receive - Bit 0.2 ☐

Not connected ☐

**PC (DPV1)**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Operator Panel (OP)**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

	Local 1	Local 2	Local 3	Remote
<b>Releases</b>				
Off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
On	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Off	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
On	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Off	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Released Control Command**

On<< ☐

On< ☐

Off ☐

On> ☐

On>> ☐

**Preferred for direct Control of Control Functions**



## Section 4

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB14

### FVNR – Operator Panel Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Non-Volatile Element 1 Output is connected to the Operation Mode Selector S2. Operator Panel Button 1 (AUTO) is connected to Non-Volatile Element 1 for an edge rising latch as well as to Counter 1 for latch reset. Counter 1 is connected to Non-Volatile Element 2 to maintain Operation Mode selection during loss of control power.
2. To engage Local Operation Mode the Non-Volatile Element 1 Output is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode the Non-Volatile Element 1 Output is activated while Profibus Cyclic Receive Bit 0.5 is deactivated. When mode is active indication is provided via LED on Operator Panel Button 1.
4. To engage Remote Operation Mode the Non-Volatile Element 1 Output and Profibus Cyclic Receive Bit 0.5 (maintained signal) are activated. This mode does not permit sending parameter data from the PLC/DCS. When mode is active indication is provided via LED on Operator Panel Button 1.

##### Local Control

1. Operator Panel Button 3 (START) is connected to the ON > Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the 1M Contactor the START Button is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M Contactor the STOP Operator Panel Button is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
4. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Signal Conditioner 1 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Profibus Cyclic Receive Bit 0.2 is connected to the Signal Conditioner 1 Input for inversion.
2. To engage the 1M Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M Contactor the Profibus Cyclic Receive Bit 0.2 is deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
4. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB14

FVNR – Operator Panel Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 2-Wire

### Parameter Detail

Control Selection and Operation

**Control Station**

Operation Mode Selector  
 Cyclic Receive - Bit 0.5  
 Non-Volatile Element 1 - Output

Local Control (LC)  
 Not connected  
 Not connected  
 Not connected  
 Not connected

PLC/DCS (DP)  
 Not connected  
 Not connected  
 Signal Conditioner 1 - Output  
 Cyclic Receive - Bit 0.2  
 Not connected

PC (DPV1)  
 Not connected  
 Not connected  
 Not connected  
 Not connected

Operator Panel (OP)  
 Not connected  
 Not connected  
 OP - Button 4  
 OP - Button 3  
 Not connected

**Signal Conditioner 1**

Signal Conditioner - Type: Inverting

Signal Conditioner - Input: Cyclic Receive - Bit 0.2

Signal Conditioner - Reset: Not connected

	Local 1	Local 2	Local 3	Remote
Releases				
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Released Control Command  
 On<<  
 On<  
 Off  
 On>  
 On>>

Preferred for direct Control of Control Functions

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB14

FVNR – Operator Panel Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 2-Wire

### Parameter Detail

AUTO Toggle Operation

Non-Volatile Element 1

Non-Volatile Element - Type

edge rising with memory

Non-Volatile Element - Input

OP - Button 1

Non-Volatile Element - Reset

Non-Volatile Element 2 - Output

Counter 1

Counter - Limit

2

Counter - Input +

OP - Button 1

Counter - Input -

Not connected

Counter - Reset

Non-Volatile Element 2 - Output

Non-Volatile Element 2

Non-Volatile Element - Type

non inverting

Non-Volatile Element - Input

Counter 1 - Output

Non-Volatile Element - Reset

Not connected

## Section 4

### Connection Diagram





# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB15

### FVNR – Operator Panel Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 3-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Non-Volatile Element 1 Output is connected to the Operation Mode Selector S2. Operator Panel Button 1 (AUTO) is connected to Non-Volatile Element 1 for an edge rising latch as well as to Counter 1 for latch reset. Counter 1 is connected to Non-Volatile Element 2 to maintain Operation Mode selection during loss of control power.
2. To engage Local Operation Mode the Non-Volatile Element 1 Output is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode the Non-Volatile Element 1 Output is activated while Profibus Cyclic Receive Bit 0.5 is deactivated. When mode is active indication is provided via LED on Operator Panel Button 1.
4. To engage Remote Operation Mode the Non-Volatile Element 1 Output and Profibus Cyclic Receive Bit 0.5 (maintained signal) are activated. This mode does not permit sending parameter data from the PLC/DCS. When mode is active indication is provided via LED on Operator Panel Button 1.

##### Local Control

1. Operator Panel Button 3 (START) is connected to the ON > Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the 1M Contactor the START Button is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M Contactor the STOP Operator Panel Button is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
4. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the 1M Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To disengage the 1M Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
  - o In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB15

FVNR – Operator Panel Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 3-Wire

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - Bit 0.5

Non-Volatile Element 1 - Output

Local Control [LC]

Not connected

Not connected

Not connected

Not connected

PLC/OCS [DP]

Not connected

Not connected

Cyclic Receive - Bit 0.1

Cyclic Receive - Bit 0.2

Not connected

PC [DPV1]

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel [OP]

Not connected

Not connected

OP - Button 4

OP - Button 3

Not connected

S1

S2

Off

On

Off

On

Off

On

Off

On

Released

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

Local 1

Local 2

Local 3

Remote

Released Control Command

Preferred for direct Control of Control Functions

On<

On<

Off

On>

On>>

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB15

FVNR – Operator Panel Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 3-Wire

### Parameter Detail

AUTO Toggle Operation

<b>Non-Volatile Element 1</b>	
Non-Volatile Element - Type	edge rising with memory
Non-Volatile Element - Input	OP - Button 1
Non-Volatile Element - Reset	Non-Volatile Element 2 - Output
<b>Counter 1</b>	
Counter - Limit	2
Counter - Input +	OP - Button 1
Counter - Input -	Not connected
Counter - Reset	Non-Volatile Element 2 - Output
<b>Non-Volatile Element 2</b>	
Non-Volatile Element - Type	non inverting
Non-Volatile Element - Input	Counter 1 - Output
Non-Volatile Element - Reset	Not connected

# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### 5. Full voltage reversing

The reversing starter uses the FWD & REV contactors to connect the motor terminals in positive or negative phase sequence for single-speed, dual-direction, full-voltage operation. The FWD & REV contactors are mechanically and intelligently interlocked to prevent short circuiting of the input lines.

**The basic FORWARD operation of this starter is as follows.**

1. A local or remote FORWARD start signal is given to the SIMOCODE Pro.
2. The SIMOCODE Pro Output 1 closes which energizes the coil of FWD Contactor.
3. A local or remote stop signal is given to the SIMOCODE Pro.
4. The SIMOCODE Pro Output 1 opens which de-energizes the coil of FWD Contactor.
5. If a fault occurs at any time the SIMOCODE Pro will end the starter operation.

**The basic REVERSE operation of this starter is as follows.**

1. A local or remote REVERSE start signal is given to the SIMOCODE Pro.
2. The SIMOCODE Pro Output 2 closes which energizes the coil of REV Contactor.
3. A local or remote stop signal is given to the SIMOCODE Pro.
4. The SIMOCODE Pro Output 2 opens which de-energizes the coil of REV Contactor.
5. If a fault occurs at any time the SIMOCODE Pro will end the starter operation.

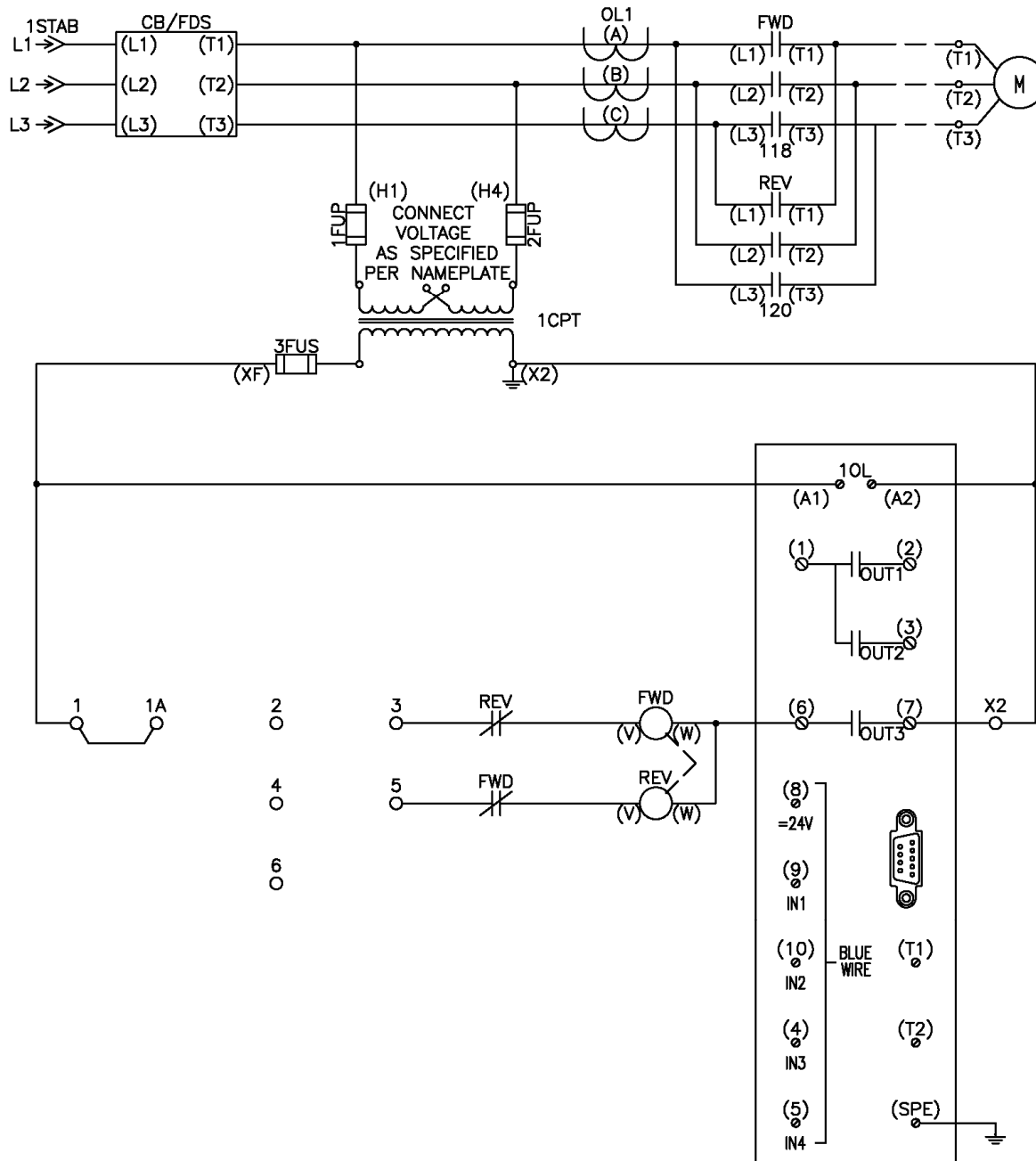


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB16

OL/ FVR– Fixed Operation Mode –  
Local Overload Operation – Remote Monitoring

Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB16

OL / FVR – Fixed Operation Mode –  
Local Overload Operation – Remote Monitoring

#### Operating Instructions

##### Local Control

1. All control external to device.
2. In the event of an Overload or any other General Fault event the SIMOCODE Output 3 will open.

##### Reset Control

3. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

##### Note:

1. This setup is not recommended as its use eliminates local control of the starter via Simocode Pro as well as remote control over Profibus DP network communication.

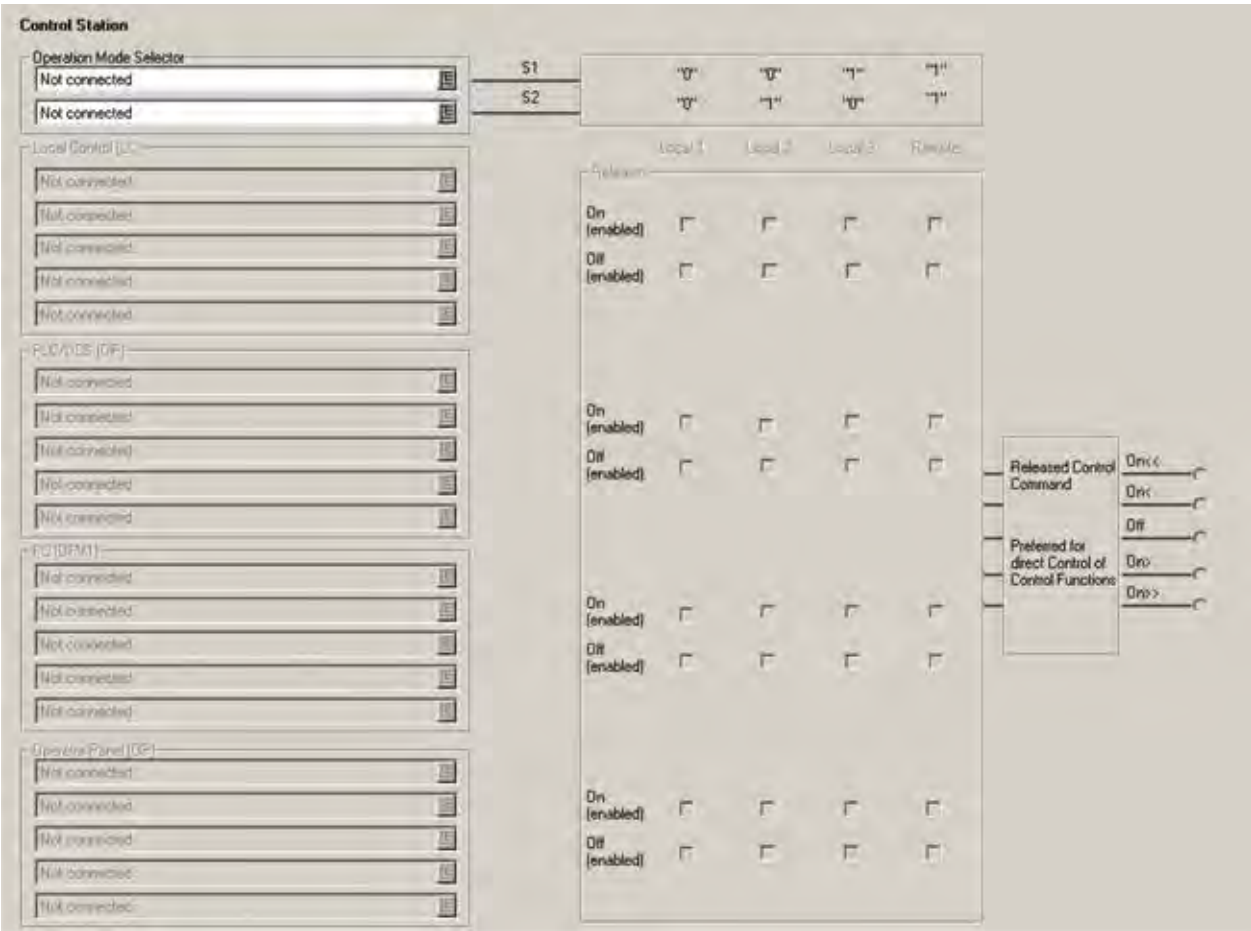
# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB16

OL / FVR – Fixed Operation Mode –  
Local Overload Operation – Remote Monitoring

### Parameter Detail

Control Selection and Operation



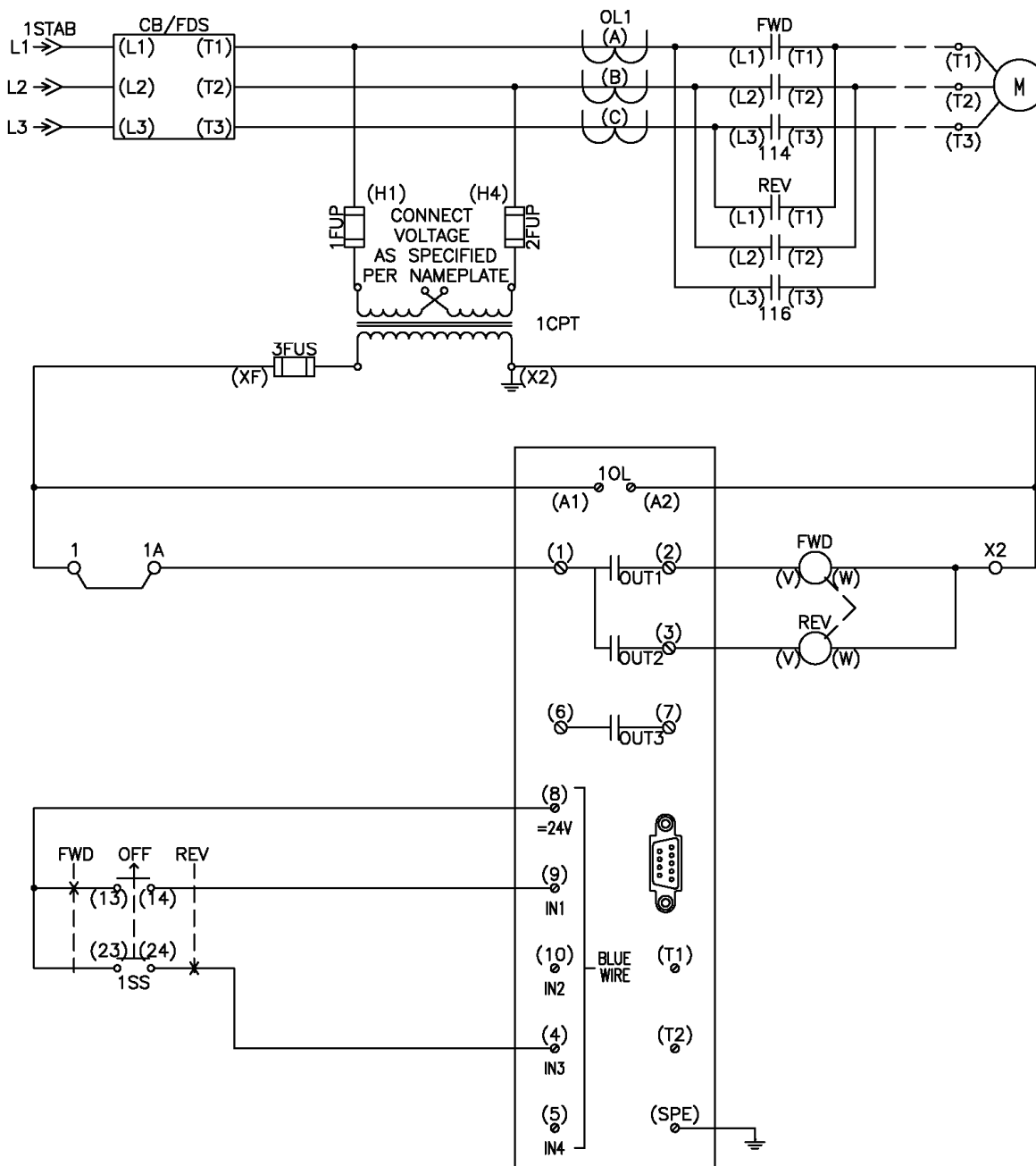
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB17

FVR – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS – Remote 2-Wire

#### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB17

### FVR – Profibus Bit Operation Mode Selection – Local 2-Wire SS – Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Input 1 and SIMOCODE Input 3.
2. To engage the FWD Contactor the Selector Switch is placed into the FWD position. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor the Selector Switch is placed into the REV position. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD or REV Contactor, the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite direction. The default Interlocking Time for changing direction is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the FWD Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD Contactor or the REV Contactor the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite direction. The default Interlocking Time for changing direction is 0 seconds.
6. In the event of an Overload or any other General Fault , SIMOCODE Outputs 1 and 2 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

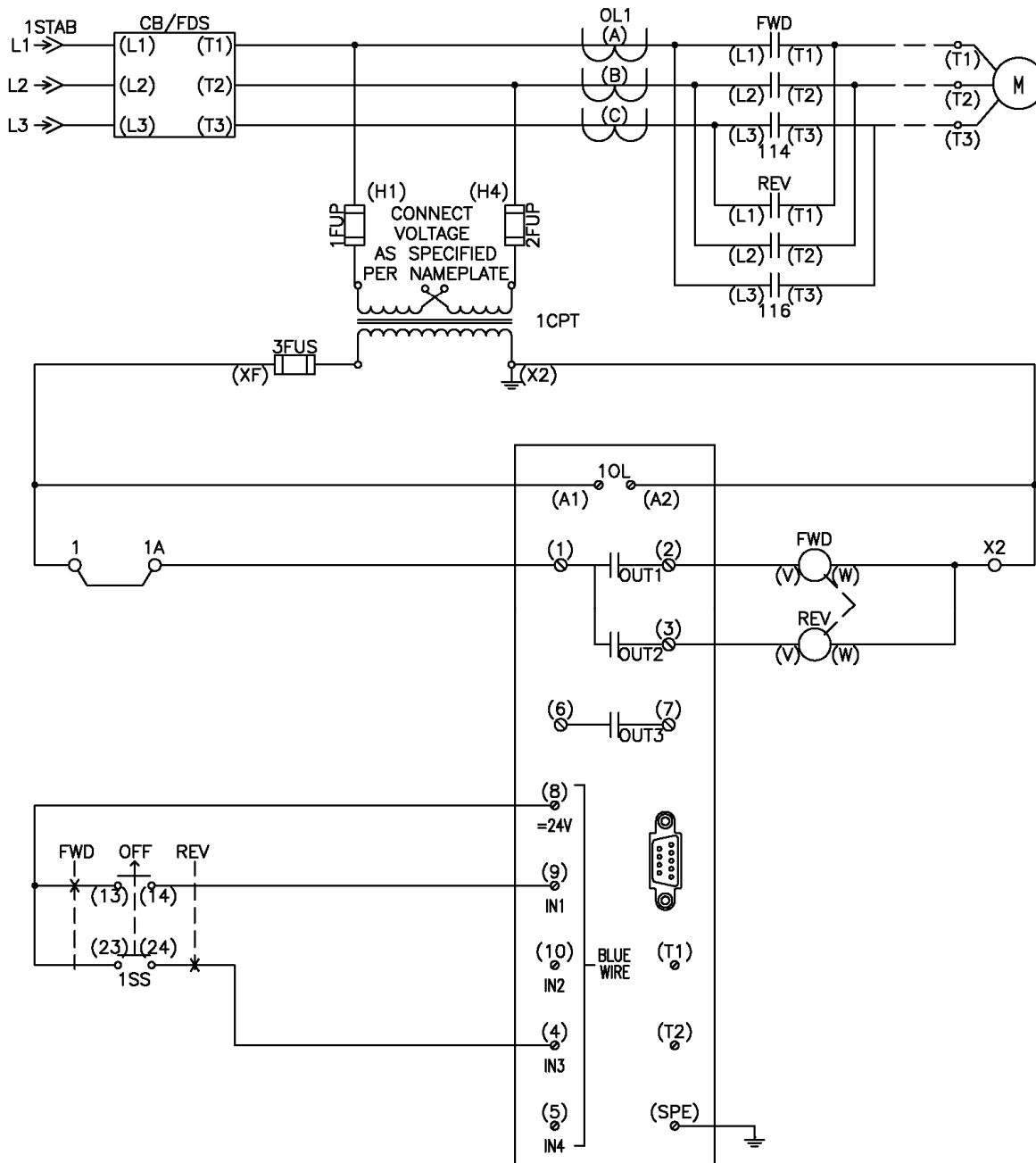


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB18

FVR – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS – Remote-3 Wire

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB18

#### FVR – Profibus Bit Operation Mode Selection – Local 2-Wire SS – Remote-3 Wire

##### Operating Instructions

###### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

###### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Input 1 and SIMOCODE Input 3.
2. To engage the FWD Contactor the Selector Switch is placed into the FWD position. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor the Selector Switch is placed into the REV position. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD Contactor or the REV Contactor the place the Selector Switch in the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. To switch contactors issue an OFF Control Command before engaging the Control Command for the opposite direction. The default Interlocking Time for changing direction is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

###### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the FWD Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD Contactor or the REV Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite direction. The default interlocking time for changing direction is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

###### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.



## Section 5

## Control Selection and Operation

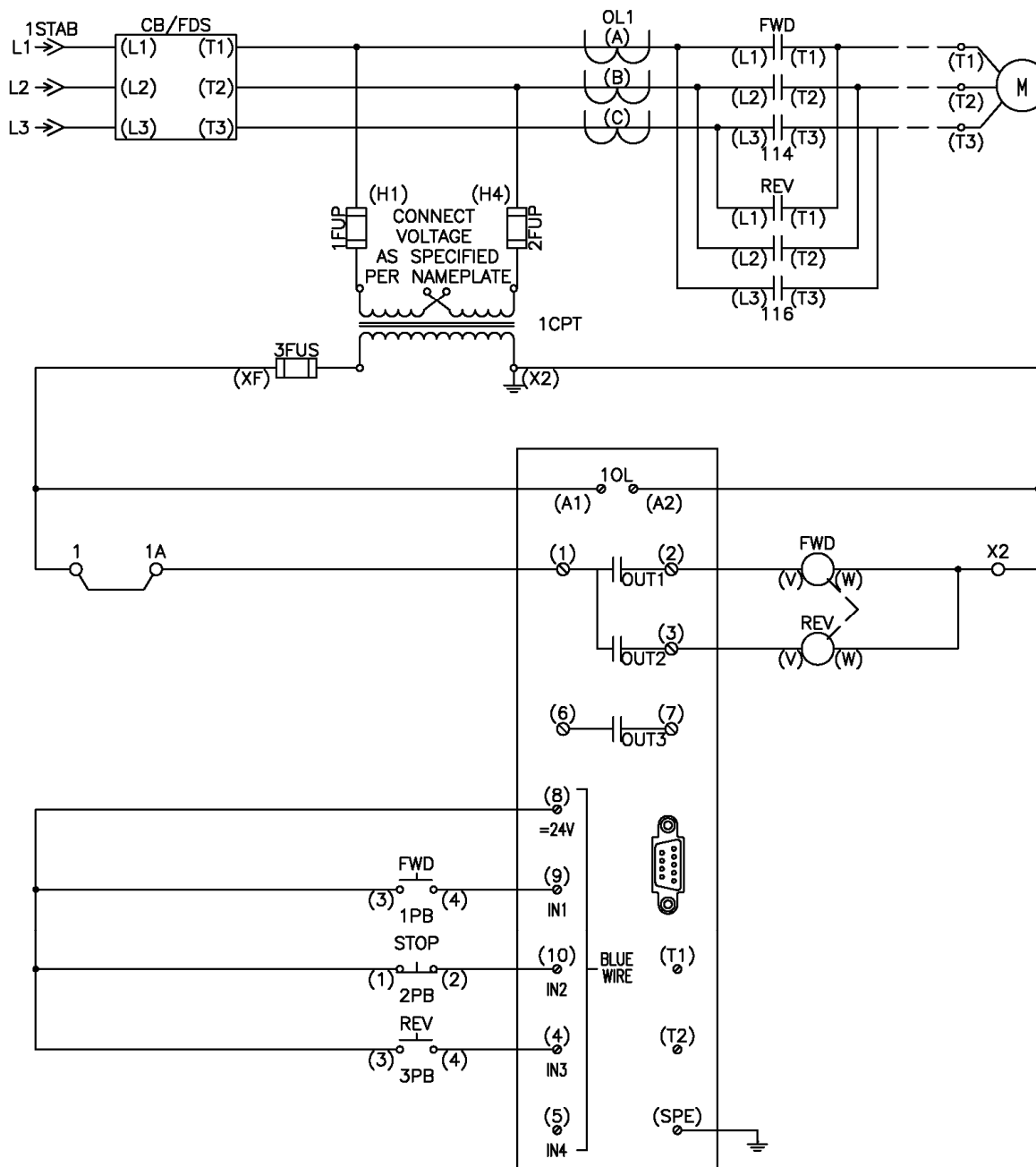
Reference manual – MCC SIMOCODE Pro 71

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB19

FVR – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 2-Wire

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB19

### FVR – Profibus Bit Operation Mode Selection – Local 3-Wire PB – Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the FWD Contactor, depress the Forward Pushbutton while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor, depress the Reverse Pushbutton while the Stop Pushbutton is in its normally closed state. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD Contactor or the REV Contactor, depress the Stop Pushbutton. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is necessary to issue an OFF Control Command before engaging the Control Command for the opposite direction. The default Interlocking Time for changing direction is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the FWD Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD Contactor or the REV Contactor the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite direction. The default Interlocking Time for changing direction is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.



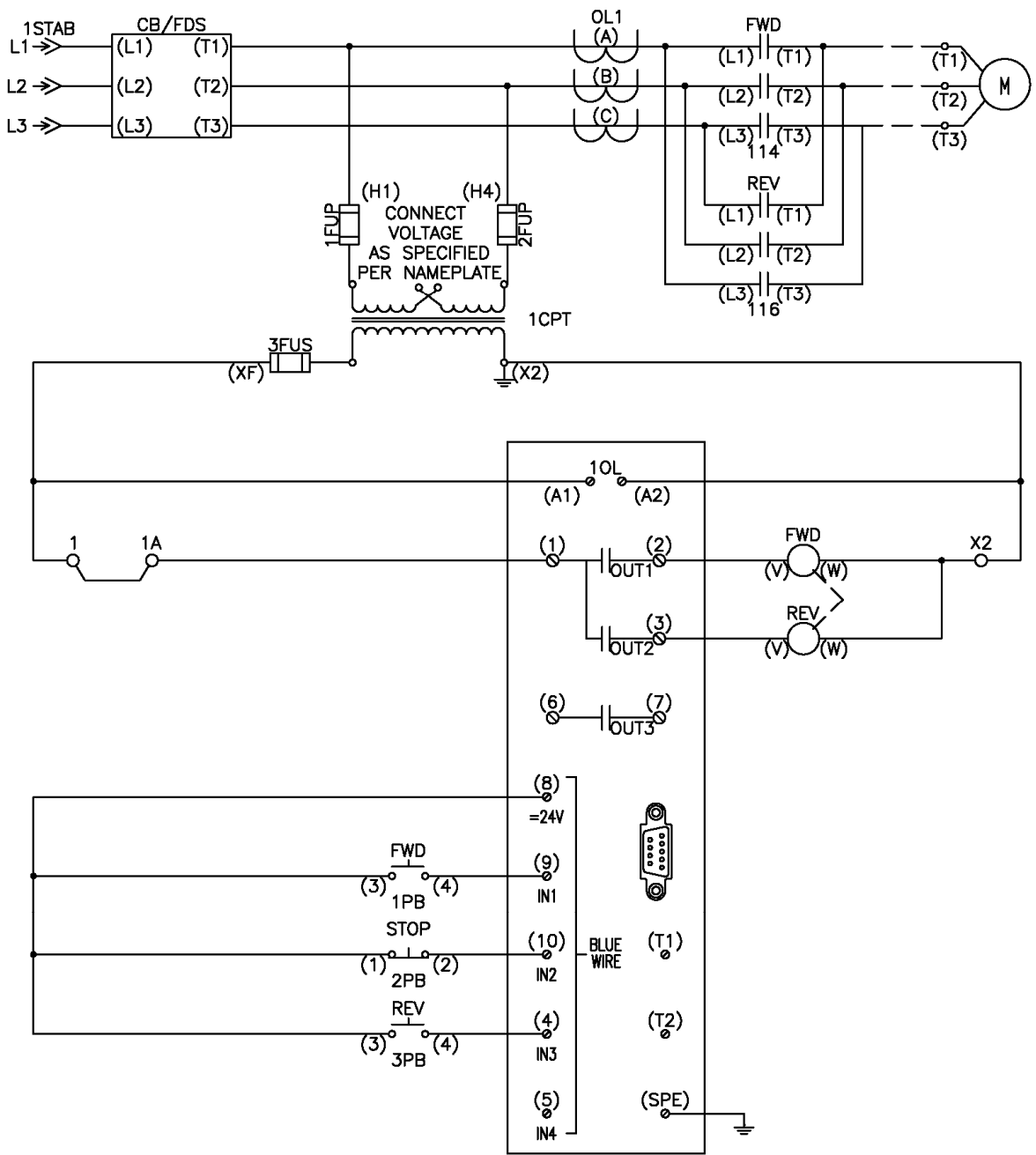
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB20

FVR – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 3-Wire

#### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB20

### FVR – Profibus Bit Operation Mode Selection – Local 3-Wire PB – Remote 3-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the FWD Contactor, depress the Forward Pushbutton while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor, depress the Reverse Pushbutton while the Stop Pushbutton is in its normally closed state. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD Contactor or the REV Contactor the Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite direction. The default Interlocking Time for changing direction is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the FWD Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD Contactor or the REV Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite direction. The default Interlocking Time for changing direction is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Remote Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB20

FVR – Profibus Bit Operation Mode Selection –  
Local 3 Wire PB – Remote 3 Wire

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - 8x 0.5

Fixed Level - 1"

Local Control (LC)

Not connected

BU - Input 3

BU - Input 2

BU - Input 1

Not connected

PLC/DCS (DP)

Not connected

Cyclic Receive - 8x 0.0

Cyclic Receive - 8x 0.1

Cyclic Receive - 8x 0.2

Not connected

PC (DPV1)

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel (OP)

Not connected

Not connected

Not connected

Not connected

Not connected

S1

'0'

'0'

'1'

'1'

S2

'0'

'1'

'0'

'1'

Local 1

Local 2

Local 3

Remote

On<

On (enabled)

Off

Off (enabled)

On>

On (enabled)

Off

Off (enabled)

On<

On (enabled)

Off

Off (enabled)

On>

On (enabled)

Off

Off (enabled)

On<

On (enabled)

Off

Off (enabled)

On>

On (enabled)

Off

Off (enabled)

Released Control Command

On<<

On<

Off

On>

On>>

Preferred for direct Control of Control Functions



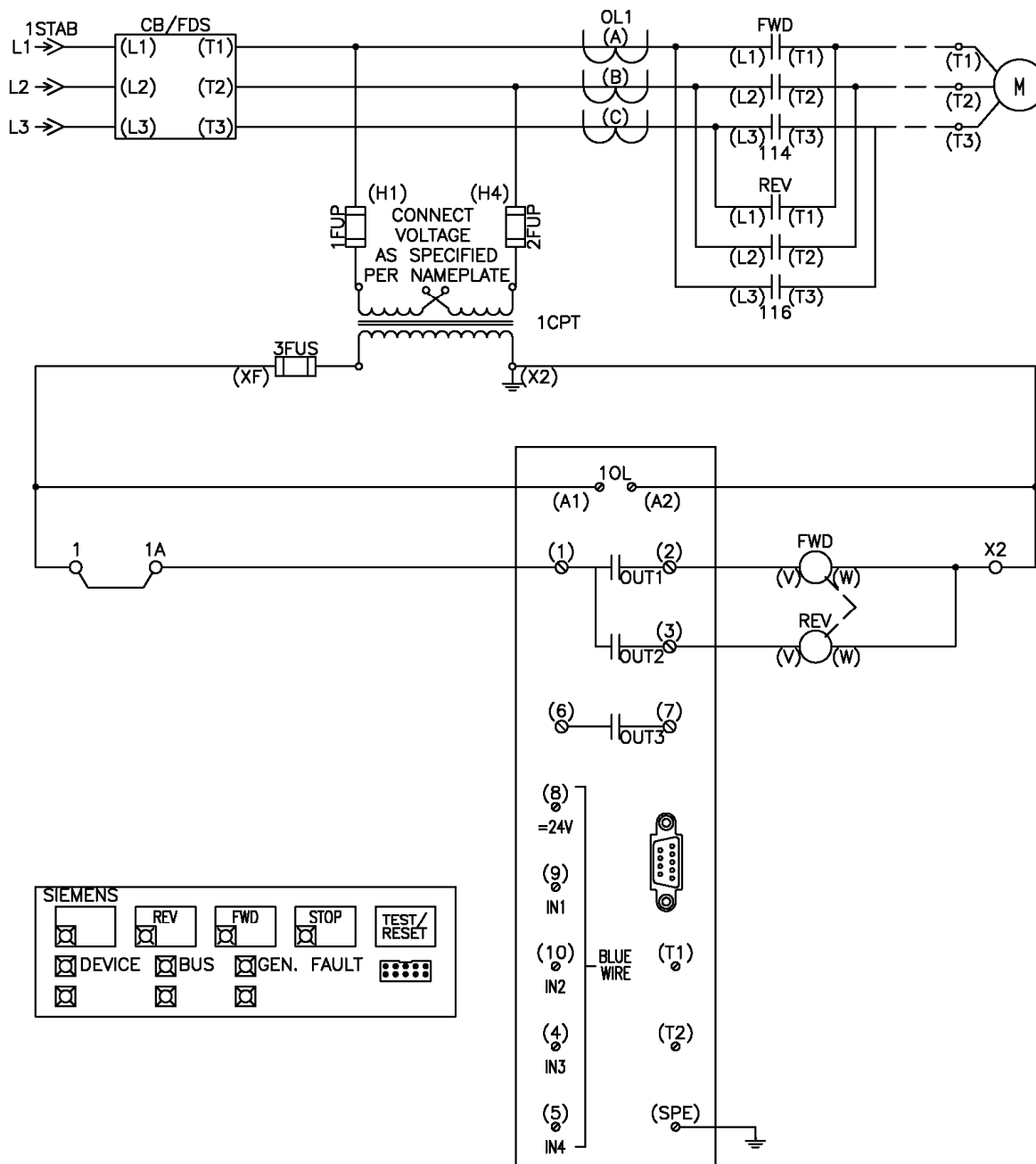
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB21

FVR – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP – Remote 2-Wire

#### Connection Diagram





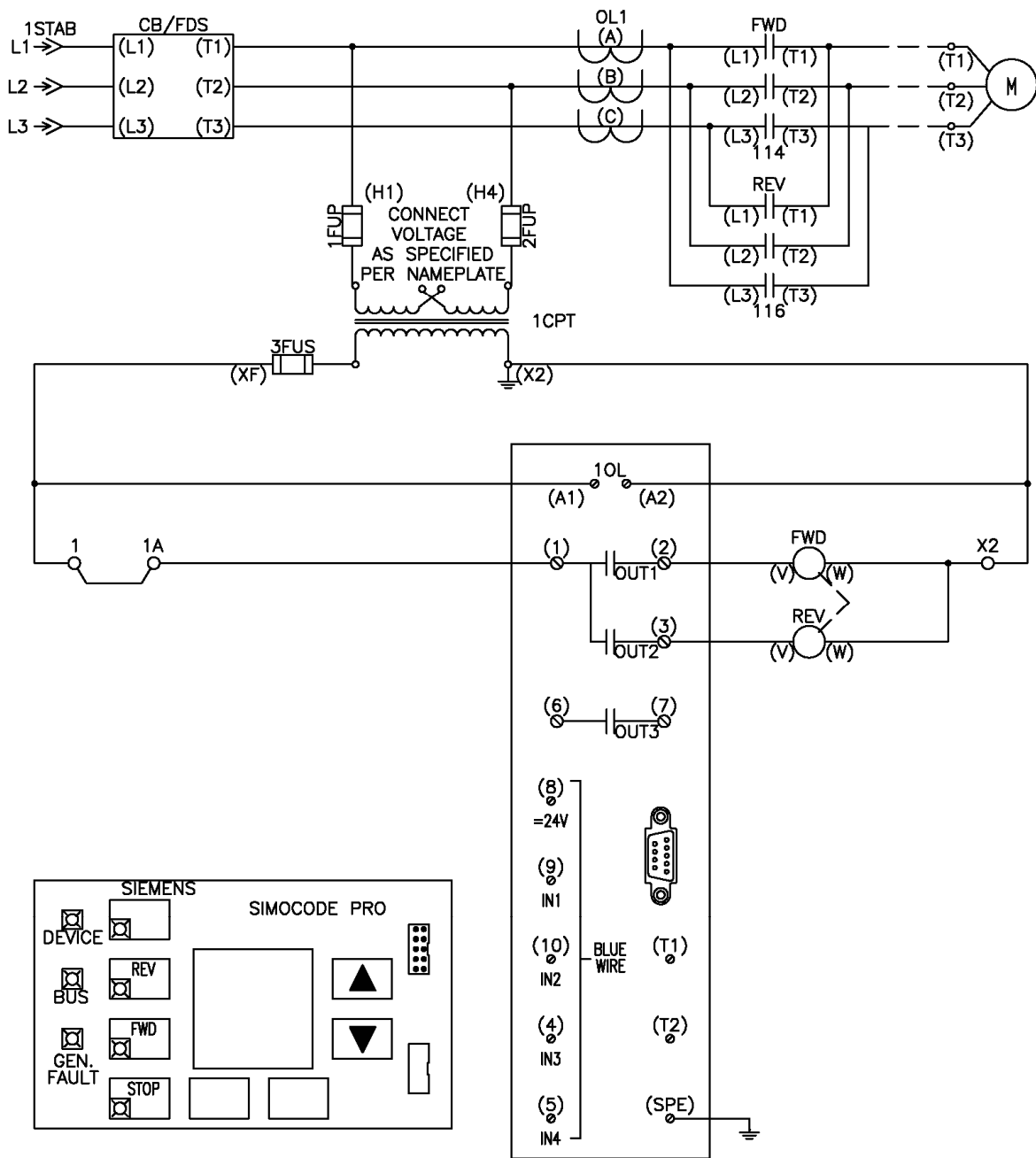
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB21

FVR – Profibus Bit Operation Mode Selection –  
Local 3-Wire OPD – Remote 2-Wire

Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB21

### FVR – Profibus Bit Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. Operator Panel Button 3 (FWD) is connected to the ON > Control Command, Operator Panel Button 2 (REV) is connected to the ON < Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the FWD Contactor the OP Forward Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor the OP Reverse Pushbutton is depressed. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD Contactor or the REV Contactor the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite direction. The default Interlocking Time for changing direction is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the FWD Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD Contactor or the REV Contactor the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite direction. The default Interlocking Time for changing direction is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB21

FVR – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 2-Wire

### Parameter Detail

Control Selection and Operation

**Control Station**

**Operation Mode Selector**

Cyclic Receive - Bit 0.5 ☐ S1

Fixed Level - "1" ☐ S2

**Local Control (LC)**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**PLC/DCS (DP)**

Not connected ☐

Cyclic Receive - Bit 0.0 ☐ On

Truth Table 2 3I/1O - Output ☐ Off

Cyclic Receive - Bit 0.2 ☐ On

Not connected ☐

**PC (DPV1)**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Operator Panel (OP)**

Not connected ☐

OP - Button 2 ☐ On

OP - Button 4 ☐ Off

OP - Button 3 ☐ On

Not connected ☐

**Releases**

	Local 1	Local 2	Local 3	Remote
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Released Control Command**

Oncc ☐

OnC ☐

Off ☐

Ono ☐

Ono+ ☐

**Preselected for direct Control of Control Functions**

**Truth Table 2 3I/1O**

Truth Table - Input 1: Not connected ☐

Truth Table - Input 2: Cyclic Receive - Bit 0.0 ☐

Truth Table - Input 3: Cyclic Receive - Bit 0.2 ☐

I1	I2	I3	Q
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

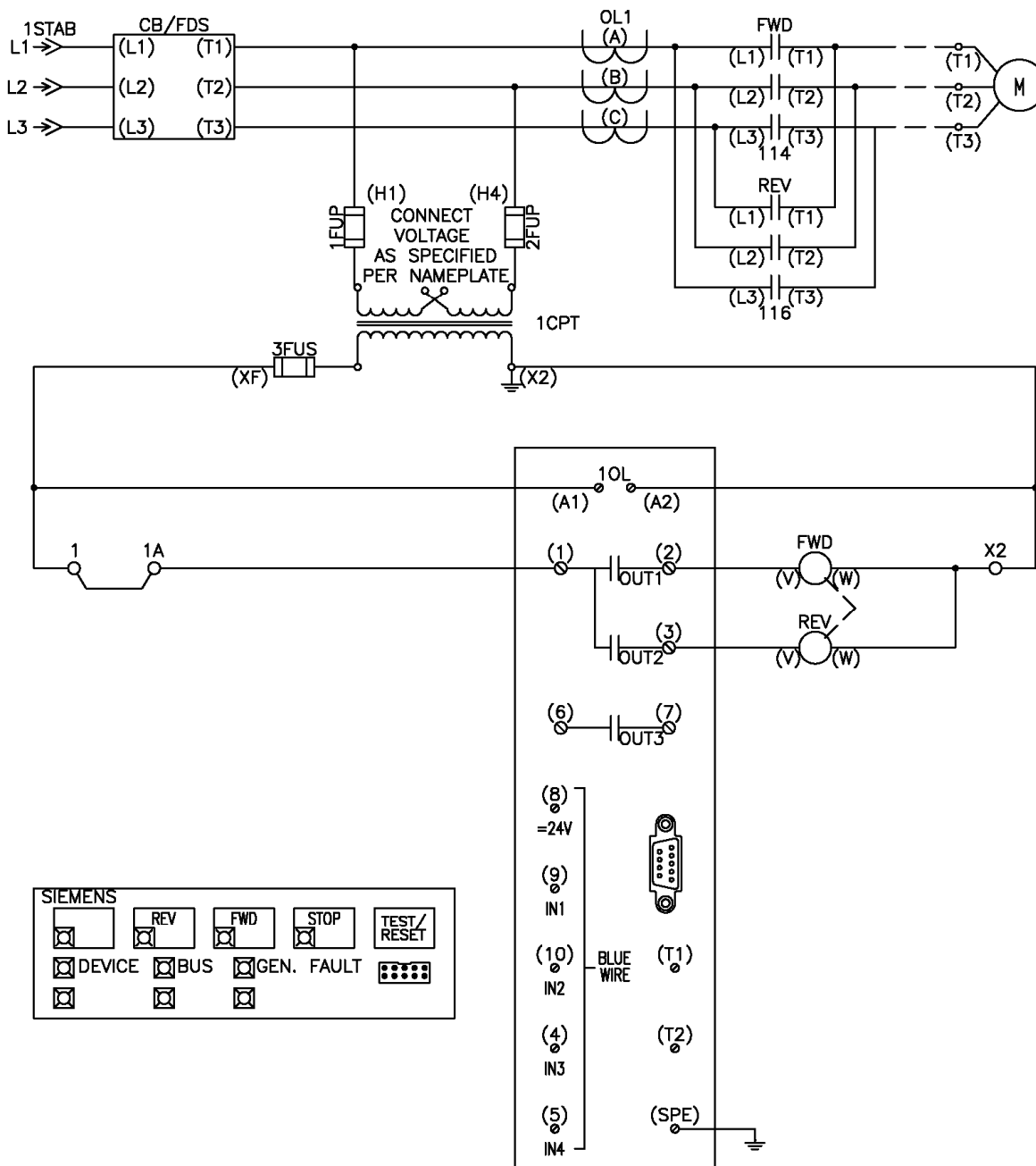
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB22

FVR – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP – Remote 3-Wire

#### Connection Diagram

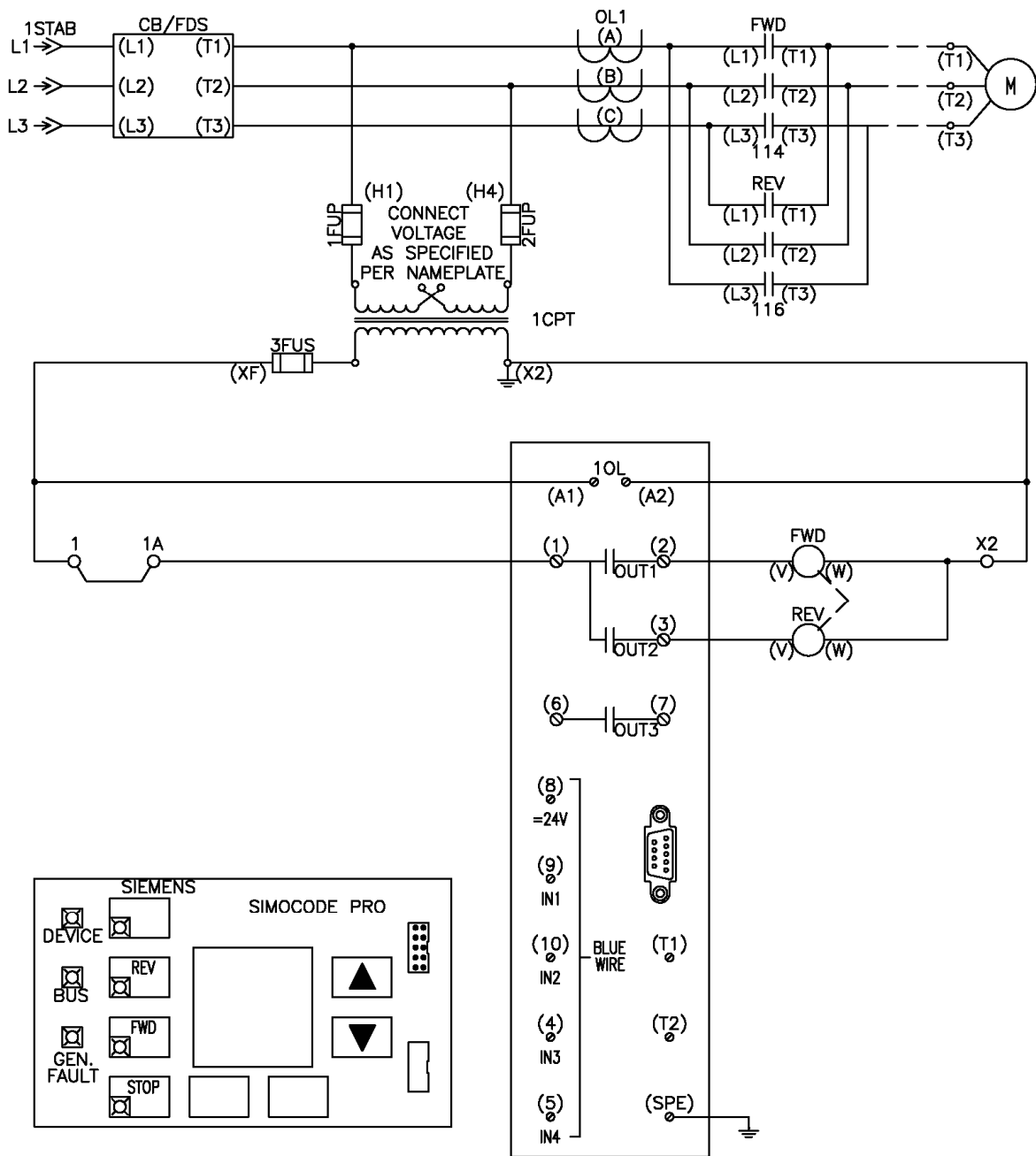


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB22

FVR – Profibus Bit Operation Mode Selection –  
Local 3-Wire OPD – Remote 3-Wire

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB22

### FVR – Profibus Bit Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 3-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. Operator Panel Button 3 (FWD) is connected to the ON > Control Command, Operator Panel Button 2 (REV) is connected to the ON < Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the FWD Contactor the OP Forward Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor the OP Reverse Pushbutton is depressed. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD Contactor or the REV Contactor the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite direction. The default Interlocking Time for changing direction is 0 seconds.
6. In the event of an overload or other general fault event, SIMOCODE outputs 1 and 2 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the FWD Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD Contactor or the REV Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite direction. The default Interlocking Time for changing direction is 0 seconds.
6. In the event of an Overload or other General Fault event, SIMOCODE Outputs 1 and 2 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB22

FVR – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 3-Wire

### Parameter Detail

Control Selection and Operation

**Control Station**

**Operation Mode Selector:**

Cyclic Receive - Bit 0.5 ☐

Fixed Level - 1" ☐

**Local Control (LC):**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**PLC/DCS (DP):**

Not connected ☐

Cyclic Receive - Bit 0.0 ☐

Cyclic Receive - Bit 0.1 ☐

Cyclic Receive - Bit 0.2 ☐

Not connected ☐

**PC (DPV1):**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Operator Panel (OP):**

Not connected ☐

OP - Button 2 ☐

OP - Button 4 ☐

OP - Button 3 ☐

Not connected ☐

**Relays:**

	Local 1	Local 2	Local 3	Remote
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Released Control Command:**

On << ☐

On < ☐

Off ☐

On > ☐

On >> ☐

**Preferred for direct Control of Control Functions:**

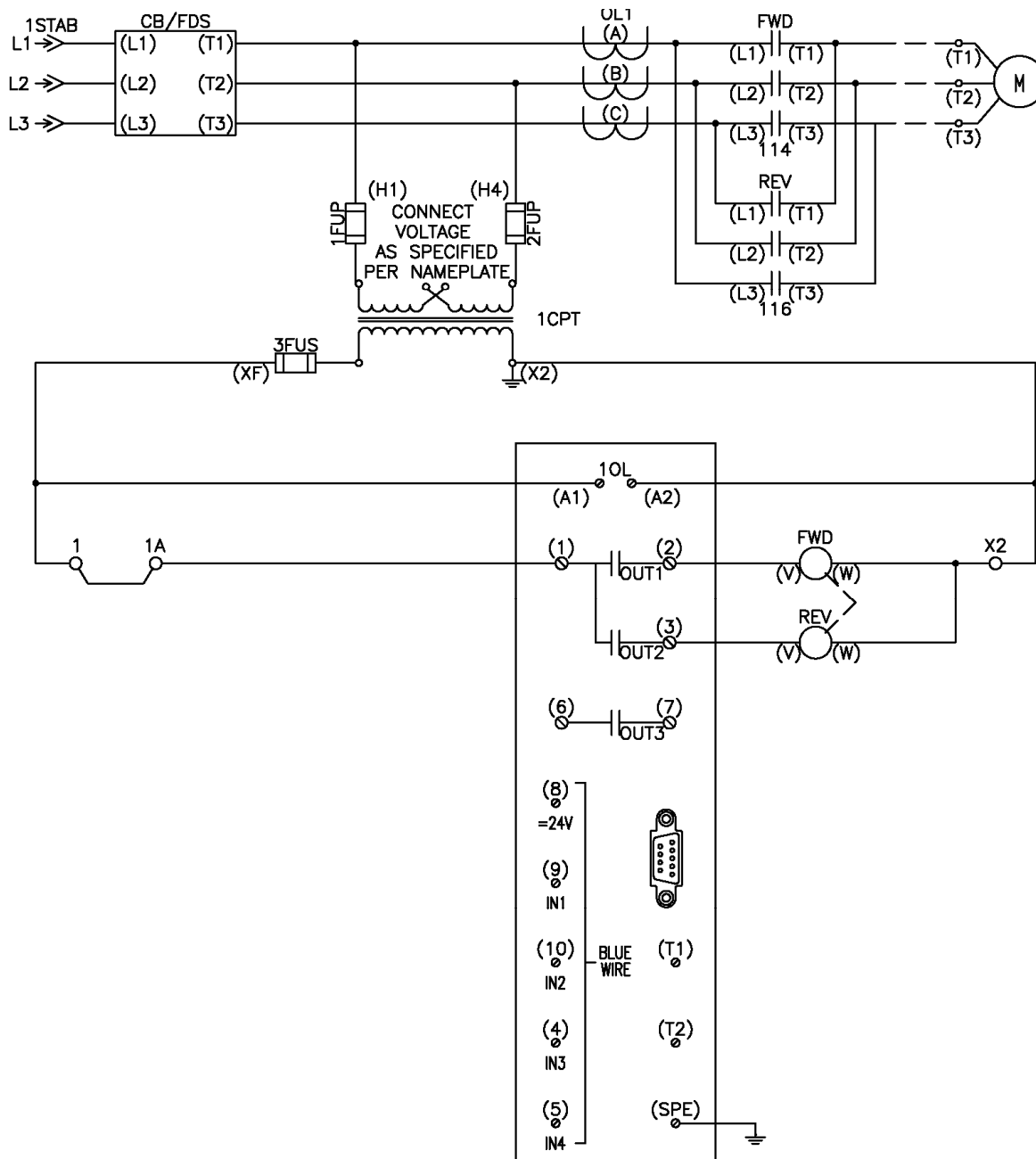
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB23

FVR – Profibus Bit Operation Mode Selection –  
No Local – Remote 2-Wire

#### Connection Diagram





# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB23

### FVR – Profibus Bit Operation Mode Selection – No Local – Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control (for field commissioning purposes only)

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Input 1 and SIMOCODE Input 3.
2. To engage the FWD Contactor SIMOCODE Input 1 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor SIMOCODE Input 3 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD Contactor or the REV Contactor SIMOCODE Input 1 and SIMOCODE Input 3 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite direction. The default Interlocking Time for changing direction is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the FWD Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD Contactor or the REV Contactor the Profibus Cyclic Receive Bits 0.2 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite direction. The default Interlocking Time for changing direction is 0 seconds.
6. In the event of an Overload or other General Fault event, SIMOCODE Outputs 1 and 2 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

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Reference manual – MCC SIMOCODE Pro

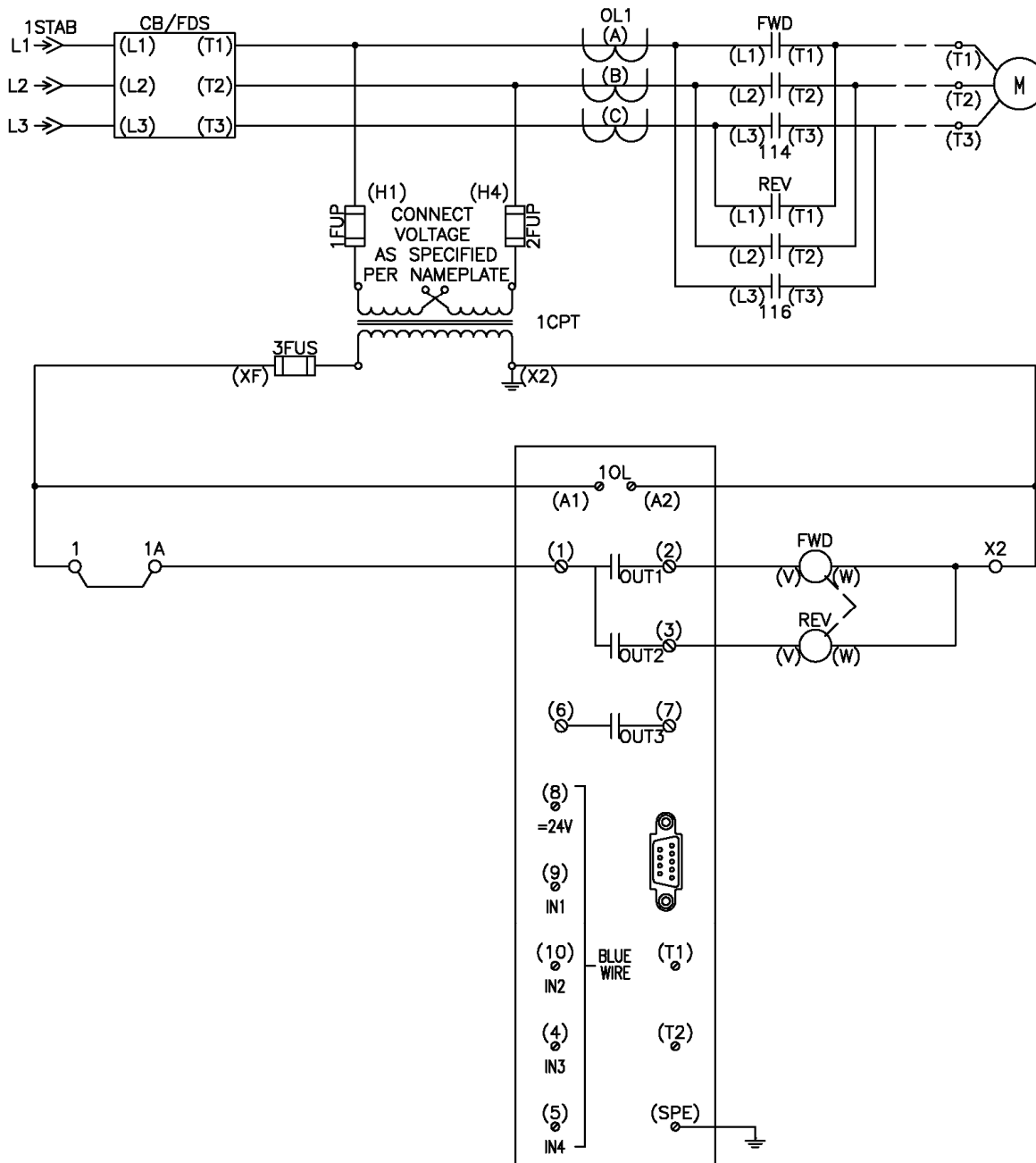
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# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB24

FVR – Profibus Bit Operation Mode Selection –  
No Local – Remote 3-Wire

Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB24

#### FVR – Profibus Bit Operation Mode Selection – No Local – Remote 3-Wire

##### Operating Instructions

###### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

###### LOCAL CONTROL (for field commissioning purposes only)

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Input 1 and SIMOCODE Input 3.
2. To engage the FWD Contactor SIMOCODE Input 1 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor SIMOCODE Input 3 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD Contactor or the REV Contactor, SIMOCODE Inputs 1 and 3 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite direction. The default Interlocking Time for changing direction is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

###### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the FWD Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD Contactor or the REV Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite direction. The default Interlocking Time for changing direction is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

###### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel is so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB24

FVR – Profibus Bit Operation Mode Selection –  
No Local – Remote 3-Wire

### Parameter Detail

Control Selection and Operation

**Control Station**

Operation Mode Selector  
 Cyclic Receive - Bit 0.5  
 Fixed Level - 1"

Local Control (LC)  
 Not connected  
 BU - Input 3  
 Truth Table 1 3/10 - Output  
 BU - Input 1  
 Not connected

PLC/PCS (DP)  
 Not connected  
 Cyclic Receive - Bit 0.0  
 Truth Table 2 3/10 - Output  
 Cyclic Receive - Bit 0.2  
 Not connected

PC (DPV1)  
 Not connected  
 Not connected  
 Not connected  
 Not connected  
 Not connected

Operator Panel (DP)  
 Not connected  
 Not connected  
 Not connected  
 Not connected  
 Not connected

Released Control Command  
 Oncc  
 Onr  
 Off  
 Oni  
 Ono

Prefixed for direct Control of Control Functions  
 Oncc  
 Onr  
 Off  
 Oni  
 Ono

**Truth Table 1 3/10**

Truth Table - Input 1: Not connected  
 Truth Table - Input 2: BU - Input 1  
 Truth Table - Input 3: BU - Input 3

I1	I2	I3	O
0	0	0	0
0	0	1	1
0	1	0	1
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

**Truth Table 2 3/10**

Truth Table - Input 1: Not connected  
 Truth Table - Input 2: Cyclic Receive - Bit 0.0  
 Truth Table - Input 3: Cyclic Receive - Bit 0.2

I1	I2	I3	O
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB25

### FVR – Selector Switch Operation Mode Selection – Local 2-Wire SS – Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode, SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Inputs 1 and 3.
2. To engage the FWD Contactor the Selector Switch is placed into the FWD position. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor the Selector Switch is placed into the REV position. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD Contactor or the REV Contactor the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite direction. The default Interlocking Time for changing direction is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Profibus Cyclic Receive Bits 0.2 and 0.0 are connected to Truth Table 2.
2. To engage the FWD Contactor, the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD or REV Contactor, the Profibus Cyclic Receive Bits 0.2 and 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite direction. The default Interlocking Time for changing direction is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.





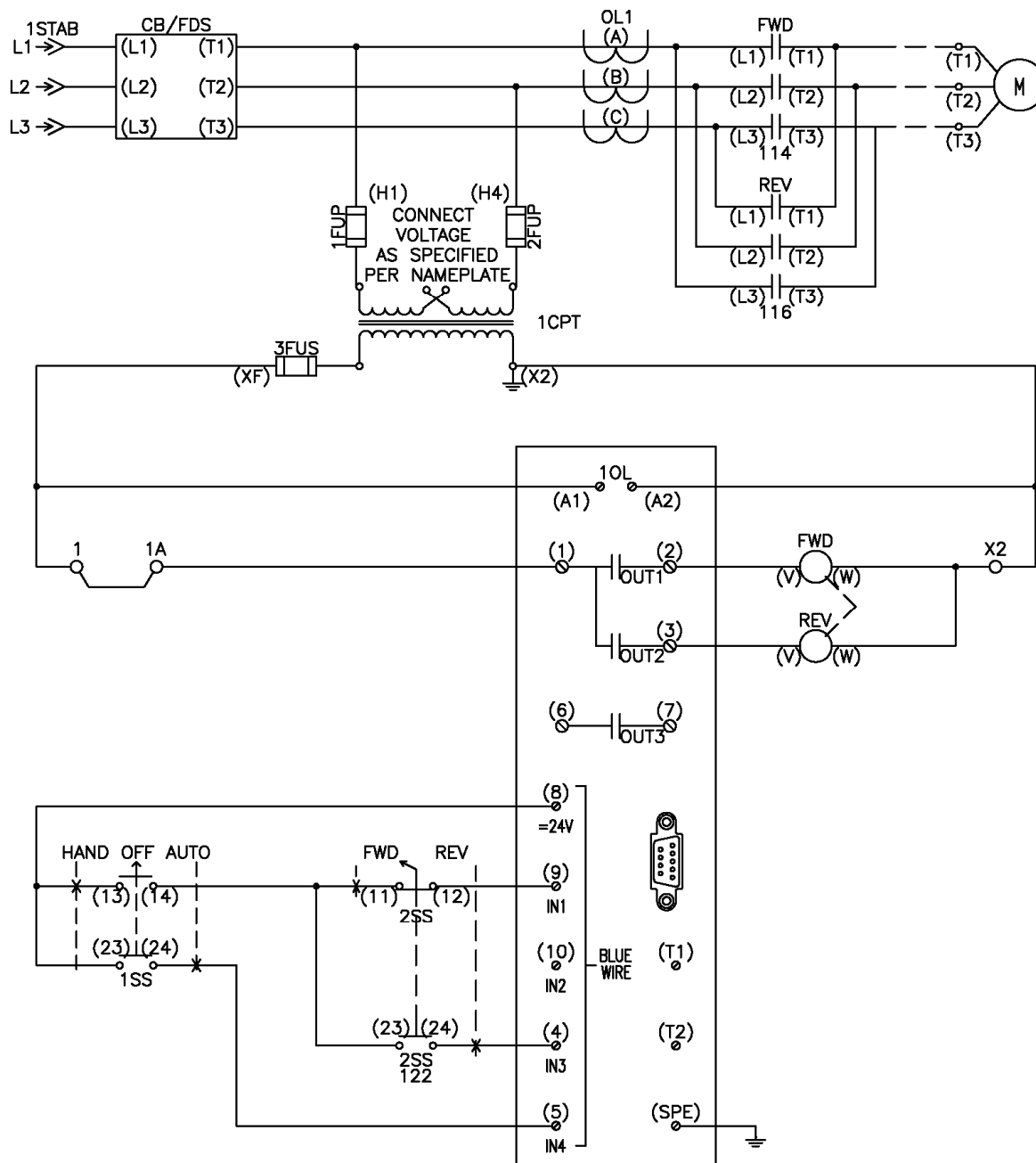


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB26

FVR – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 3-Wire

Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB26

### FVR – Selector Switch Operation Mode Selection – Local 2-Wire SS – Remote 3-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Inputs 1 and 3.
2. To engage the FWD Contactor the Selector Switch is placed into the FWD position. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor the Selector Switch is placed into the REV position. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD Contactor or the REV Contactor the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite direction. The default Interlocking Time for changing direction is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the FWD Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD Contactor or the REV Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite direction. The default Interlocking Time for changing direction is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped..

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB26

FVR – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 3-Wire

### Parameter Detail

Control Selection and Operation

**Control Station**

**Operation Mode Selector**

Cyclic Receive - Bit 0.5

BU - Input 4

**Local Control (LC)**

Not connected

BU - Input 3

Truth Table 1 3/10 - Output

BU - Input 1

Not connected

**PLC/DCS (DP)**

Not connected

Cyclic Receive - Bit 0.0

Cyclic Receive - Bit 0.1

Cyclic Receive - Bit 0.2

Not connected

**PC (DPV1)**

Not connected

Not connected

Not connected

Not connected

Not connected

**Operator Panel (OP)**

Not connected

Not connected

Not connected

Not connected

Not connected

**Released Control Command**

On ☐

Off ☐

On ☐

Off ☐

**Released for direct Control of Control Functions**

On ☐

Off ☐

On ☐

Off ☐

**Truth Table 1 3/10**

Truth Table - Input 1

Truth Table - Input 2

Truth Table - Input 3

**Truth Table 3/10**

I1	I2	I3	Q
0	0	0	0
0	0	1	1
0	1	0	1
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

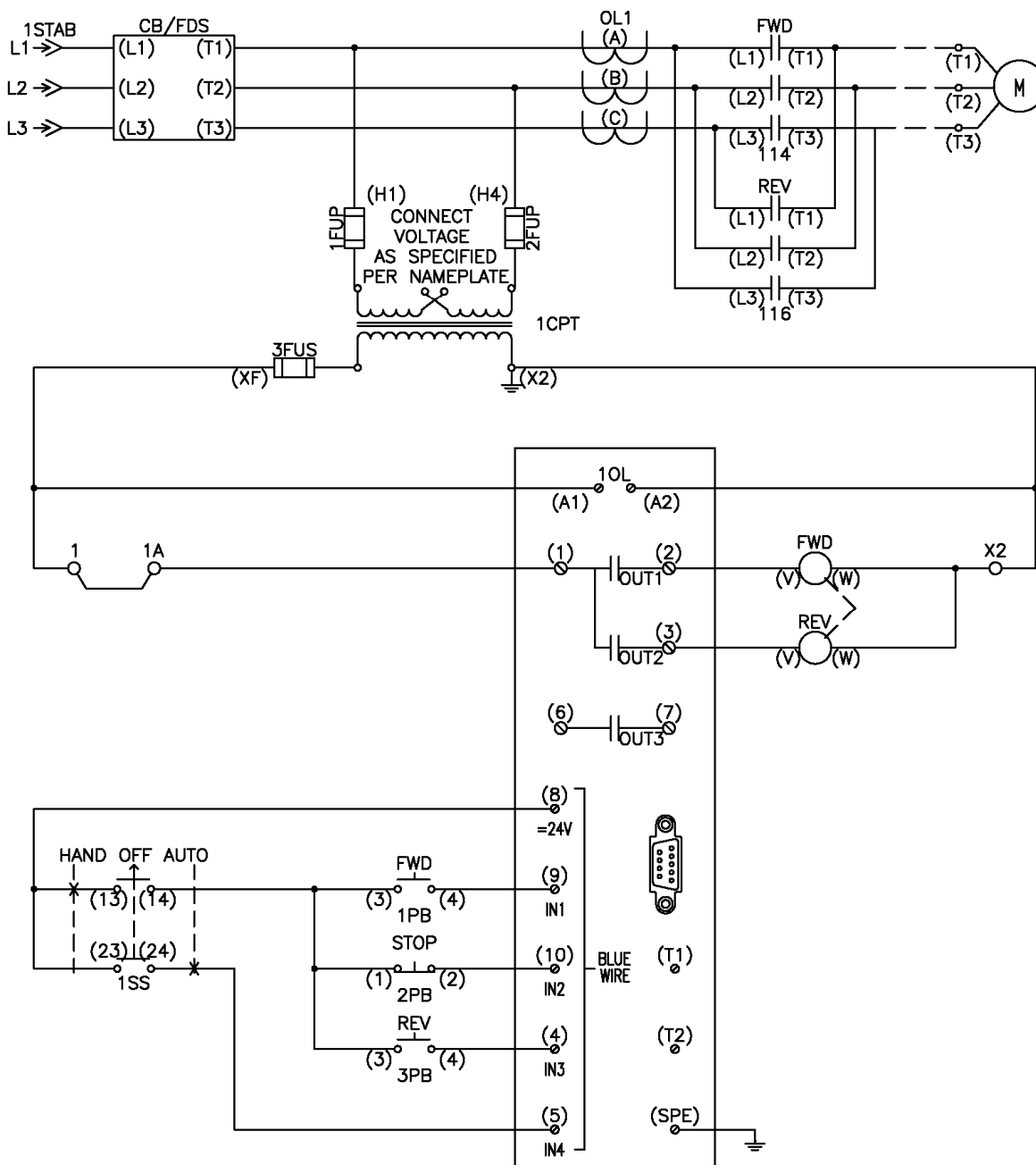
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB27

FVR – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 2-Wire

#### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB27

### FVR – Selector Switch Operation Mode Selection – Local 3-Wire SS/PB – Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the FWD Contactor, depress the Forward Pushbutton while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor, depress the Reverse Pushbutton while the Stop Pushbutton is in its normally closed state. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD Contactor or the REV Contactor two methods are available. First, while the Selector Switch is placed into the HAND position the Stop Pushbutton is depressed. Second, the Selector Switch is placed into the OFF position. For either action the OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite direction. The default Interlocking Time for changing direction is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the FWD Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD Contactor or the REV Contactor the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite direction. The default Interlocking Time for changing direction is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

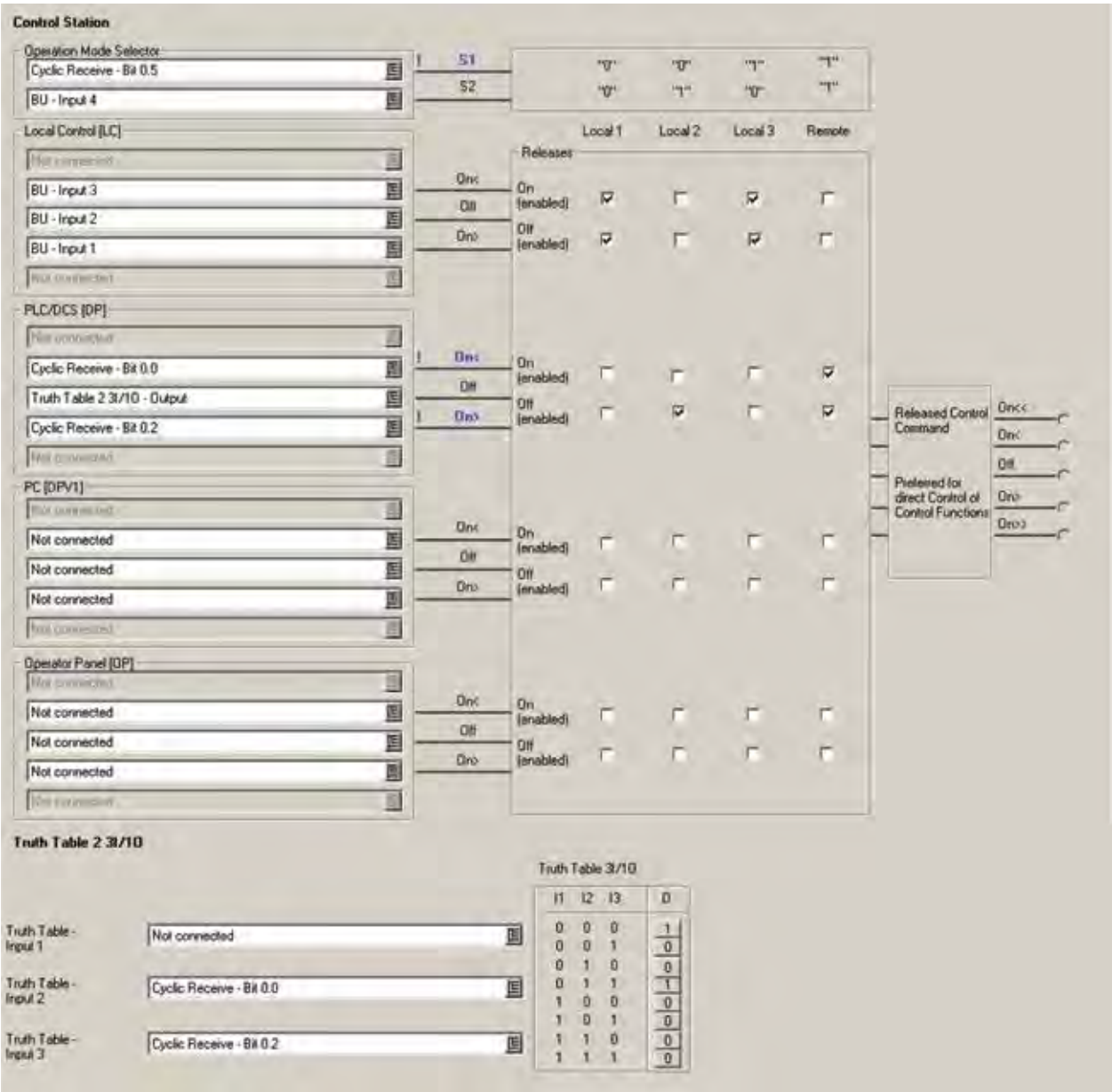
# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB27

FVR – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 2-Wire

### Parameter Detail

Control Selection and Operation

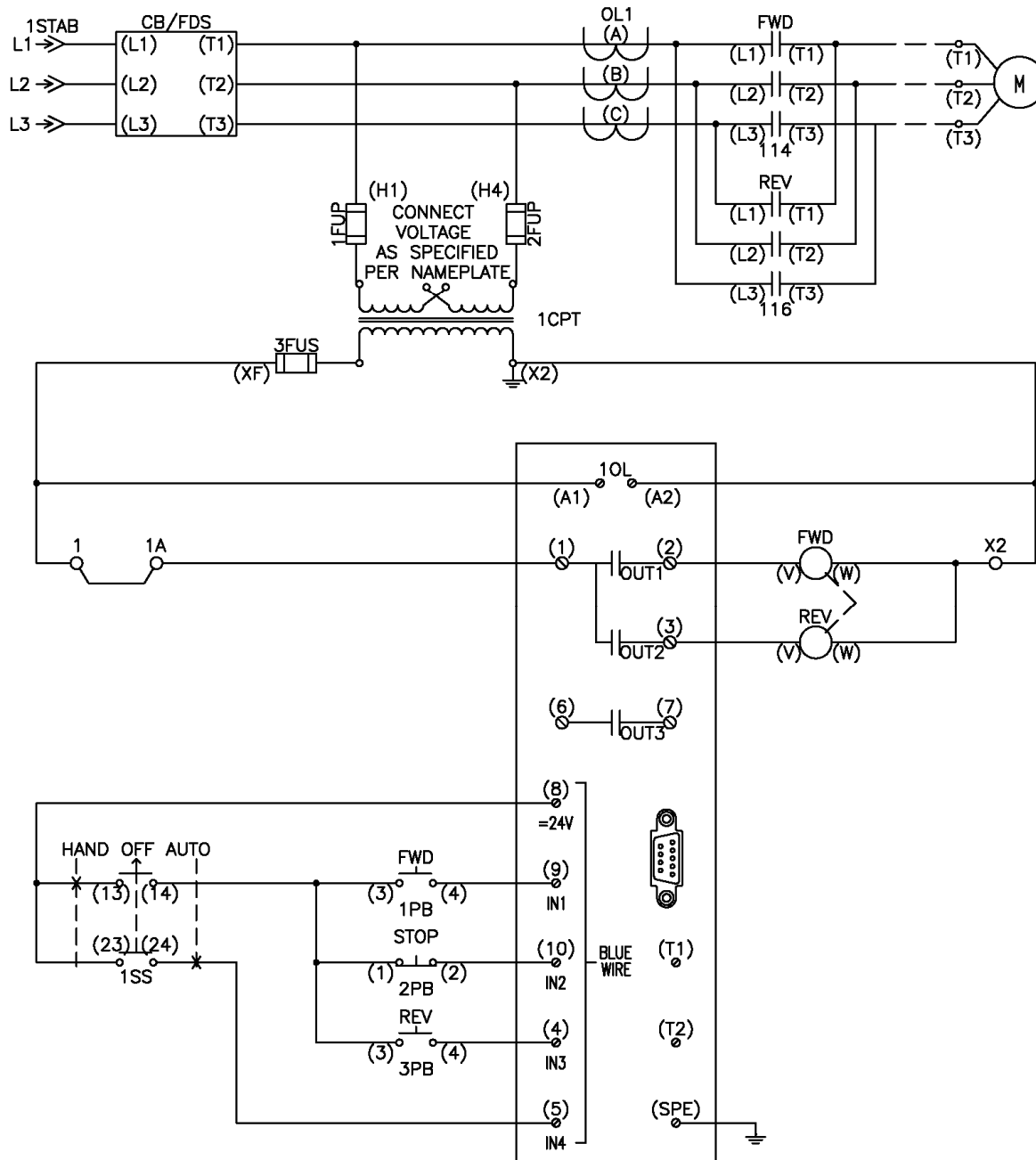


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB28

FVR – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 3-Wire

Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB28

FVR – Selector Switch Operation Mode Selection –

Local 3-Wire SS/PB – Remote 3-Wire

### Operating Instructions

#### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

#### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the FWD Contactor the Forward pushbutton is depressed while the Stop pushbutton is in its normal closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor the Reverse pushbutton is depressed while the Stop pushbutton is in its normal closed state. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD Contactor or the REV Contactor two methods are available. First, while the Selector Switch is placed into the HAND position the Stop Pushbutton is depressed. Second, the Selector Switch is placed into the OFF position. For either action the OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite direction. The default Interlocking Time for changing direction is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

#### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the FWD Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD Contactor or the REV Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite direction. The default Interlocking Time for changing direction is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

#### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB28

FVR – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 3-Wire

### Parameter Detail

Control Selection and Operation

**Control Station**

**Operation Mode Selector**

Cyclic Receive - Bit 0.5 ☐ S1 "0" "0" "1" "1"

BU - Input 4 ☐ S2 "0" "1" "0" "1"

**Local Control (LC)**

Not connected ☐

BU - Input 3 ☐ On

BU - Input 2 ☐ Off

BU - Input 1 ☐ On

Not connected ☐

**PLC/DCS (DP)**

Not connected ☐

Cyclic Receive - Bit 0.0 ☐ On

Cyclic Receive - Bit 0.1 ☐ Off

Cyclic Receive - Bit 0.2 ☐ On

Not connected ☐

**PC (DPV1)**

Not connected ☐

Not connected ☐ On

Not connected ☐ Off

Not connected ☐ On

Not connected ☐

**Operator Panel (OP)**

Not connected ☐ On

Not connected ☐ Off

Not connected ☐ On

Not connected ☐

**Releases**

	Local 1	Local 2	Local 3	Remote
On (enabled)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Released Control Command**

On << ☐

On < ☐

Off ☐

**Preferred for direct Control of Control Functions**

On > ☐

On >> ☐



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB29

### FVR – Operator Panel Operation Mode Selection – Local 3-Wire OP(OPD) – Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Non-Volatile Element 1 Output is connected to the Operation Mode Selector S2. Operator Panel Button 1 (AUTO) is connected to Non-Volatile Element 1 for an edge rising latch as well as to Counter 1 for latch reset. Counter 1 is connected to Non-Volatile Element 2 to maintain Operation Mode selection during loss of control power.
2. To engage Local Operation Mode the Non-Volatile Element 1 Output is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode the Non-Volatile Element 1 Output is activated while Profibus Cyclic Receive Bit 0.5 is deactivated. When mode is active, indication is provided via the LED on Operator Panel Button 1.
4. To engage Remote Operation Mode the Non-Volatile Element 1 Output and Profibus Cyclic Receive Bit 0.5 (maintained signal) are activated. This mode does not permit sending parameter data from the PLC/DCS. When mode is active indication is provided via LED on Operator Panel Button 1.

##### Local Control

1. Operator Panel Button 3 (FWD) is connected to the ON > Control Command, Operator Panel Button 2 (REV) is connected to the ON < Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the FWD Contactor the OP Forward Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor the OP Reverse Pushbutton is depressed. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD Contactor or the REV Contactor the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite direction. The default Interlocking Time for changing direction is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Profibus Cyclic Receive Bits 0.2 and 0.0 are connected to Truth Table 2.
2. To engage the FWD Contactor, Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor, Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD or REV Contactor Profibus Cyclic Receive Bits 0.2 and 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite direction. The default Interlocking Time for changing direction is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

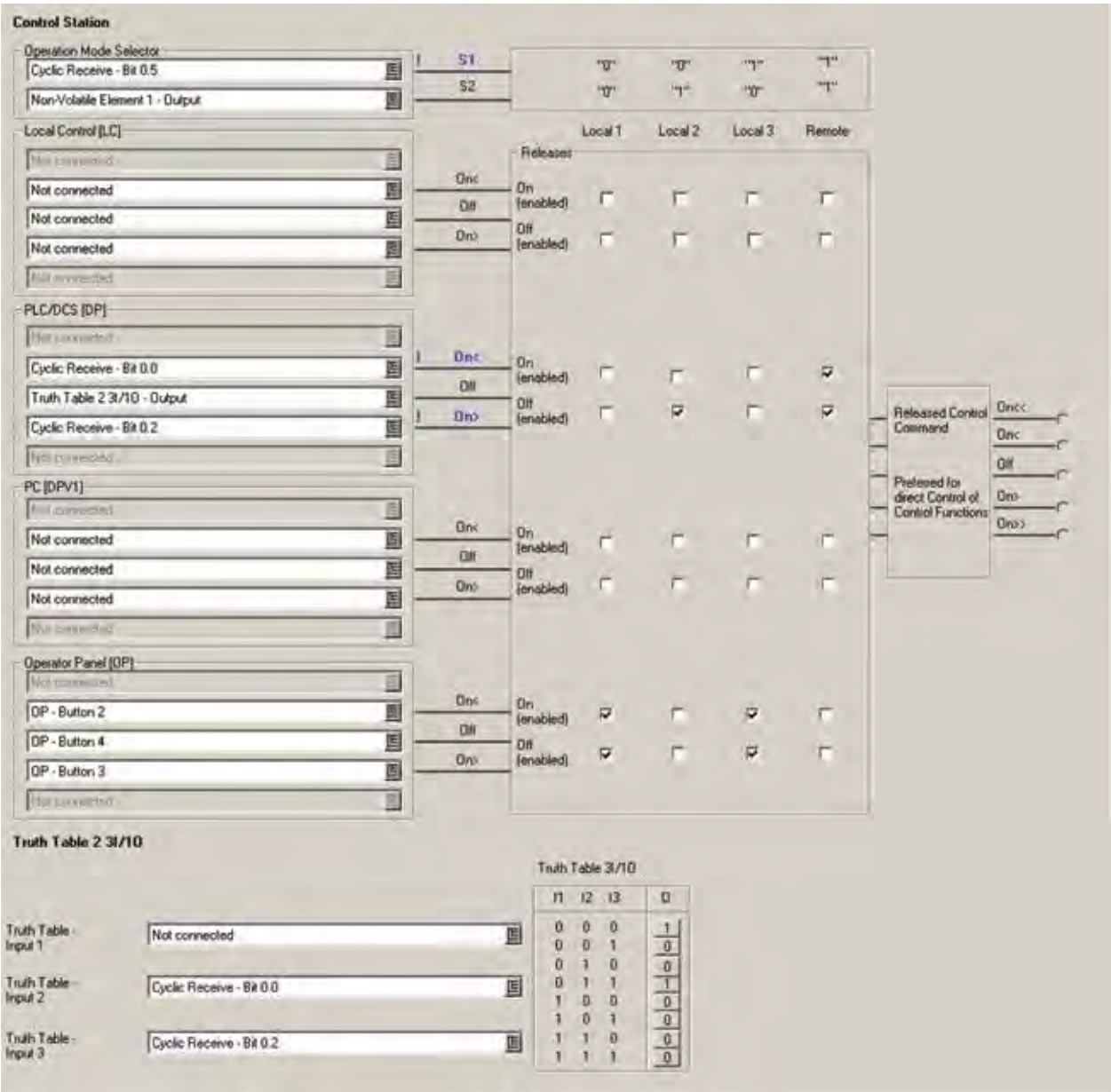
# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB29

FVR – Operator Panel Operation Mode Selection –  
Local 3-Wire OP(OPD) – Remote 2- Wire

### Parameter Detail

### Control Selection and Operation



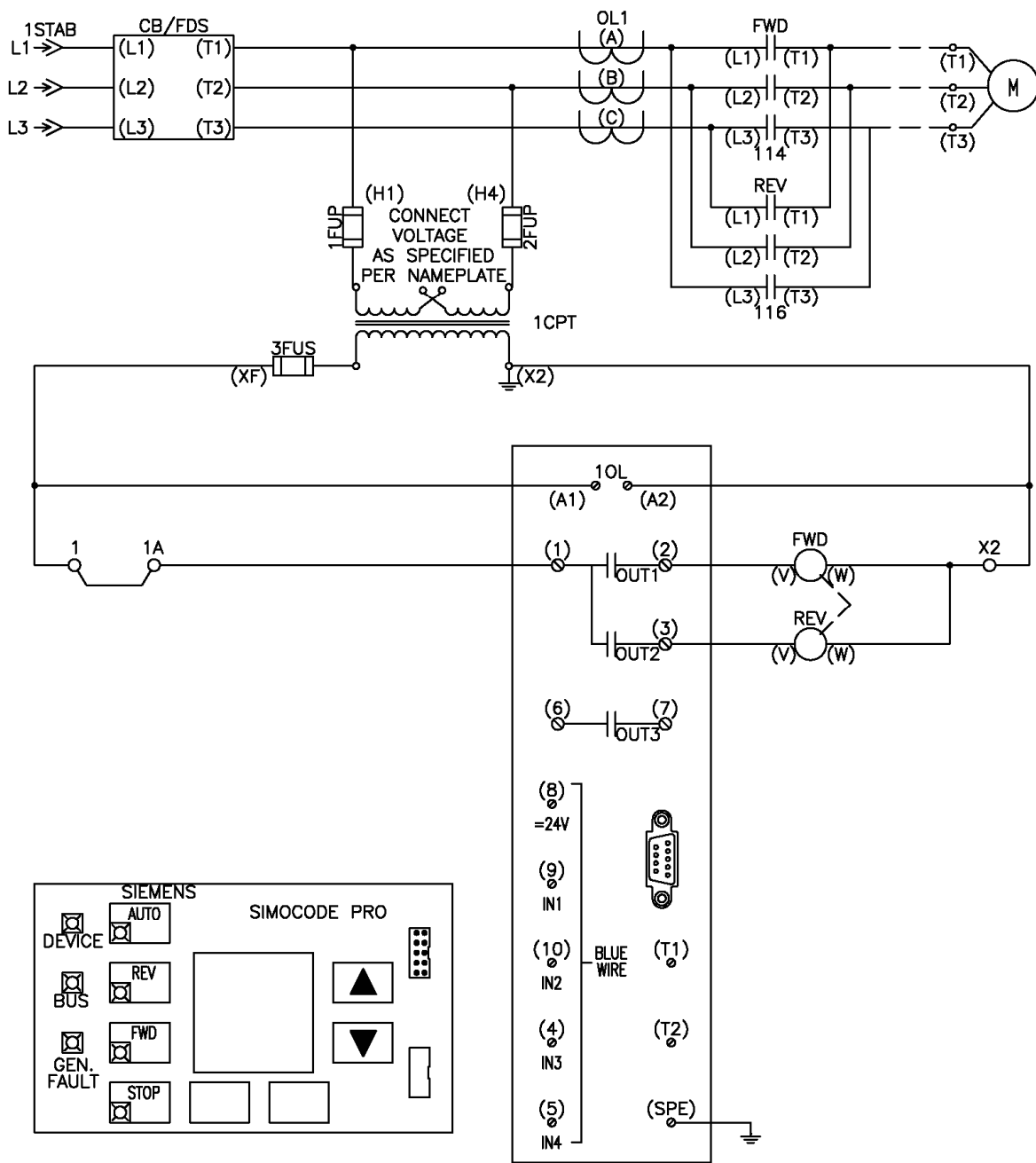
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB29

FVR – Operator Panel Operation Mode Selection –  
Local 3-Wire OPD – Remote 2-Wire

#### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB29

FVR – Operator Panel Operation Mode Selection –  
Local 3-Wire OP(OPD) – Remote 2-Wire

### Parameter Detail

#### AUTO Toggle Operation

Non-Volatile Element 1

Non-Volatile Element - Type

edge rising with memory

Non-Volatile Element - Input

OP - Button 1

Non-Volatile Element - Reset

Non-Volatile Element 2 - Output

Counter 1

Counter - Limit

2

Counter - Input +

OP - Button 1

Counter - Input -

Not connected

Counter - Reset

Non-Volatile Element 2 - Output

Non-Volatile Element 2

Non-Volatile Element - Type

non inverting

Non-Volatile Element - Input

Counter 1 - Output

Non-Volatile Element - Reset

Not connected

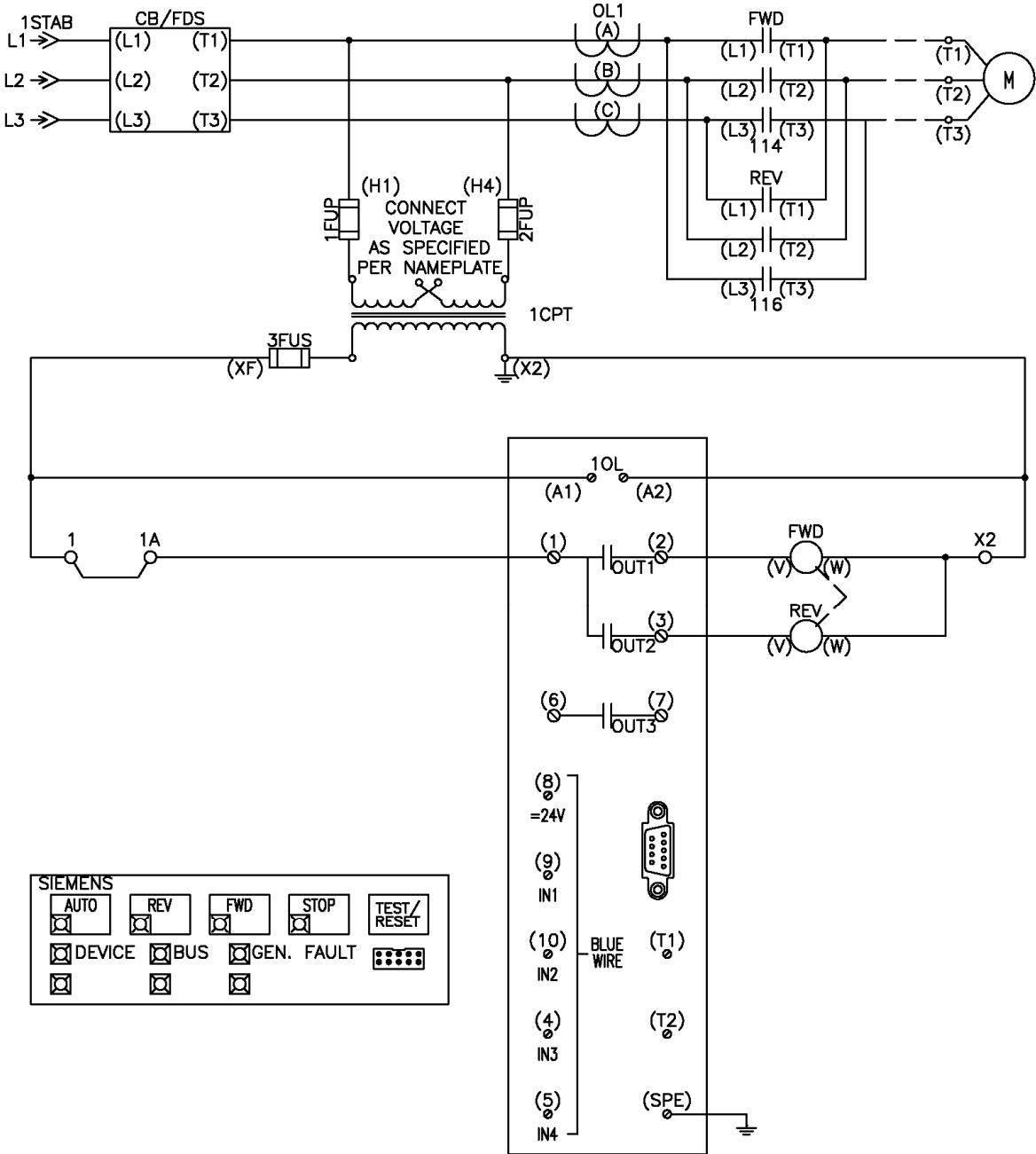
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB30

FVR – Operator Panel Operation Mode Selection –  
Local 3-Wire OP – Remote 3-Wire

Connection Diagram

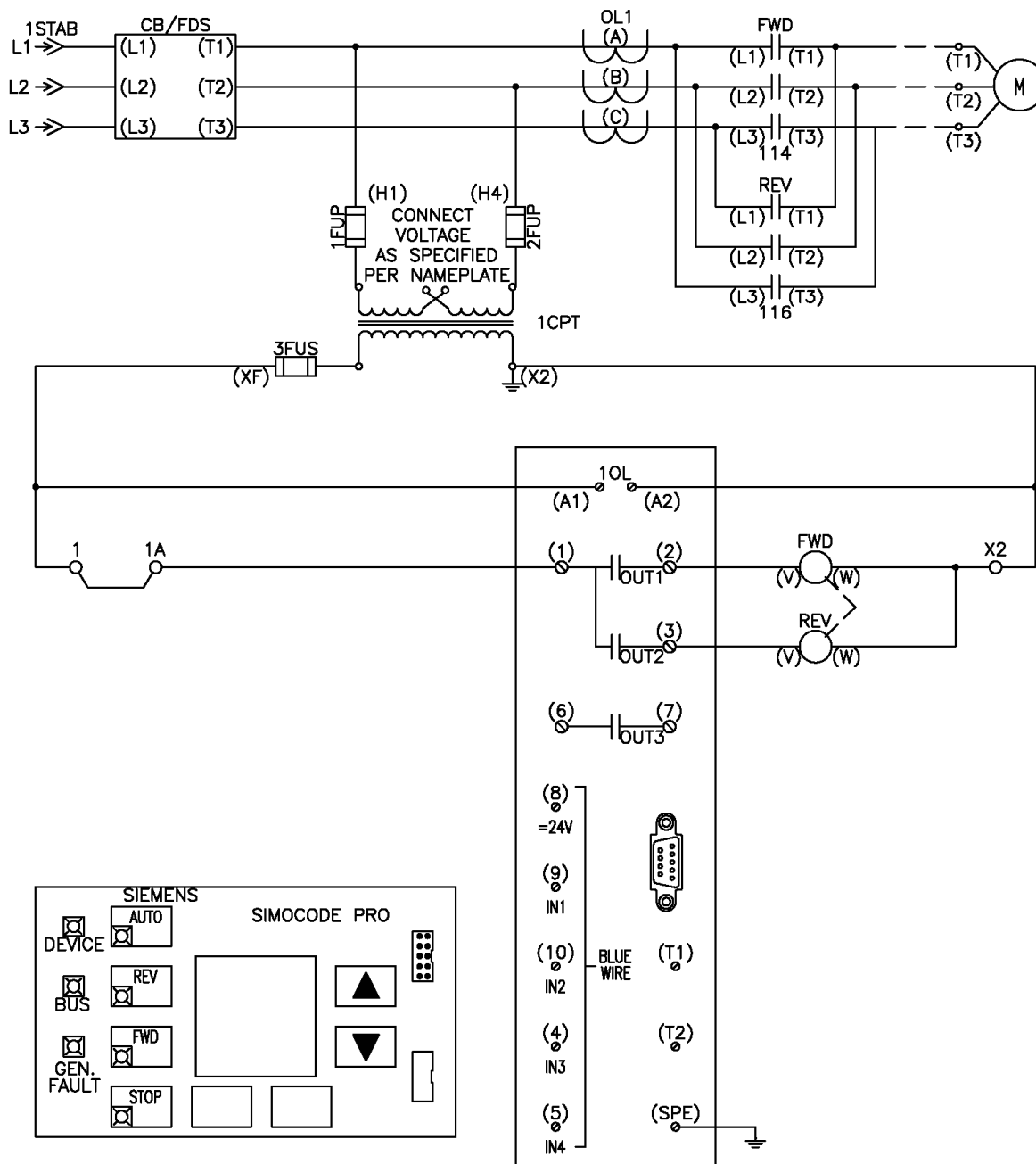


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB30

FVR – Operator Panel Operation Mode Selection –  
Local 3-Wire OPD – Remote 3-Wire

### Connection Diagram





# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB30

### FVR – Operator Panel Operation Mode Selection – Local 3-Wire OP(OPD) – Remote 3-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Non-Volatile Element 1 Output is connected to the Operation Mode Selector S2. Operator Panel Button 1 (AUTO) is connected to Non-Volatile Element 1 for an edge rising latch as well as to Counter 1 for latch reset. Counter 1 is connected to Non-Volatile Element 2 to maintain Operation Mode selection during loss of control power.
2. To engage Local Operation Mode the Non-Volatile Element 1 Output is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode the Non-Volatile Element 1 Output is activated while Profibus Cyclic Receive Bit 0.5 is deactivated. When mode is active indication is provided via LED on Operator Panel Button 1.
4. To engage Remote Operation Mode the Non-Volatile Element 1 Output and Profibus Cyclic Receive Bit 0.5 (maintained signal) are activated. This mode does not permit sending parameter data from the PLC/DCS. When mode is active indication is provided via LED on Operator Panel Button.

##### Local Control

1. Operator Panel Button 3 (FWD) is connected to the ON > Control Command, Operator Panel Button 2 (REV) is connected to the ON < Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the FWD Contactor the OP Forward Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor the OP Reverse Pushbutton is depressed. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD Contactor or the REV Contactor the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite direction. The default Interlocking Time for changing direction is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 2 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the FWD Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close.
3. To engage the REV Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
4. To disengage the FWD Contactor or the REV Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite direction. The default Interlocking Time for changing direction is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB30

FVR – Operator Panel Operation Mode Selection –  
Local 3-Wire OP(OPD) – Remote 3-Wire

### Parameter Detail

#### AUTO Toggle Operation

<b>Non-Volatile Element 1</b>	
Non-Volatile Element - Type	edge rising with memory
Non-Volatile Element - Input	OP - Button 1
Non-Volatile Element - Reset	Non-Volatile Element 2 - Output
<b>Counter 1</b>	
Counter - Limit	2
Counter - Input +	OP - Button 1
Counter - Input -	Not connected
Counter - Reset	Non-Volatile Element 2 - Output
<b>Non-Volatile Element 2</b>	
Non-Volatile Element - Type	non inverting
Non-Volatile Element - Input	Counter 1 - Output
Non-Volatile Element - Reset	Not connected

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## 6. Two speed one winding

The two-speed one-winding starter uses the SLOW contactor to select low-speed and the FAST & SHORT contactors to select high-speed for dual-speed, single-direction, full-voltage operation. The SLOW and SHORT contactors are mechanically and intelligently interlocked to prevent short circuiting of the input lines.

The basic SLOW operation of this starter is as follows.

1. A local or remote SLOW start signal is given to the SIMOCODE Pro.
2. The SIMOCODE Pro Output 2 closes which energizes the coil of SLOW Contactor.
3. A local or remote stop signal is given to the SIMOCODE Pro.
4. The SIMOCODE Pro Output 2 opens which de-energizes the coil of SLOW Contactor.
5. If a fault occurs at any time the SIMOCODE Pro will end the starter operation.

The basic FAST operation of this starter is as follows.

1. A local or remote FAST start signal is given to the SIMOCODE Pro.
2. The SIMOCODE Pro Output 1 and SIMOCODE Pro Output 3 close which energizes the coils of the FAST Contactor and SHORT Contactor.
3. A local or remote stop signal is given to the SIMOCODE Pro.
4. The SIMOCODE Pro Output 1 and SIMOCODE Pro Output 3 open which de-energizes the coils of the FAST Contactor and SHORT Contactor.
5. If a fault occurs at any time the SIMOCODE Pro will end the starter operation.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB31

OL / 2S1W – Fixed Operation Mode –  
Local Overload Operation – Remote Monitoring

### Operating Instructions

#### Local Control

1. All control external to device.
2. In the event of an Overload or any other General Fault event the SIMOCODE Output 3 will open.

#### Reset Control

3. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

#### NOTE:

1. This setup is not recommended as its use eliminates local control of the starter via Simocode Pro as well as remote control over Profibus DP network communication.
2. Two Simocode Pro devices are required to utilize a 2S1W starter in this fashion.

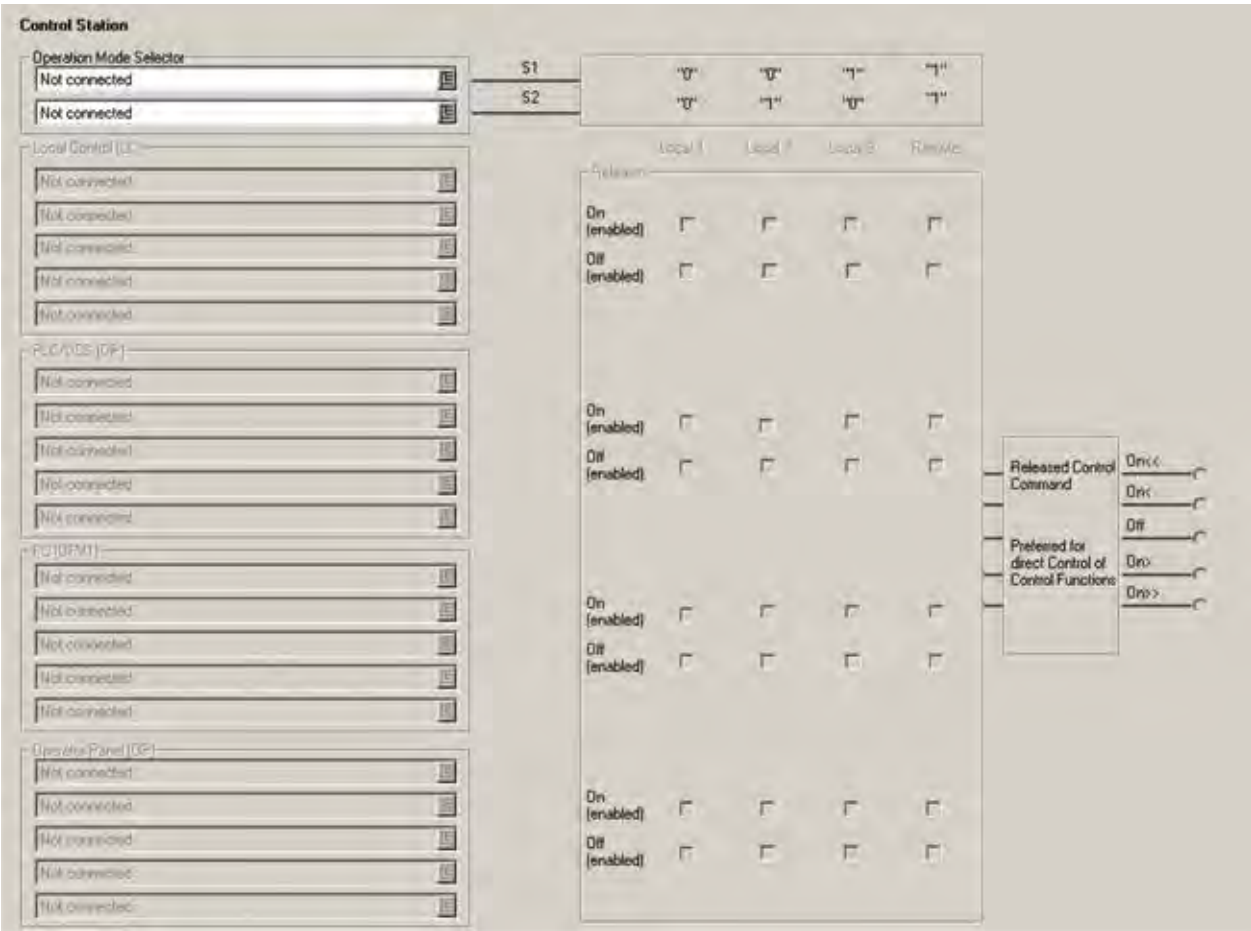
# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB31

OL / FVNR – Fixed Operation Mode –  
Local Overload Operation – Remote Monitoring

### Parameter Detail

Control Selection and Operation

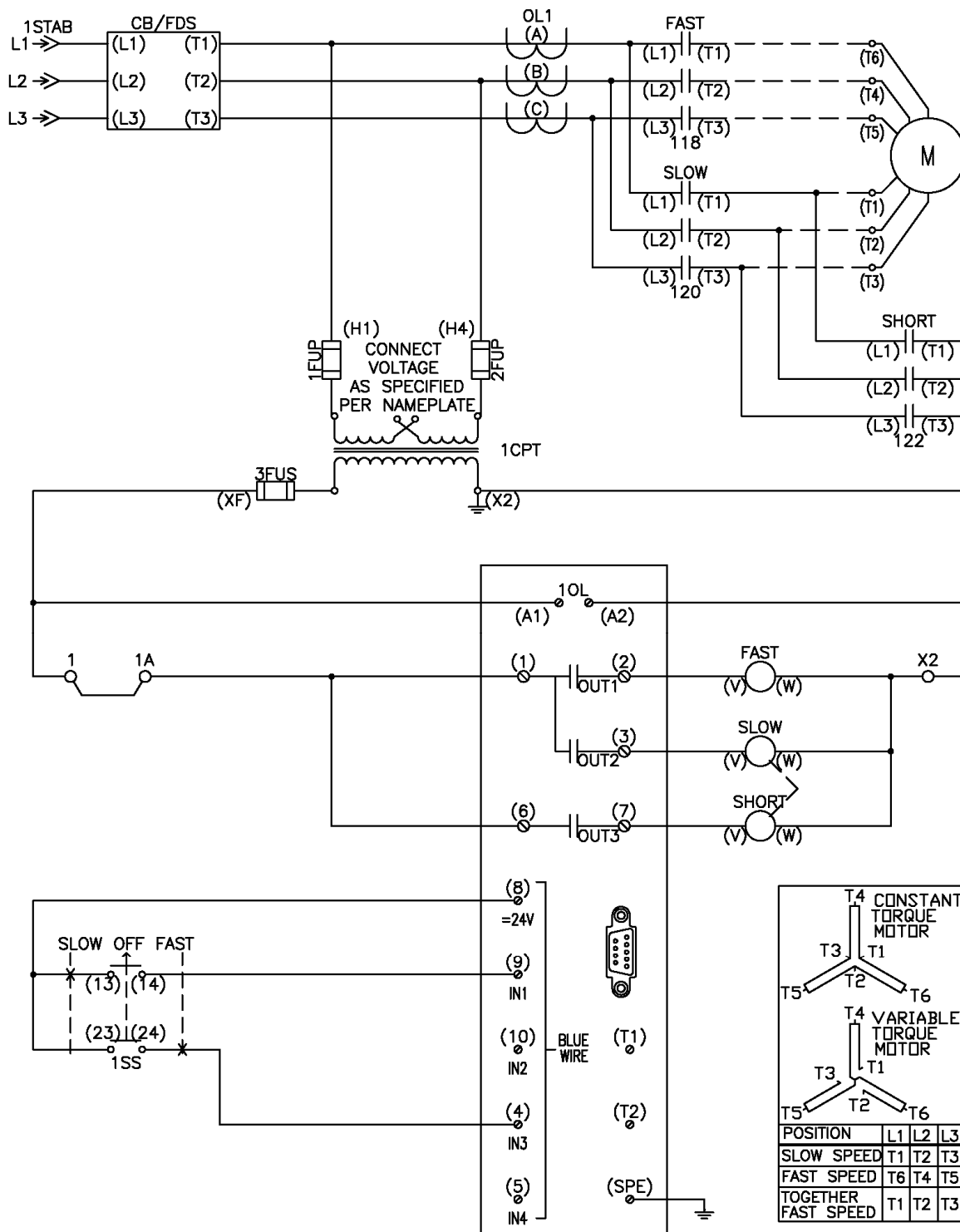


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB32

2S1W – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS– Remote 2-Wire

### Connection Diagram





# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB32

### 2S1W – Profibus Bit Operation Mode Selection – Local 2-Wire SS– Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON >> Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Inputs 1 and 3.
2. To engage the SLOW Contactor the Selector Switch is placed into the SLOW position. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors the Selector Switch is placed into the FAST position. The ON >> Control Command is then triggered, causing SIMOCODE Outputs 1 and 3 to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1, 2 and 3 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1, 2 and 3 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.





# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB33

### 2S1W – Profibus Bit Operation Mode Selection – Local 2 Wire SS– Remote 3 Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON >> Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Input 1 and SIMOCODE Input 3.
2. To engage the SLOW Contactor the Selector Switch is placed into the SLOW position. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors the Selector Switch is placed into the FAST position. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 and SIMOCODE Output 3 to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1, 2 and 3 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 and SIMOCODE Output 3 to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1, 2 and 3 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB33

2S1W – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS– Remote 3-Wire

### Parameter Detail

Control Selection and Operation

**Control Station**

**Operation Mode Selector:**

Cyclic Receive - Bit 0.5 ☐

Fixed Level - '1' ☐

**Local Control (LC):**

Not connected ☐

Not connected ☐

Truth Table 1 3/10 - Output ☐

BU - Input 1 ☐

BU - Input 3 ☐

**PLC/DCS (DP):**

Not connected ☐

Not connected ☐

Cyclic Receive - Bit 0.1 ☐

Cyclic Receive - Bit 0.2 ☐

Cyclic Receive - Bit 0.0 ☐

**PC (DPV1):**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Operator Panel (OP):**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Release:**

	Local 1	Local 2	Local 3	Remote
On (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Released Control Command:**

On << ☐

On < ☐

On ☐

On > ☐

**Preferred for direct Control of Control Functions:**

On << ☐

On < ☐

On ☐

On > ☐

**Truth Table 1 3/10**

Truth Table - Input 1: Not connected ☐

Truth Table - Input 2: BU - Input 1 ☐

Truth Table - Input 3: BU - Input 3 ☐

**Truth Table 3/10**

I1	I2	I3	O
0	0	0	0
0	0	1	1
0	1	0	1
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

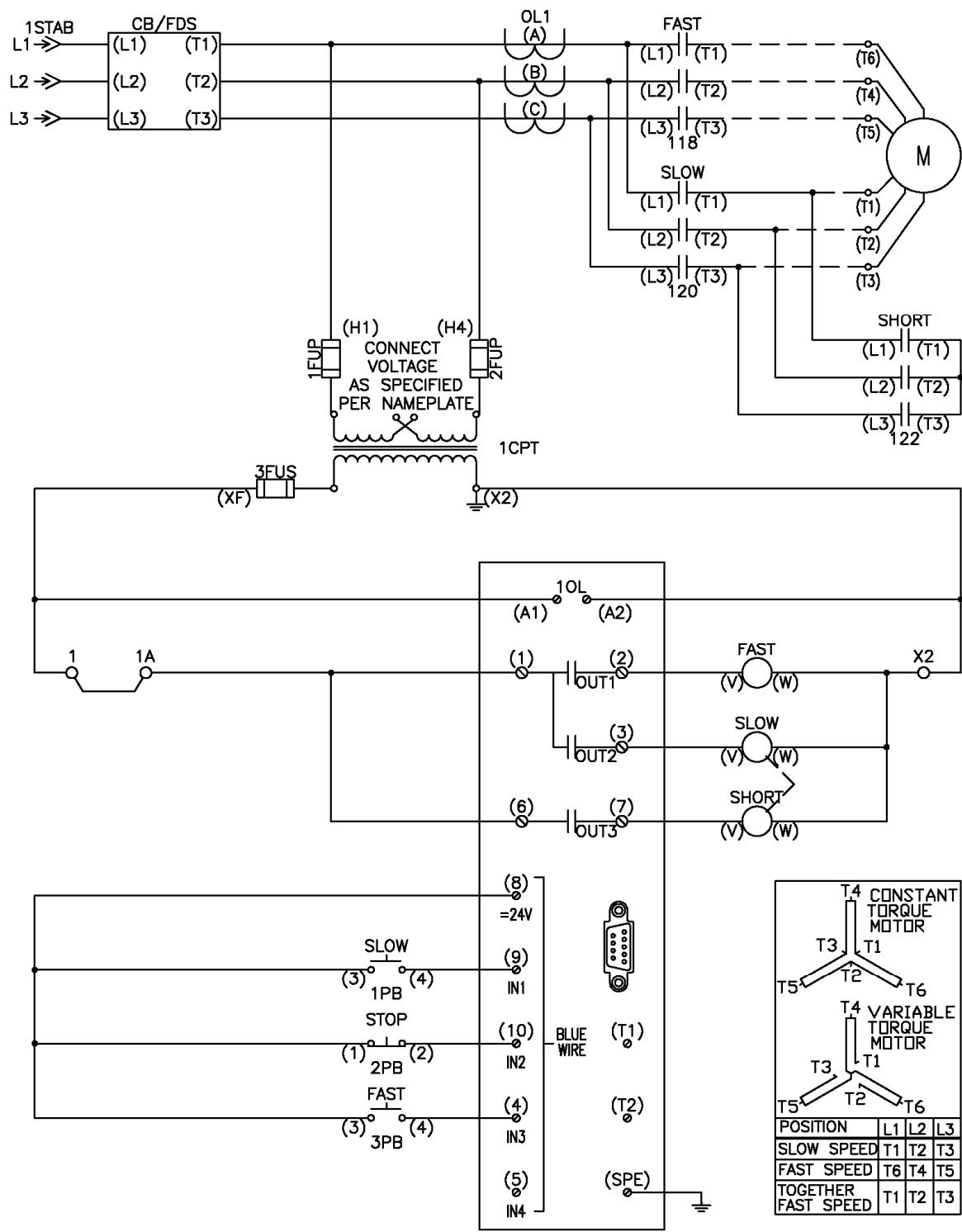
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB34

2S1W – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB– Remote 2-Wire

#### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB34

### 2S1W – Profibus Bit Operation Mode Selection – Local 3 Wire PB– Remote 2 Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON >> Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the SLOW Contactor, the Slow Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors the Fast Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 and SIMOCODE Output 3 | to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors the Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1, 2 and 3 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing the SIMOCODE Outputs 1 and 3 to close.
4. To disengage the SLOW Contactor, or the FAST & SHORT Contactors, Profibus Cyclic Receive Bits 0.2 and 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1, 2 and 3 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.



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# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB35

### 2S1W – Profibus Bit Operation Mode Selection – Local 3-Wire PB– Remote 3-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON >> Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode. Local Control (LC).
2. To engage the SLOW Contactor the Slow Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors the Fast Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 and SIMOCODE Output 3 to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors the Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1, 2 and 3 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 and SIMOCODE Output 3 to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1, 2 and 3 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

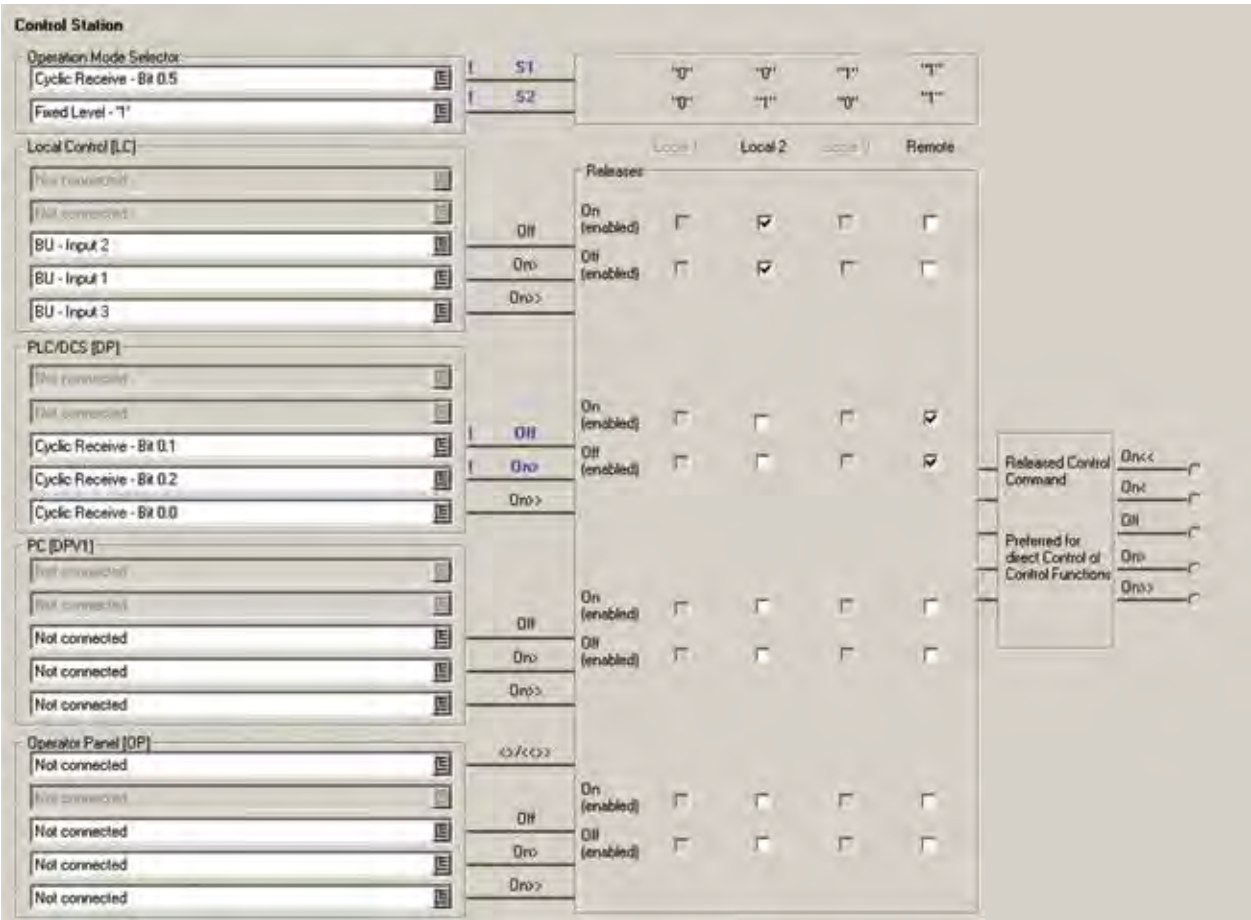
# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB35

2S1W – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB– Remote 3-Wire

### Parameter Detail

Control Selection and Operation



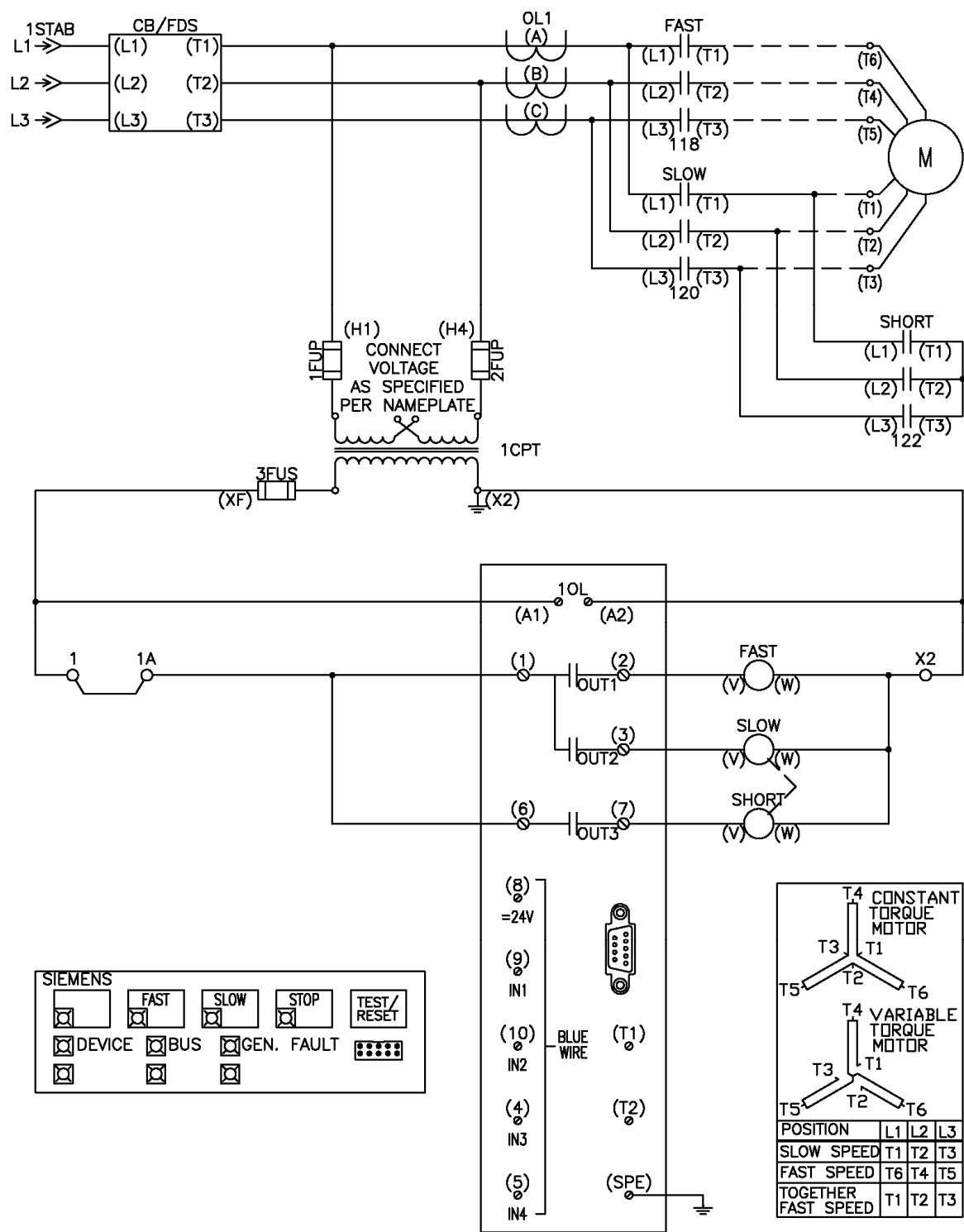
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB36

2S1W – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP – Remote 2-Wire

#### Connection Diagram





# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB36

### 2S1W – Profibus Bit Operation Mode Selection – Local 3 Wire OP(OPD) – Remote 2 Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. Operator Panel Button 3 (SLOW) is connected to the ON > Control Command, Operator Panel Button 2 (FAST) is connected to the ON >> Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the SLOW Contactor the OP Slow Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors the OP Fast Pushbutton is depressed. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 and SIMOCODE Output 3 to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1, 2 and 3 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 and SIMOCODE Output 3 to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1, 2 and 3 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB36

2S1W – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP(OPD) – Remote 2-Wire

### Parameter Detail

Control Selection and Operation

**Control Station**

**Operation Mode Selector:**

Cyclic Receive - Bit 0.5 ☐

Fixed Level - 1" ☐

**Local Control (LC):**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**PLC/DCS (DP):**

Not connected ☐

Not connected ☐

Truth Table 2 3/10 - Output ☐

Cyclic Receive - Bit 0.2 ☐

Cyclic Receive - Bit 0.0 ☐

**PC (DPV1):**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Operator Panel (OP):**

Not connected ☐

Not connected ☐

OP - Button 4 ☐

OP - Button 3 ☐

OP - Button 2 ☐

**Released Control Command:**

On (enabled) ☐

Off (enabled) ☐

On > ☐

**Preferred for direct Control of Control Functions:**

On (enabled) ☐

Off (enabled) ☐

On > ☐

**Truth Table 2 3/10**

Truth Table - Input 1: Not connected ☐

Truth Table - Input 2: Cyclic Receive - Bit 0.0 ☐

Truth Table - Input 3: Cyclic Receive - Bit 0.2 ☐

**Truth Table 3/10**

I1	I2	I3	Q
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0



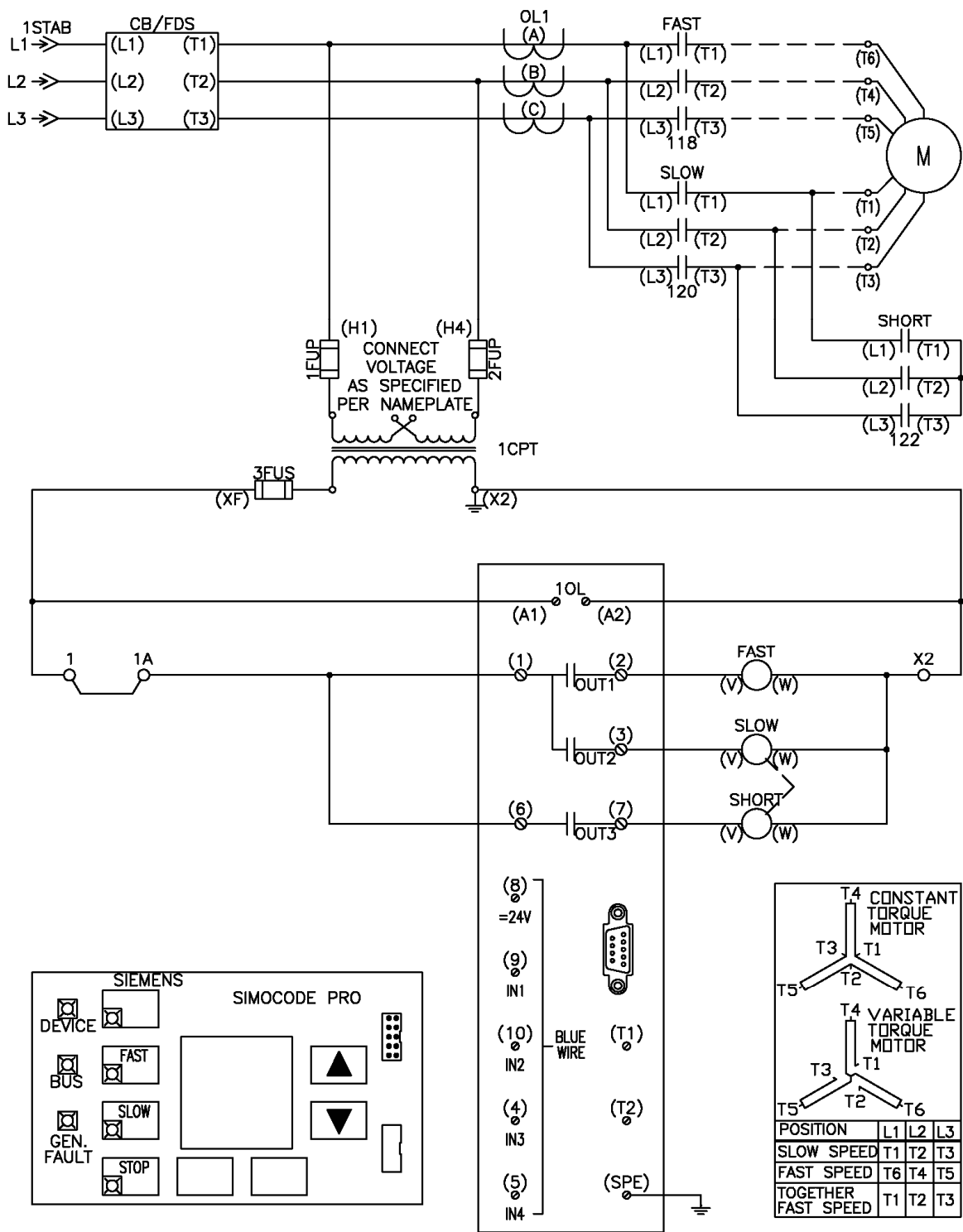


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB37

2S1W – Profibus Bit Operation Mode Selection –  
Local 3-Wire OPD – Remote 3-Wire

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB37

### 2S1W – Profibus Bit Operation Mode Selection – Local 3 Wire OP(OPD) – Remote 2 Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. Operator Panel Button 3 (SLOW) is connected to the ON > Control Command, Operator Panel Button 2 (FAST) is connected to the ON >> Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the SLOW Contactor the OP Slow Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors the OP Fast Pushbutton is depressed. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 and SIMOCODE Output 3 to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1, 2 and 3 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 and SIMOCODE Output 3 to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1, 2 and 3 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

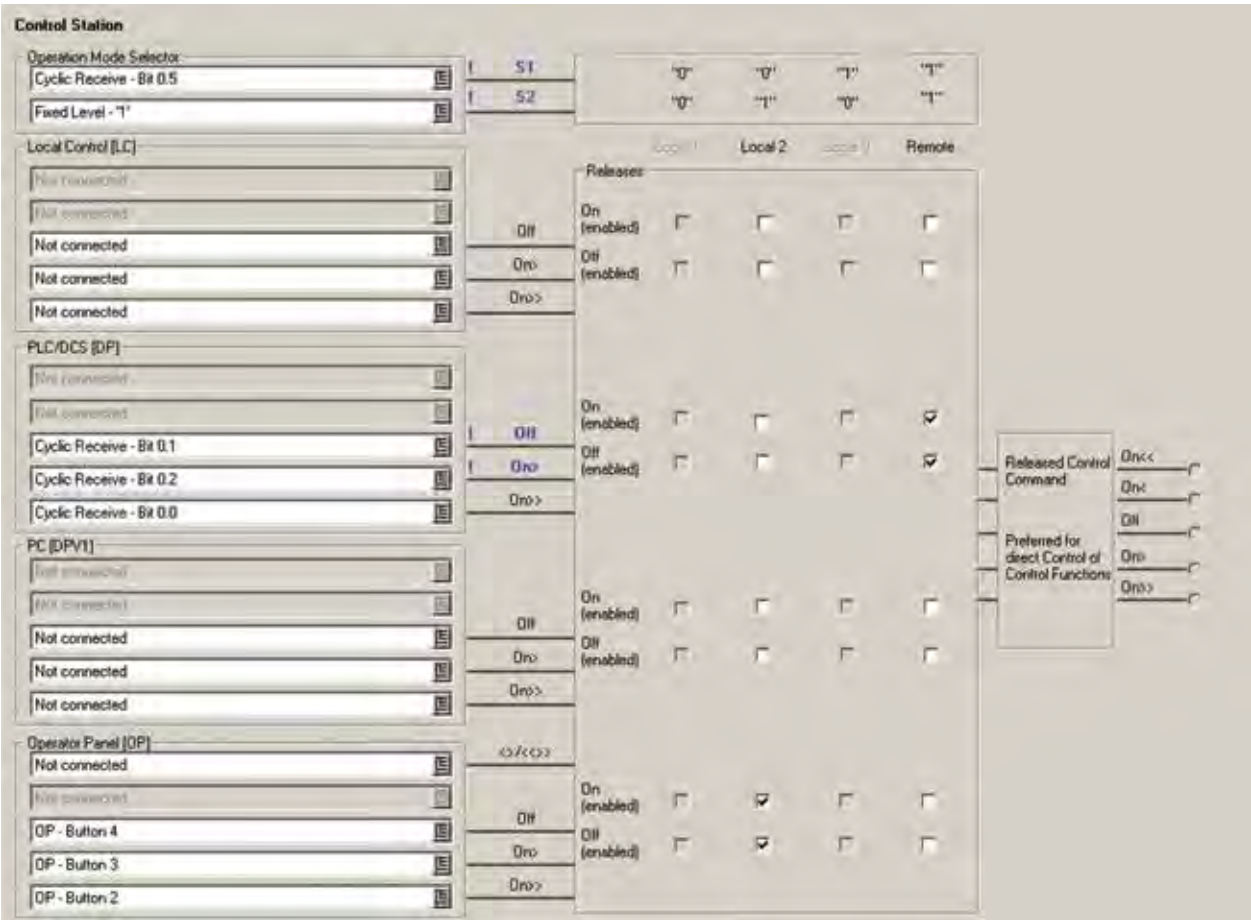
# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB37

2S1W – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP(OPD) – Remote 3-Wire

### Parameter Detail

Control Selection and Operation



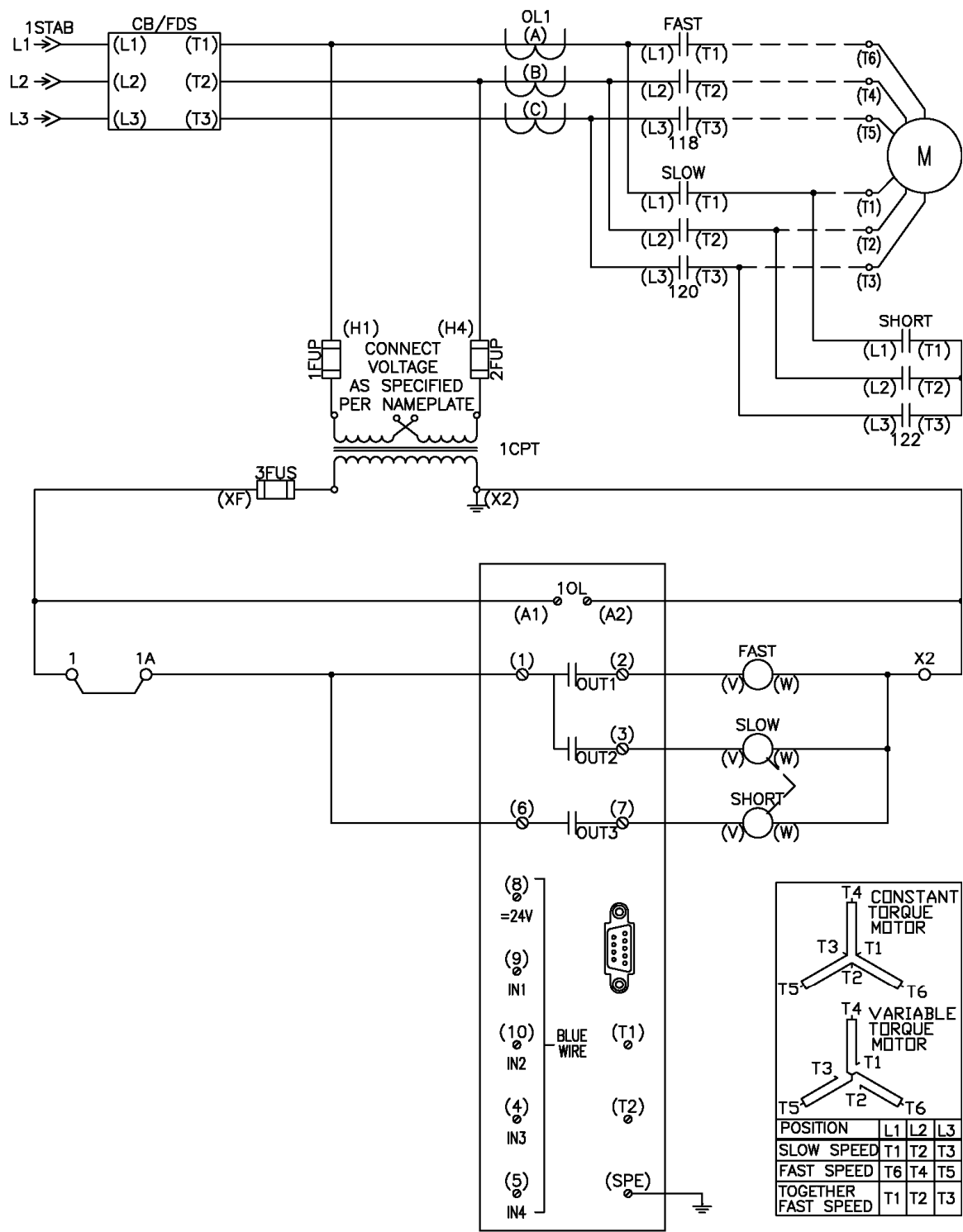
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB38

2S1W – Profibus Bit Operation Mode Selection –  
No Local – Remote 2-Wire

#### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB38

### 2S1W – Profibus Bit Operation Mode Selection – No Local – Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control (for field commissioning purposes only)

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON >> Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Input 1 and SIMOCODE Input 3.
2. To engage the SLOW Contactor SIMOCODE Input 1 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors SIMOCODE Input 3 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 and SIMOCODE Output 3 to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors the SIMOCODE Input 1 and SIMOCODE Input 3 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1, 2 and 3 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 and SIMOCODE Output 3 to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1, 2 and 3 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.





# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB39

### 2S1W – Profibus Bit Operation Mode Selection – No Local – Remote 3 Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local **Control** (for field commissioning purposes only)

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON >> Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Input 1 and SIMOCODE Input 3.
2. To engage the SLOW Contactor SIMOCODE Input 1 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors SIMOCODE Input 3 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 and SIMOCODE Output 3 to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors the SIMOCODE Input 1 and SIMOCODE Input 3 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1, 2 and 3 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 and SIMOCODE Output 3 to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1, 2 and 3 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB39

2S1W – Profibus Bit Operation Mode Selection –  
No Local – Remote 3-Wire

### Parameter Detail

Control Selection and Operation

**Control Station**

Operation Mode Selector:  
Cyclic Receive - Bit 0.5  
Fixed Level - '1'

Local Control (LC):  
Not connected  
Not connected  
Truth Table 1 3/10 - Output  
BU - Input 1  
BU - Input 3

PLC/DCS (DP):  
Not connected  
Not connected  
Cyclic Receive - Bit 0.1  
Cyclic Receive - Bit 0.2  
Cyclic Receive - Bit 0.0

PC (DPV1):  
Not connected  
Not connected  
Not connected  
Not connected  
Not connected

Operator Panel (OP):  
Not connected  
Not connected  
Not connected  
Not connected  
Not connected

Release:

	Local 1	Local 2	Local 3	Remote
On (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Released Control Command:  
On<<  
On<  
Off  
On>  
On>>

Preferred for direct Control of Control Functions:  
On<<  
On<  
Off  
On>  
On>>

**Truth Table 1 3/10**

Truth Table - Input 1: Not connected  
Truth Table - Input 2: BU - Input 1  
Truth Table - Input 3: BU - Input 3

**Truth Table 3/10**

I1	I2	I3	Q
0	0	0	0
0	0	1	1
0	1	0	1
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB40

### 2S1W – Selector Switch Operation Mode Selection – Local 2-Wire SS – Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON >> Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Input 1 and SIMOCODE Input 3.
2. To engage the SLOW Contactor the Selector Switch is placed into the SLOW position. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors the Selector Switch is placed into the FAST position. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 and SIMOCODE Output 3 to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1, 2 and 3 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 and SIMOCODE Output 3 to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 2 and 3 to open.
5. When switching contactors, you must issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

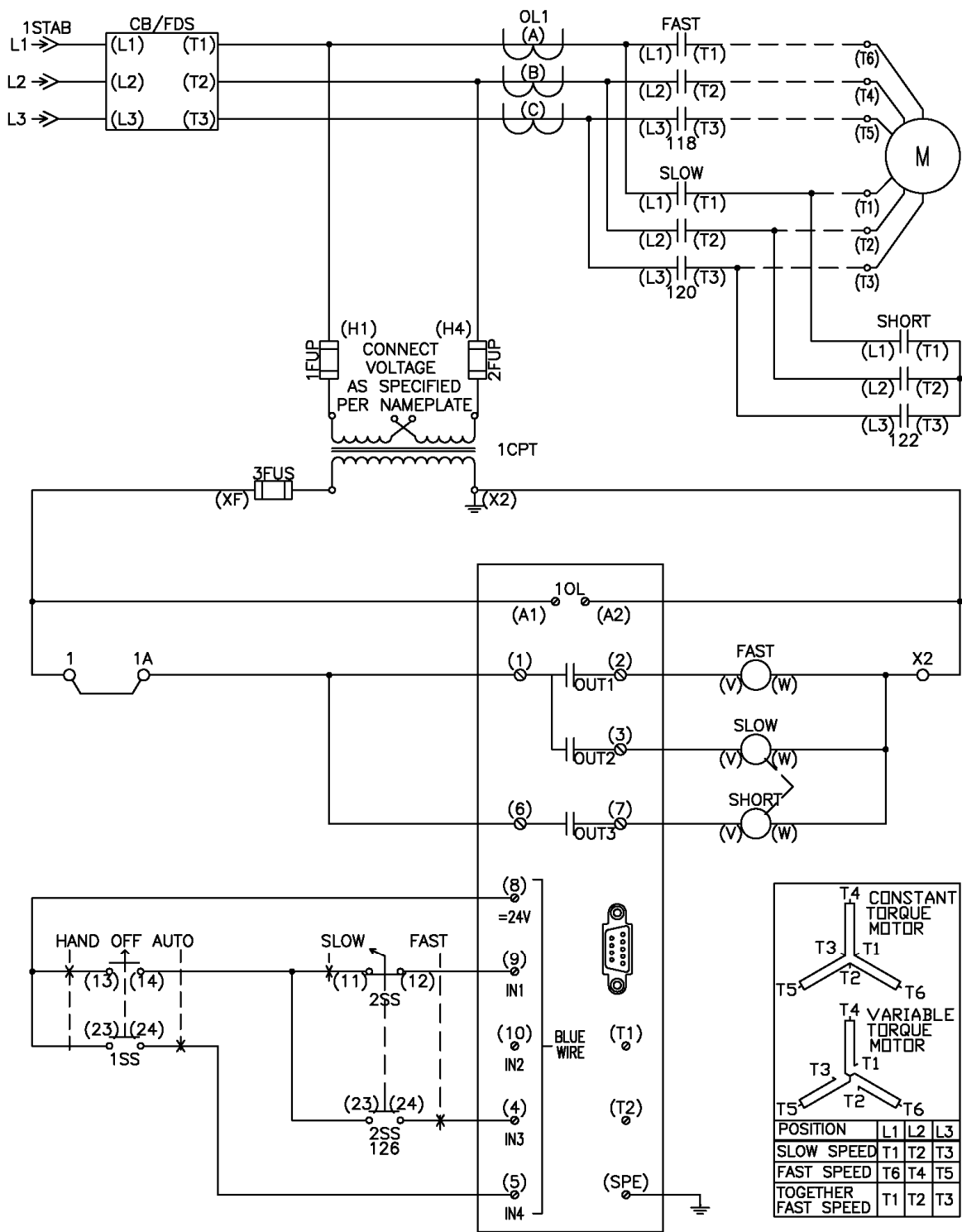


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB41

2S1W – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 3-Wire

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB41

### 2S1W – Selector Switch Operation Mode Selection – Local 2-Wire SS – Remote 3-Wire

#### Operating Instructions

##### Control Selection

2. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
3. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
4. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
5. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON >> Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Input 1 and SIMOCODE Input 3.
2. To engage the SLOW Contactor the Selector Switch is placed into the SLOW position. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors the Selector Switch is placed into the FAST position. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 and SIMOCODE Output 3 to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1, 2 and 3 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 and SIMOCODE Output 3 to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1, 2 and 3 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.









# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB42

### 2S1W – Selector Switch Operation Mode Selection – Local 3-Wire SS/PB – Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON >> Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the SLOW Contactor the Slow Pushbutton is depressed while the Stop Pushbutton is in its normal closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors the Fast Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 and SIMOCODE Output 3 to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors two methods are available. First, while the Selector Switch is placed into the HAND position the Stop Pushbutton is depressed. Second, the Selector Switch is placed into the OFF position. For either action the OFF Control Command is then triggered, causing SIMOCODE Outputs 1, 2 and 3 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 and SIMOCODE Output 3 to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1, 2 and 3 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel, if so equipped.

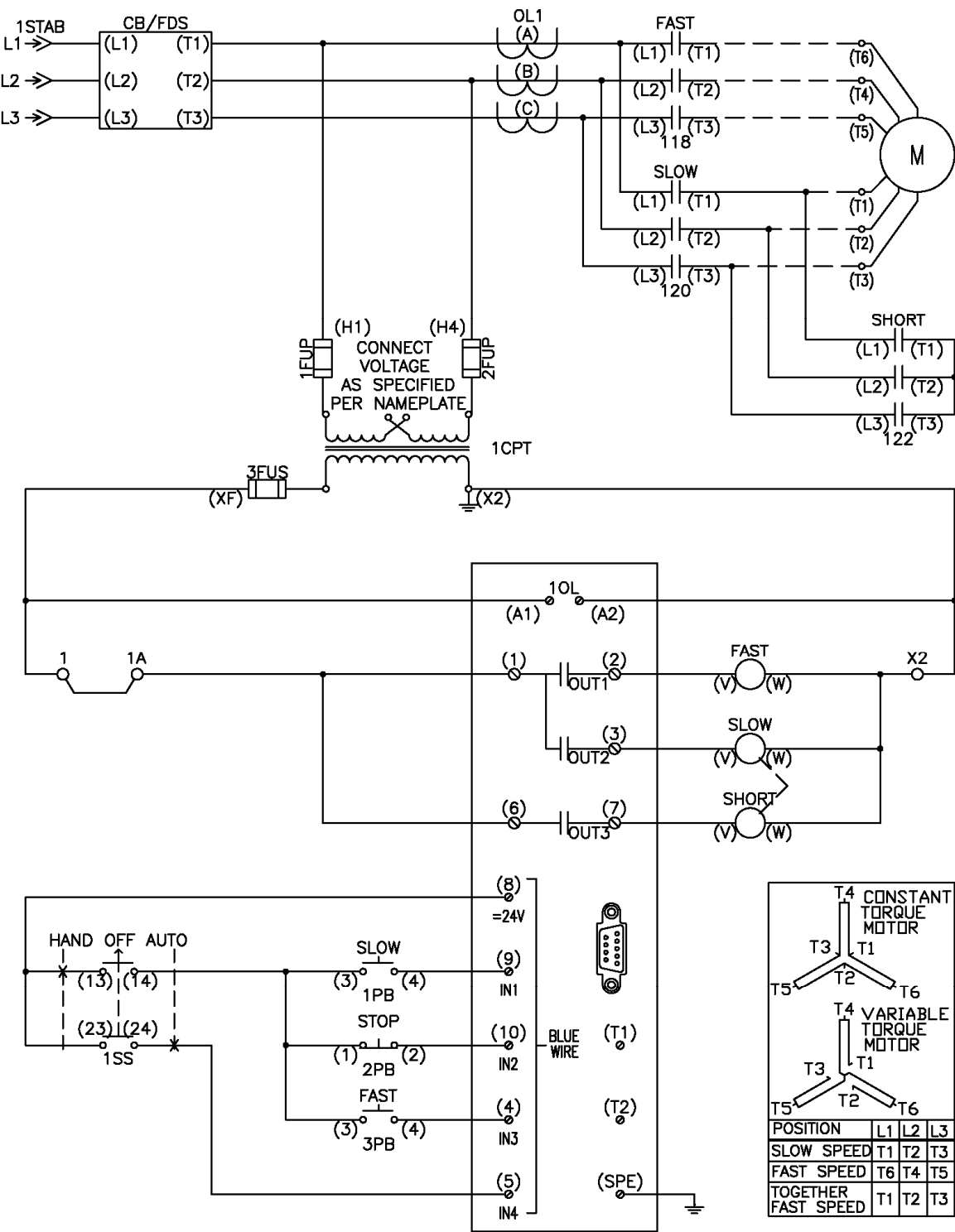


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB43

2S1W – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 2-Wire

Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB43

### 2S1W – Selector Switch Operation Mode Selection – Local 3-Wire SS/PB – Remote 2-Wire

#### Operating Instructions

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

#### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON >> Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the SLOW Contactor, the Slow Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors the Fast Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 and SIMOCODE Output 3 to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors two methods are available. First, while the Selector Switch is placed into the HAND position the Stop Pushbutton is depressed. Second, the Selector Switch is placed into the OFF position. For either action the OFF Control Command is then triggered, causing SIMOCODE Outputs 1, 2 and 3 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

#### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 and SIMOCODE Output 3 to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1, 2 and 3 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

#### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

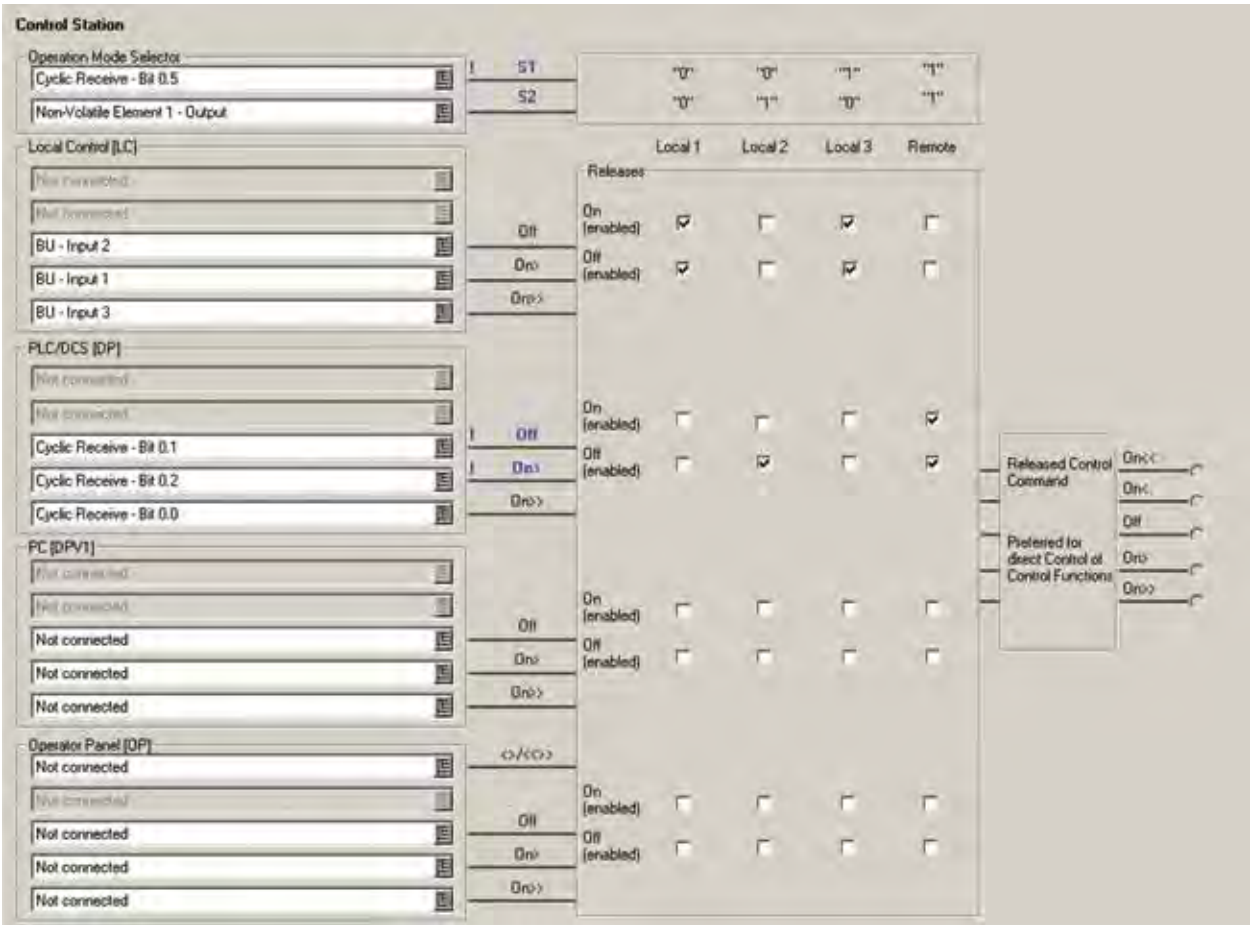
# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB43

2S1W – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 2-Wire

### Parameter Detail

Control Selection and Operation









# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB44

### 2S1W – Profibus Bit Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Non-Volatile Element 1 Output is connected to the Operation Mode Selector S2. Operator Panel Button 1 (AUTO) is connected to Non-Volatile Element 1 for an edge rising latch as well as to Counter 1 for latch reset. Counter 1 is connected to Non-Volatile Element 2 to maintain Operation Mode selection during loss of control power.
2. To engage Local Operation Mode the Non-Volatile Element 1 Output is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode the Non-Volatile Element 1 Output is activated while Profibus Cyclic Receive Bit 0.5 is deactivated. When mode is active indication is provided via LED on Operator Panel Button 1.
4. To engage Remote Operation Mode the Non-Volatile Element 1 Output and Profibus Cyclic Receive Bit 0.5 (maintained signal) are activated. This mode does not permit sending parameter data from the PLC/DCS. When remote operation mode is active, indication is provided via the LED on Operator Panel Button 1.

##### Local Control

1. Operator Panel Button 3 (SLOW) is connected to the ON > Control Command, Operator Panel Button 2 (FAST) is connected to the ON >> Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the SLOW Contactor the OP Slow Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors the OP Fast Pushbutton is depressed. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 and SIMOCODE Output 3 to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1, 2 and 3 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 and SIMOCODE Output 3 to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1, 2 and 3 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

##### Reset Control

1. General Fault conditions is reset using the TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB44

2S1W – Profibus Bit Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 2-Wire

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - Bit 0.5

Non-Volatile Element 1 - Output

Local Control [LC]

Not connected

Not connected

Not connected

Not connected

PLC/DCS [DP]

Not connected

Not connected

Truth Table 2 3/10 - Output

Cyclic Receive - Bit 0.2

Cyclic Receive - Bit 0.0

PC [DPV1]

Not connected

Not connected

Not connected

Not connected

Operator Panel [OP]

Not connected

Not connected

OP - Button 4

OP - Button 3

OP - Button 2

S1

S2

Off

On>

On>>

Off

On>

On>>

Off

On>

On>>

Off

On>

On>>

Off

On>

On>>

Local 1

Local 2

Local 3

Remote

Releases

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

Released Control Command

On<<

On<

Off

On>

On>>

Preferred for direct Control of Control Functions

Truth Table 2 3/10

Truth Table - Input 1

Not connected

Truth Table - Input 2

Cyclic Receive - Bit 0.0

Truth Table - Input 3

Cyclic Receive - Bit 0.2

Truth Table 3/10

I1	I2	I3	O
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB44

2S1W – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 2-Wire

### Parameter Detail

AUTO Toggle Operation

Non-Volatile Element 1

Non-Volatile Element - Type

edge rising with memory

Non-Volatile Element - Input

OP - Button 1

Non-Volatile Element - Reset

Non-Volatile Element 2 - Output

Counter 1

Counter - Limit

2

Counter - Input +

OP - Button 1

Counter - Input -

Not connected

Counter - Reset

Non-Volatile Element 2 - Output

Non-Volatile Element 2

Non-Volatile Element - Type

non inverting

Non-Volatile Element - Input

Counter 1 - Output

Non-Volatile Element - Reset

Not connected

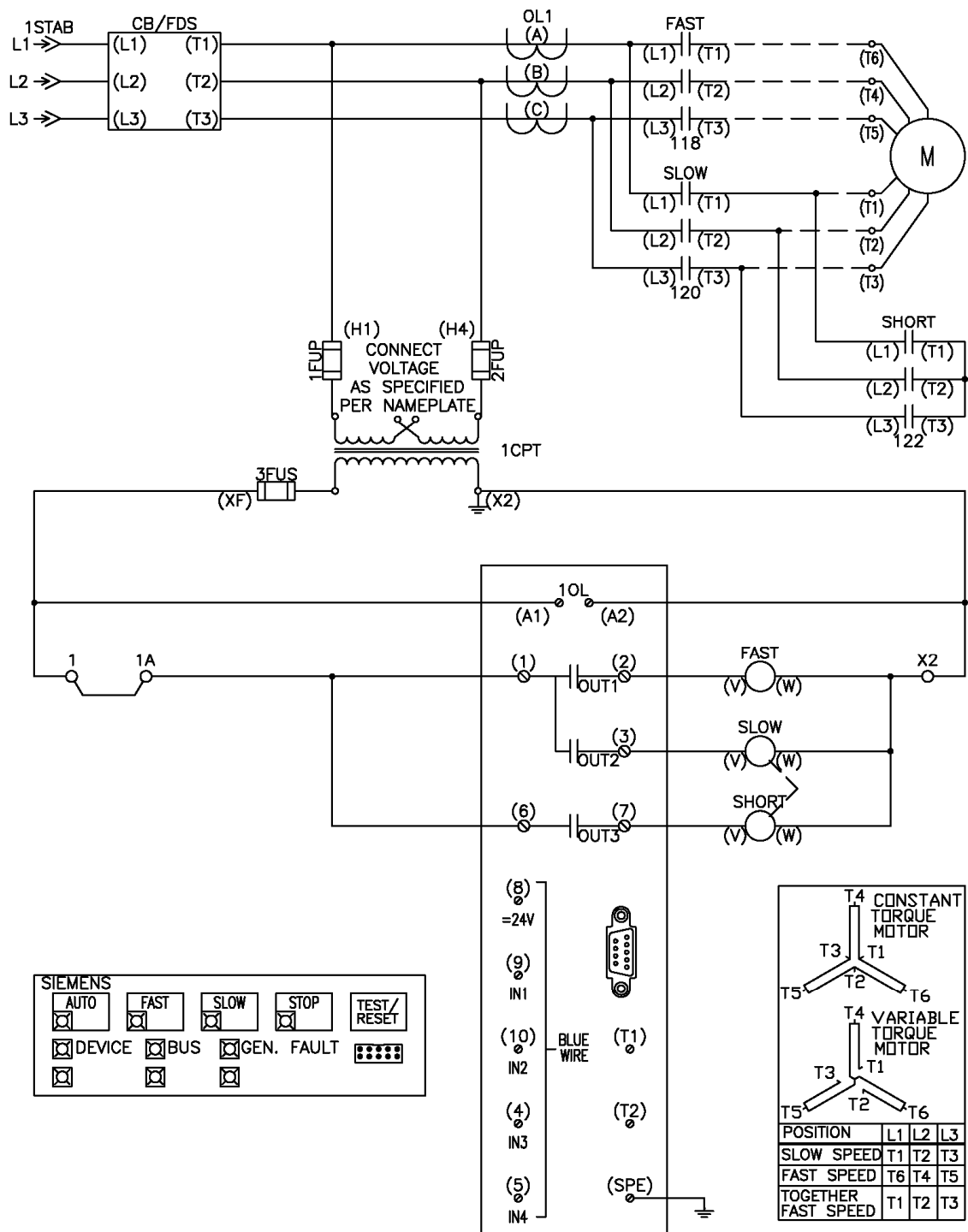
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB45

2S1W – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP – Remote 3-Wire

#### Connection Diagram



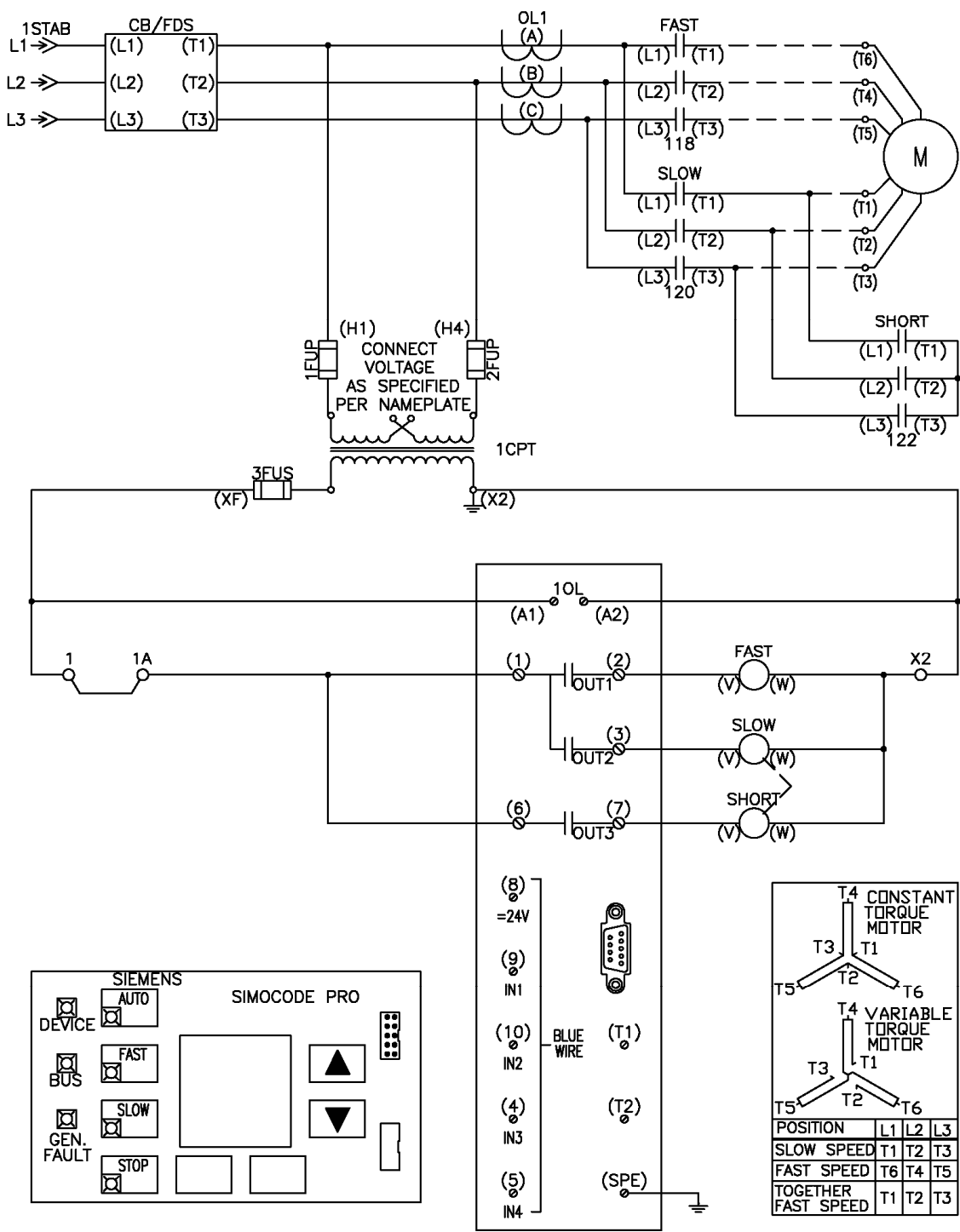
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB45

2S1W – Profibus Bit Operation Mode Selection –  
Local 3-Wire OPD – Remote 3-Wire

#### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB45

### 2S1W – Profibus Bit Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 3-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Non-Volatile Element 1 Output is connected to the Operation Mode Selector S2. Operator Panel Button 1 (AUTO) is connected to Non-Volatile Element 1 for an edge rising latch as well as to Counter 1 for latch reset. Counter 1 is connected to Non-Volatile Element 2 to maintain Operation Mode selection during loss of control power.
2. To engage Local Operation Mode the Non-Volatile Element 1 Output is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode the Non-Volatile Element 1 Output is activated while Profibus Cyclic Receive Bit 0.5 is deactivated. When mode is active indication is provided via LED on Operator Panel Button 1.
4. To engage Remote Operation Mode the Non-Volatile Element 1 Output and Profibus Cyclic Receive Bit 0.5 (maintained signal) are activated. This mode does not permit sending parameter data from the PLC/DCS. When mode is active indication is provided via LED on Operator Panel Button 1.

##### Local Control

1. Operator Panel Button 3 (SLOW) is connected to the ON > Control Command, Operator Panel Button 2 (FAST) is connected to the ON >> Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the SLOW Contactor the OP Slow Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors the OP Fast Pushbutton is depressed. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 and SIMOCODE Output 3 to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1, 2 and 3 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST & SHORT Contactors the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 and SIMOCODE Output 3 to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1, 2 and 3 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1, 2 and 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB45

2S1W – Selector Switch Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 3-Wire

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - Bit 0.5

Non-Volatile Element 1 - Output

Local Control (LC)

Not connected

Not connected

Not connected

Not connected

PLC/DCS (DP)

Not connected

Not connected

Cyclic Receive - Bit 0.1

Cyclic Receive - Bit 0.2

Cyclic Receive - Bit 0.0

PC (DPV1)

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel (OP)

Not connected

Not connected

OP - Button 4

OP - Button 3

OP - Button 2

S1

S2

Off

On

On>

Off

On

On>

Off

On

On>

<>/<>

Off

On

On>

On>

0"

0"

1"

1"

0"

1"

0"

1"

Local 1

Local 2

Local 3

Remote

Releases

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

Released Control Command

On<

On<

Off

On>

On>

Preferred for direct Control of Control Functions

On<

On>

164

Reference manual – MCC SIMOCODE Pro

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# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB45

2S1W – Selector Switch Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 3-Wire

### Parameter Detail

AUTO Toggle Operation

<b>Non-Volatile Element 1</b>	
Non-Volatile Element - Type	edge rising with memory
Non-Volatile Element - Input	OP - Button 1
Non-Volatile Element - Reset	Non-Volatile Element 2 - Output
<b>Counter 1</b>	
Counter - Limit	2
Counter - Input +	OP - Button 1
Counter - Input -	Not connected
Counter - Reset	Non-Volatile Element 2 - Output
<b>Non-Volatile Element 2</b>	
Non-Volatile Element - Type	non inverting
Non-Volatile Element - Input	Counter 1 - Output
Non-Volatile Element - Reset	Not connected

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## 7. Two speed two winding

The two-speed two-winding starter uses the SLOW contactor to select low-speed and the FAST contactor to select high-speed for dual-speed, single-direction, full-voltage operation. The SLOW and FAST contactors are mechanically and intelligently interlocked to prevent short circuiting of the input lines.

The basic SLOW operation of this starter is as follows.

1. A local or remote SLOW start signal is given to the SIMOCODE Pro.
2. The SIMOCODE Pro Output 2 closes which energizes the coil of SLOW Contactor.
3. A local or remote stop signal is given to the SIMOCODE Pro.
4. The SIMOCODE Pro Output 2 opens which de-energizes the coil of SLOW Contactor.
5. If a fault occurs at any time the SIMOCODE Pro will end the starter operation.

The basic FAST operation of this starter is as follows.

1. A local or remote FAST start signal is given to the SIMOCODE Pro.
2. The SIMOCODE Pro Output 1 closes which energizes the coil of the FAST Contactor.
3. A local or remote stop signal is given to the SIMOCODE Pro.
4. The SIMOCODE Pro Output 1 opens which de-energizes the coil of the FAST.
5. If a fault occurs at any time the SIMOCODE Pro will end the starter operation.



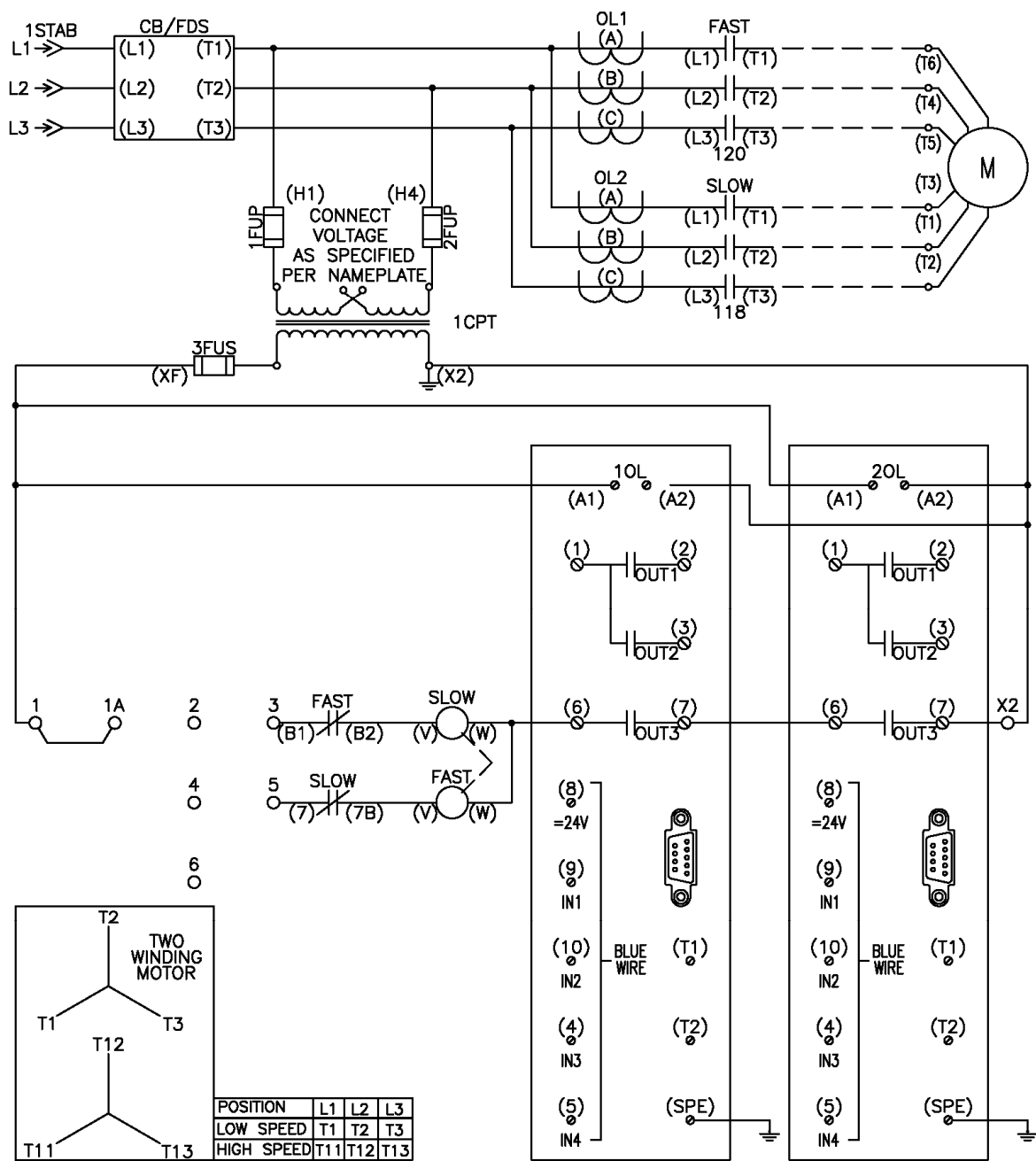
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB46

OL / 2S2W – Fixed Operation Mode –  
Local Overload Operation – Remote Monitoring

#### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB46

OL / 2S2W – Fixed Operation Mode –  
Local Overload Operation – Remote Monitoring

### Operating Instructions

#### Local Control

1. All control external to device.
2. In the event of an Overload or any other General Fault event SIMOCODE Output 3 will open, which in turn de-energizes the SLOW & FAST Contactor Coils thus disengaging the SLOW & FAST Contactors ceasing current flow to the motor.

#### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

#### NOTE:

1. This setup is not recommended as its use eliminates local control of the starter via Simocode Pro as well as remote control over Profibus DP network communication.
2. Two Simocode Pro devices are required to utilize a 2S2W starter in this fashion.

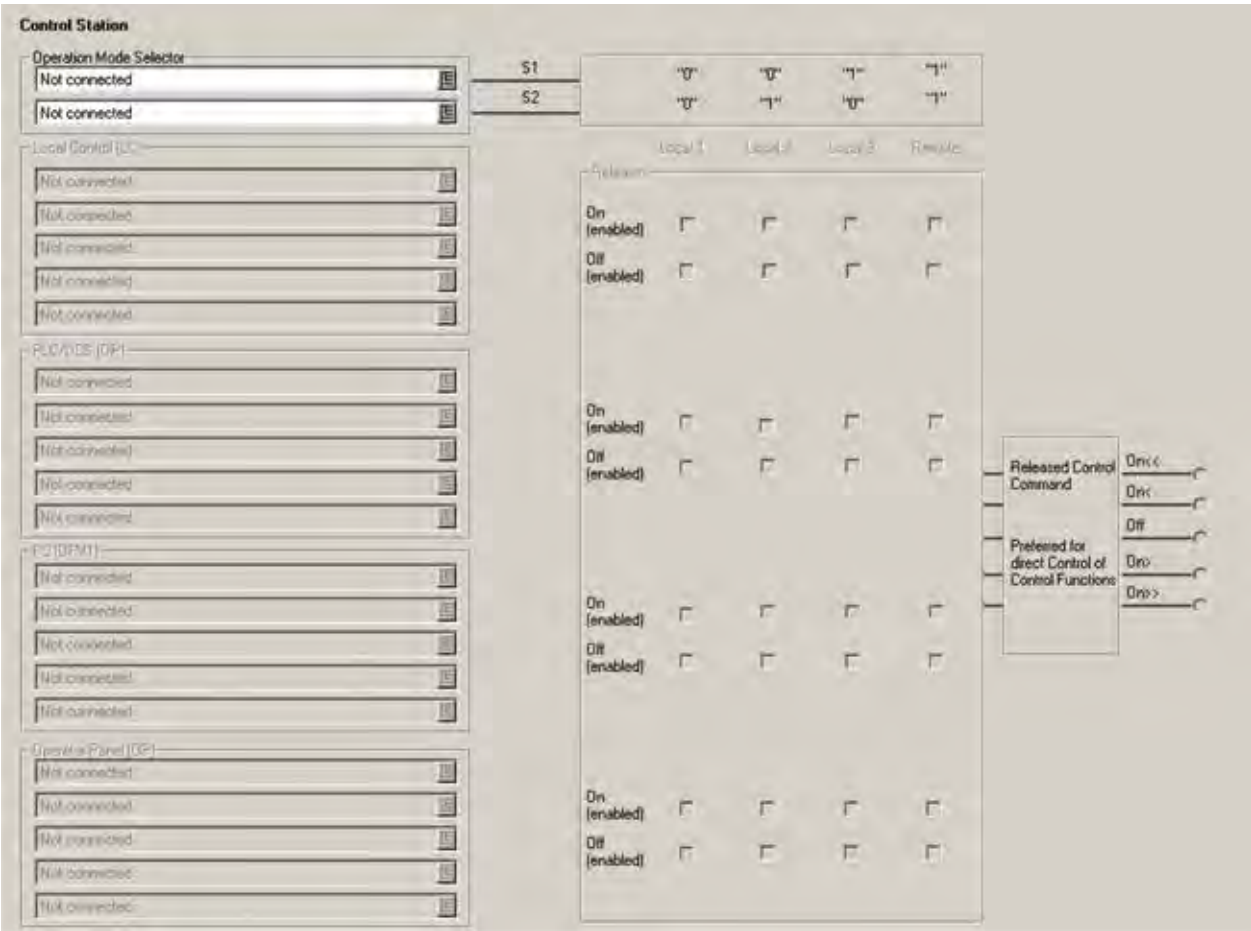
# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB46

OL / 2S2W – Fixed Operation Mode –  
Local Overload Operation – Remote Monitoring

### Parameter Detail

Control Selection and Operation

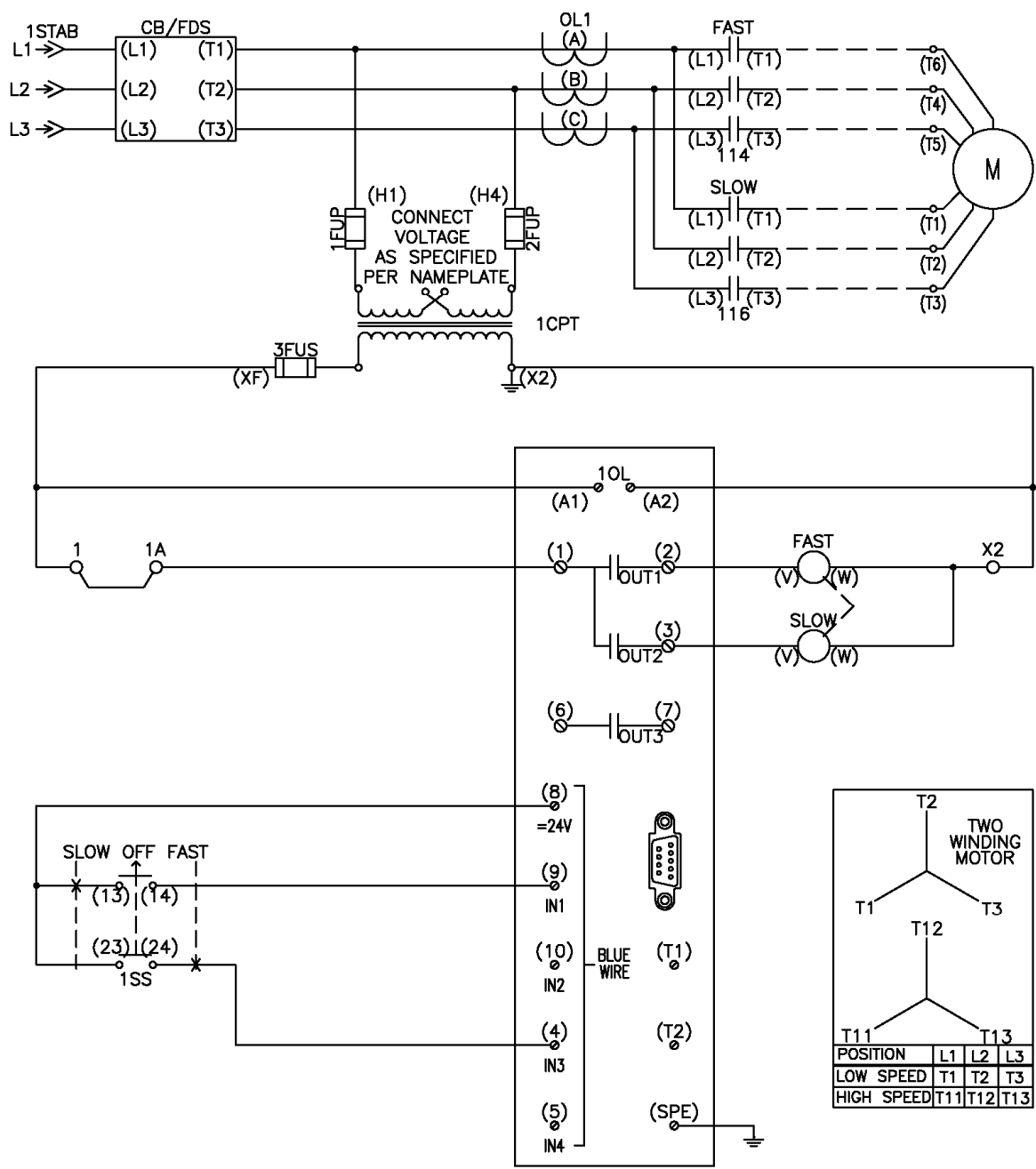


tiastar Smart MCC SIMOCODE Pro Control  
Reference Manual

PB47

2S2W – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS – Remote 2-Wire

Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB47

### 2S2W – Profibus Bit Operation Mode Selection – Local 2-Wire SS – Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON >> Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Input 1 and SIMOCODE Input 3.
2. To engage the SLOW Contactor, place the Selector Switch in the SLOW position. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor, place the Selector Switch in the FAST position. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 to close.
4. To disengage the SLOW Contactor or the FAST Contactor the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default changeover pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 to close.
4. To disengage the SLOW Contactor or the FAST Contactor the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default changeover pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB47

## 2S2W – Profibus Bit Operation Mode Selection – Local 2-Wire SS – Remote 2-Wire

### Parameter Detail

## Control Selection and Operation

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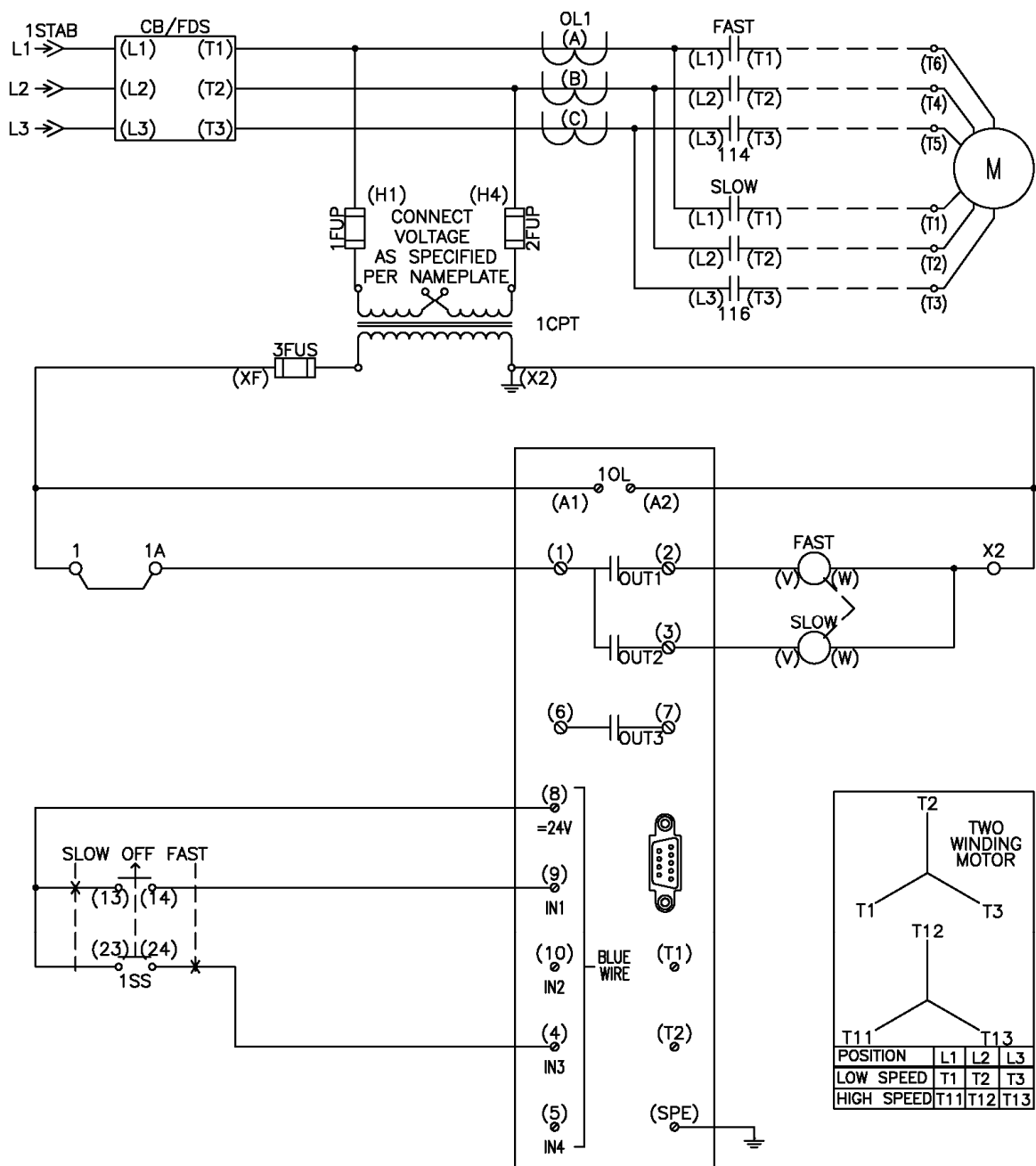
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB48

2S2W – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS – Remote 3-Wire

#### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB48

### 2S2W – Profibus Bit Operation Mode Selection – Local 2-Wire SS – Remote 3-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON >> Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Input 1 and SIMOCODE Input 3.
2. To engage the SLOW Contactor the Selector Switch is placed into the SLOW position. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor the Selector Switch is placed into the FAST position. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 to close.
4. To disengage the SLOW Contactor or the FAST Contactor the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to close
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to close.
4. To disengage the SLOW Contactor or the FAST Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB48

2S2W – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS – Remote 3-Wire

### Parameter Detail Control Selection and Operation

**Control Station**

**Operation Mode Selector**

Cyclic Receive - Bit 0.5 ☐

Fixed Level - '1' ☐

**Local Control (LC)**

Not connected ☐

Not connected ☐

Truth Table 1 3/10 - Output ☐

BU - Input 1 ☐

BU - Input 3 ☐

**PLC/DCS (DP)**

Not connected ☐

Not connected ☐

Cyclic Receive - Bit 0.1 ☐

Cyclic Receive - Bit 0.2 ☐

Cyclic Receive - Bit 0.0 ☐

**PC (DPV1)**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Operator Panel (OP)**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Released Control Command**

On (enabled) ☐

Off (enabled) ☐

On >> ☐

**Preferred for direct Control of Control Functions**

On << ☐

On < ☐

Off ☐

On > ☐

On >> ☐

**Truth Table 1 3/10**

Truth Table - Input 1 ☐

Truth Table - Input 2 ☐

Truth Table - Input 3 ☐

**Truth Table 3/10**

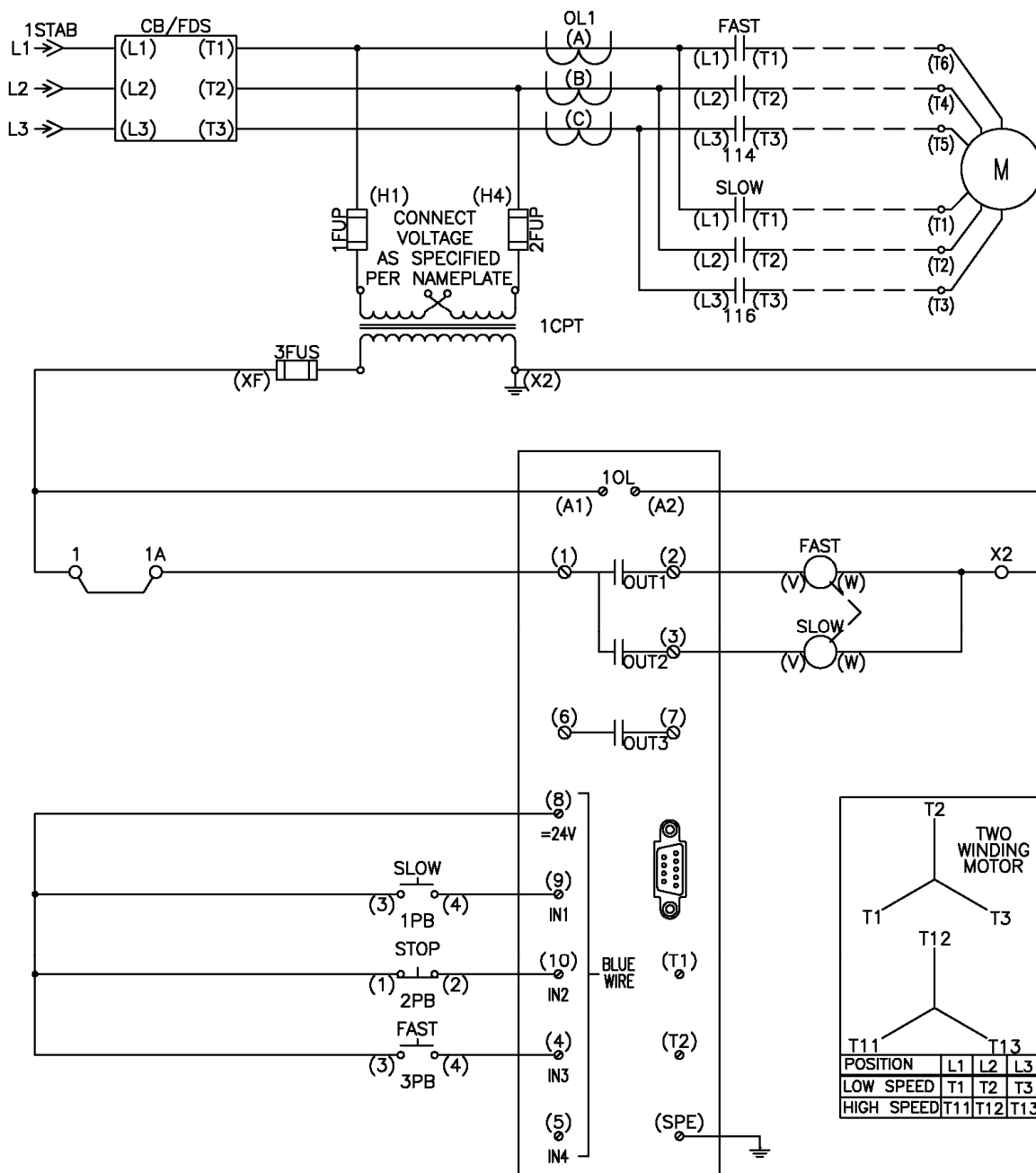
I1	I2	I3	O
0	0	0	0
0	0	1	1
0	1	0	1
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB49

2S2W – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 2-Wire

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB49

### 2S2W – Profibus Bit Operation Mode Selection – Local 3-Wire PB – Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON >> Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the SLOW Contactor the Slow Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON > Control Command is triggered causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor the Fast Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 to close.
4. To disengage the SLOW or FAST Contactor the Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 to close.
4. To disengage the SLOW Contactor or the FAST Contactor the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB49

2S2W – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 2-Wire

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - Bit 0.5

Fixed Level - 1

Local Control (LC)

Not connected

Not connected

BU - Input 2

BU - Input 1

BU - Input 3

PLC/DCS (DP)

Not connected

Not connected

Truth Table 2 3/10 - Output

Cyclic Receive - Bit 0.2

Cyclic Receive - Bit 0.0

PC (DPV1)

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel (OP)

Not connected

Not connected

Not connected

Not connected

Not connected

1

S1

0

0

1

1

1

S2

0

1

0

1

Local 1

Local 2

Local 3

Remote

Released

On (enabled)

Off (enabled)

On>

On (enabled)

Off (enabled)

On>

On (enabled)

Off (enabled)

On>

On (enabled)

Off (enabled)

On>

Released Control Command

On<

On>

Off

On>

On>

Preferred for direct Control of Control Functions

Truth Table 2 3/10

Truth Table - Input 1

Not connected

Truth Table - Input 2

Cyclic Receive - Bit 0.0

Truth Table - Input 3

Cyclic Receive - Bit 0.2

Truth Table 3/10

I1	I2	I3	Q
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0



# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB50

#### 2S2W – Profibus Bit Operation Mode Selection – Local 3-Wire PB – Remote 3-Wire

##### Operating Instructions

###### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

###### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON >> Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the SLOW Contactor the Slow Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor the Fast Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 to close.
4. To disengage the SLOW or FAST Contactor the Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

###### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to close.
4. To disengage the SLOW Contactor or the FAST Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

###### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB50

2S2W – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 3-Wire

### Parameter Detail

#### Control Selection and Operation

**Control Station**

**Operation Mode Selector:**

Cyclic Receive - Bit 0.5 ☐

Fixed Level - 1" ☐

**Local Control (LC):**

Not connected ☐

Not connected ☐

BU - Input 2 ☐

BU - Input 1 ☐

BU - Input 3 ☐

**PLC/DCS (DP):**

Not connected ☐

Not connected ☐

Cyclic Receive - Bit 0.1 ☐

Cyclic Receive - Bit 0.2 ☐

Cyclic Receive - Bit 0.0 ☐

**PC (DPV1):**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Operator Panel (OP):**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Releases:**

	Local 1	Local 2	Local 3	Remote
On (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Released Control Command:**

On << ☐

On < ☐

Off ☐

On > ☐

On >> ☐

**Preferred for direct Control of Control Functions:**

On << ☐

On < ☐

Off ☐

On > ☐

On >> ☐



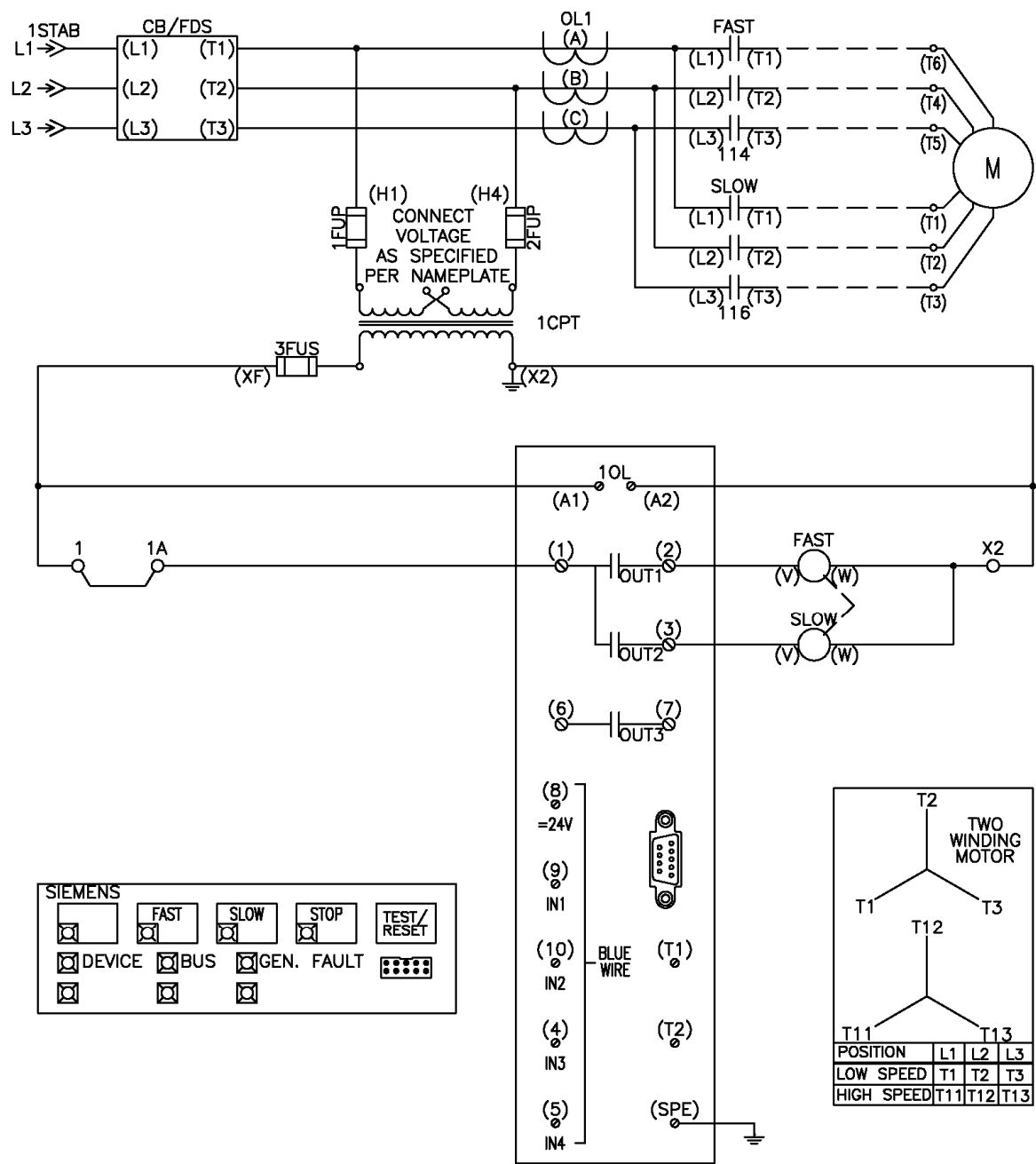
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB51

2S2W – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP – Remote 2-Wire

#### Connection Diagram



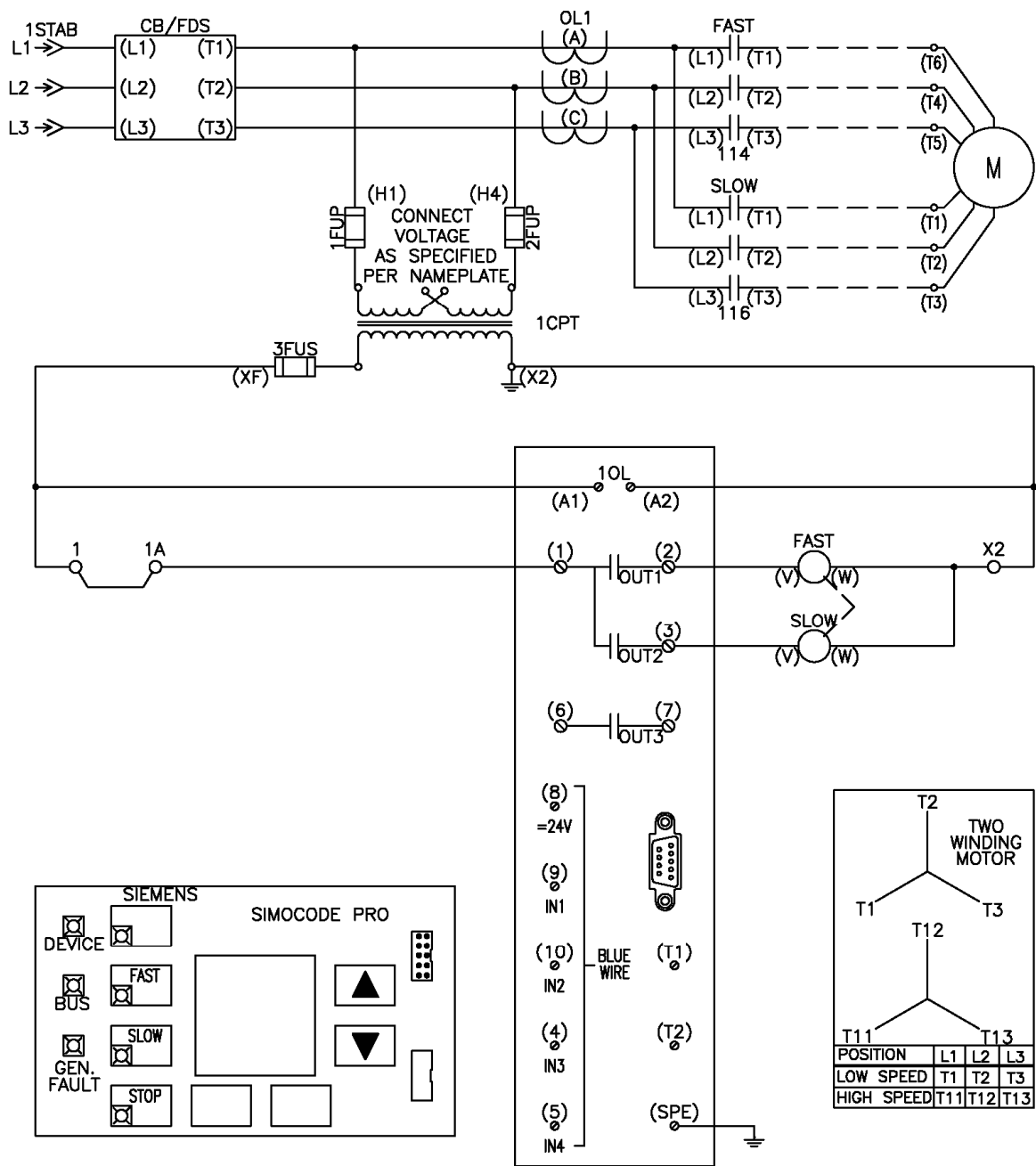


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB51

2S2W – Profibus Bit Operation Mode Selection –  
Local 3-Wire OPD – Remote 2-Wire

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB51

### 2S2W – Profibus Bit Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. Operator Panel Button 3 (SLOW) is connected to the ON > Control Command, Operator Panel Button 2 (FAST) is connected to the ON >> Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the SLOW Contactor the OP Slow Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor the OP Fast Pushbutton is depressed. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 to close.
4. To disengage the SLOW Contactor or the FAST Contactor the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 to close.
4. To disengage the SLOW Contactor or the FAST Contactor the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB51

2S2W – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 2-Wire

### Parameter Detail

Control Selection and Operation

**Control Station**

**Operation Mode Selector:**

Cyclic Receive - Bit 0.5 ☐ S1

Fixed Level - '1' ☐ S2

**Local Control (LC):**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**PLC/DCS (DP):**

Not connected ☐

Not connected ☐

Truth Table 2 3/10 - Output ☐

Cyclic Receive - Bit 0.2 ☐

Cyclic Receive - Bit 0.0 ☐

**PC (DPV1):**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Operator Panel (OP):**

Not connected ☐

Not connected ☐

OP - Button 4 ☐

OP - Button 3 ☐

OP - Button 2 ☐

**Released:**

On (enabled) ☐ Local 2 ☐ Remote ☐

Off (enabled) ☐ Local 2 ☐ Remote ☐

On>> ☐ Local 2 ☐ Remote ☐

Off>> ☐ Local 2 ☐ Remote ☐

On (enabled) ☐ Local 2 ☐ Remote ☐

Off (enabled) ☐ Local 2 ☐ Remote ☐

On>> ☐ Local 2 ☐ Remote ☐

Off>> ☐ Local 2 ☐ Remote ☐

On (enabled) ☐ Local 2 ☐ Remote ☐

Off (enabled) ☐ Local 2 ☐ Remote ☐

On>> ☐ Local 2 ☐ Remote ☐

Off>> ☐ Local 2 ☐ Remote ☐

Released Control Command

Preferred for direct Control of Control Functions

On<< ☐

On< ☐

Off ☐

On> ☐

On>> ☐

**Truth Table 2 3/10**

Truth Table - Input 1: Not connected ☐

Truth Table - Input 2: Cyclic Receive - Bit 0.0 ☐

Truth Table - Input 3: Cyclic Receive - Bit 0.2 ☐

**Truth Table 3/10**

I1	I2	I3	O
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0



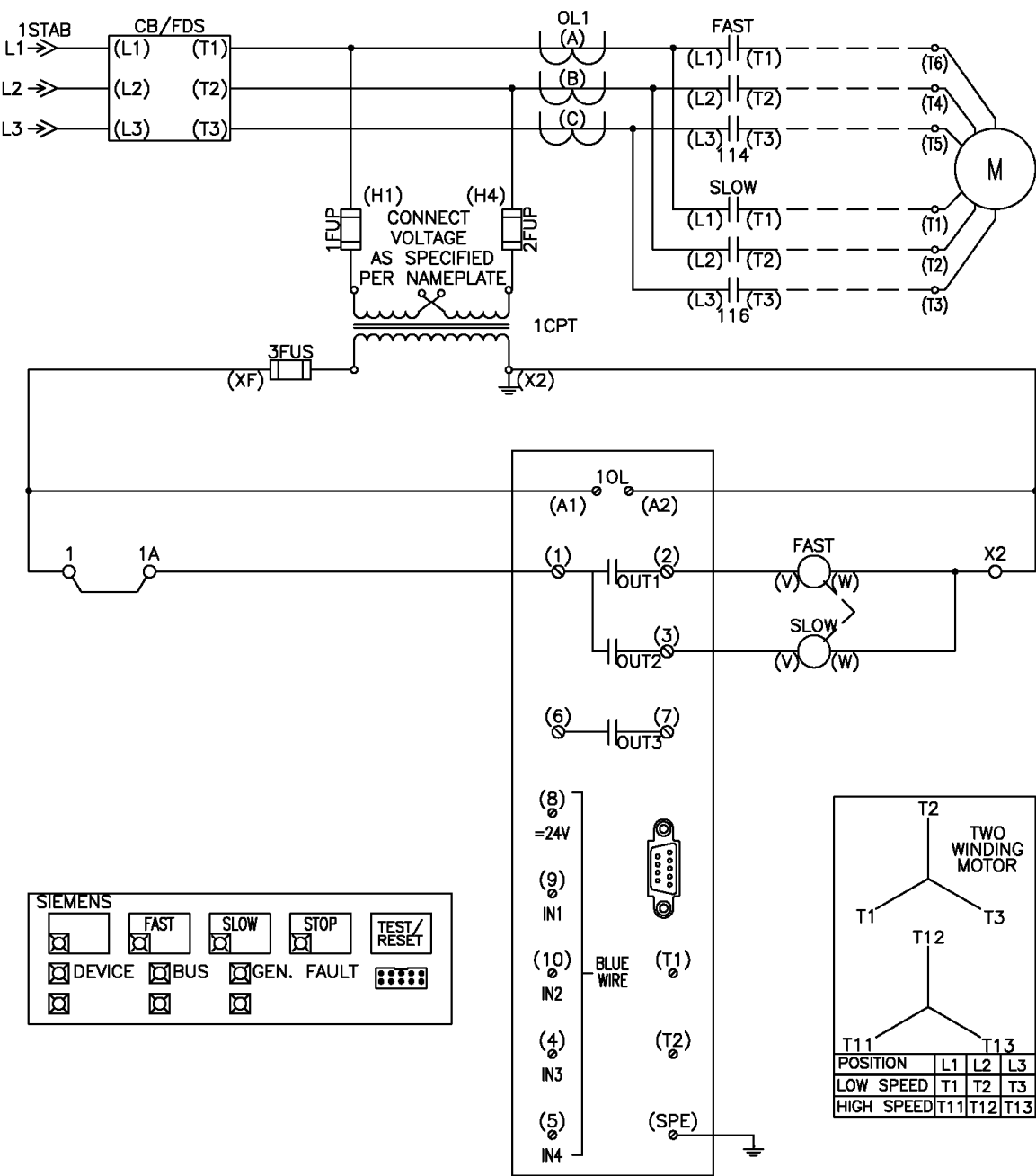
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB52

2S2W – Profibus Bit Operation Mode Selection –  
Local 3-Wire OPD – Remote 3-Wire

#### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB52

### 2S2W – Profibus Bit Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 3-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. Operator Panel Button 3 (SLOW) is connected to the ON > Control Command, Operator Panel Button 2 (FAST) is connected to the ON >> Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the SLOW Contactor the OP Slow Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor the OP Fast Pushbutton is depressed. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 to close.
4. To disengage the SLOW Contactor or the FAST Contactor the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 to close.
4. To disengage the SLOW Contactor or the FAST Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

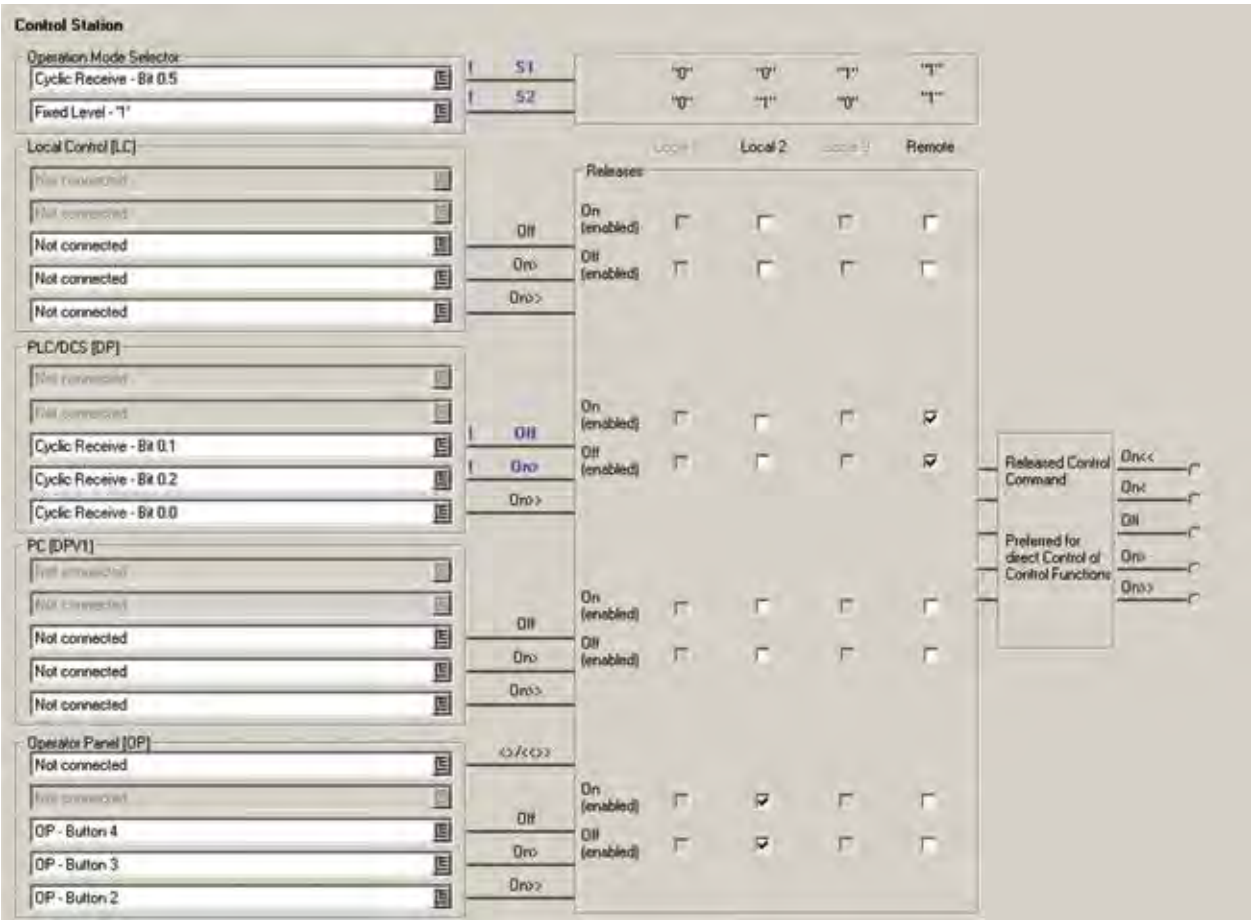
# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB52

2S2W – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 3-Wire

### Parameter Detail

Control Selection and Operation







# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB53

### 2S2W – Fixed Operation Mode – No Local – Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control (for field commissioning purposes only)

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON >> Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Inputs 1 and 3.
2. To engage the SLOW Contactor SIMOCODE Input 1 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor SIMOCODE Input 3 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 to close.
4. To disengage the SLOW Contactor or the FAST Contactor the SIMOCODE Input1 and SIMOCODE Input 3 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Remotel Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 to close.
4. To disengage the SLOW Contactor or the FAST Contactor the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

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# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB54

#### 2S2W – Profibus Bit Operation Mode Selection – No Load – Remote 3-Wire

##### Operating Instructions

###### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

###### Local Control (for field commissioning purposes only)

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON >> Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Inputs 1 and 3.
2. To engage the SLOW Contactor, SIMOCODE Input 1 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor SIMOCODE Input 3 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 to close.
4. To disengage the SLOW Contactor or the FAST Contactor SIMOCODE Inputs 1 and 3 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

###### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 to close.
4. To disengage the SLOW Contactor or the FAST Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

###### Reset/ Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

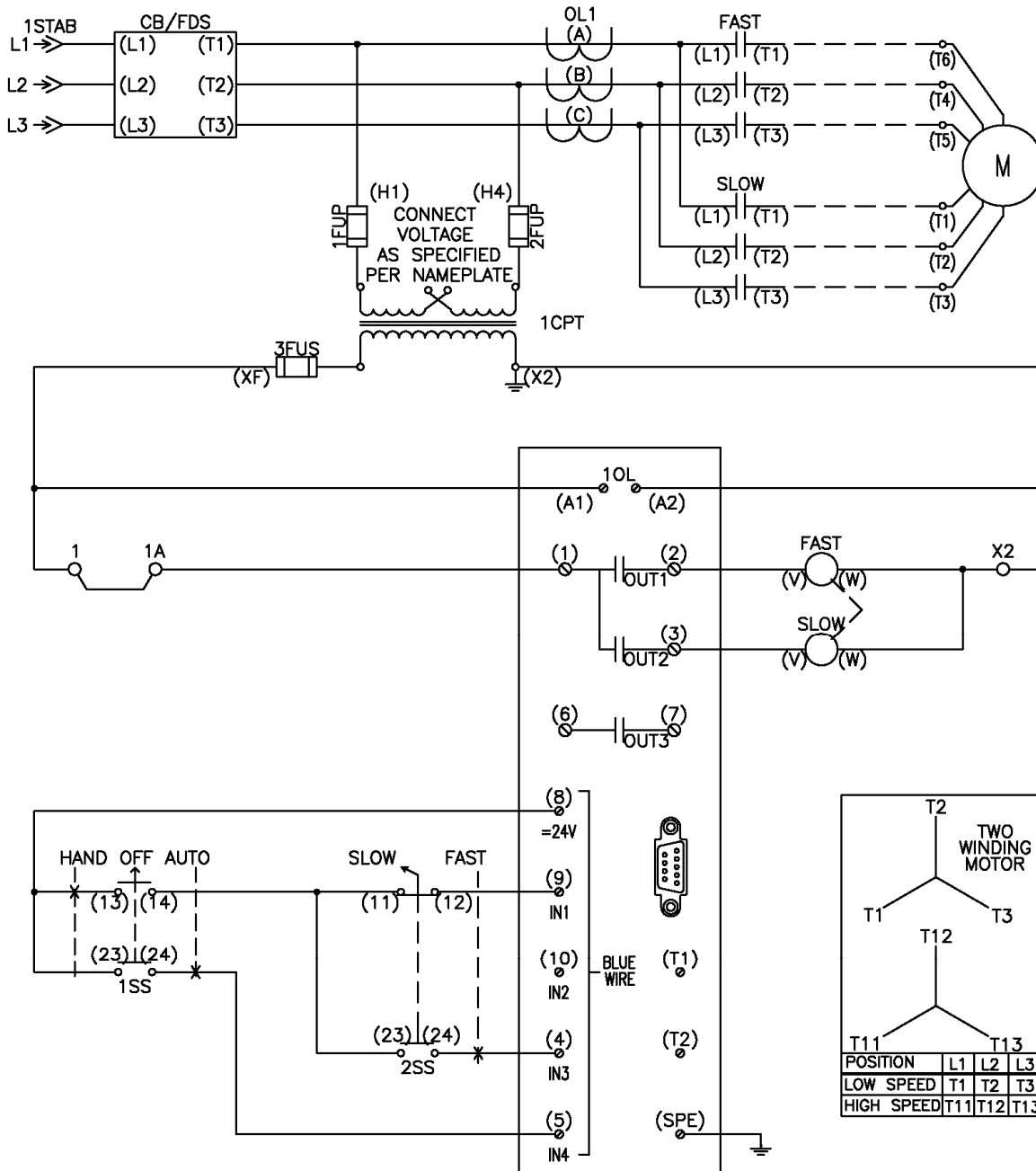


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB55

2S2W – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 2-Wire

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB55

### 2S2W – Selector Switch Operation Mode Selection – Local 2-Wire SS – Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON >> Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Inputs 1 3.
2. To engage the SLOW Contactor the Selector Switch is placed into the SLOW position. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor the Selector Switch is placed into the FAST position. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 to close.
4. To disengage the SLOW Contactor or the FAST Contactor the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 to close.
4. To disengage the SLOW Contactor or the FAST Contactors the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Reset Control

1. General Fault conditions may be reset using the TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.



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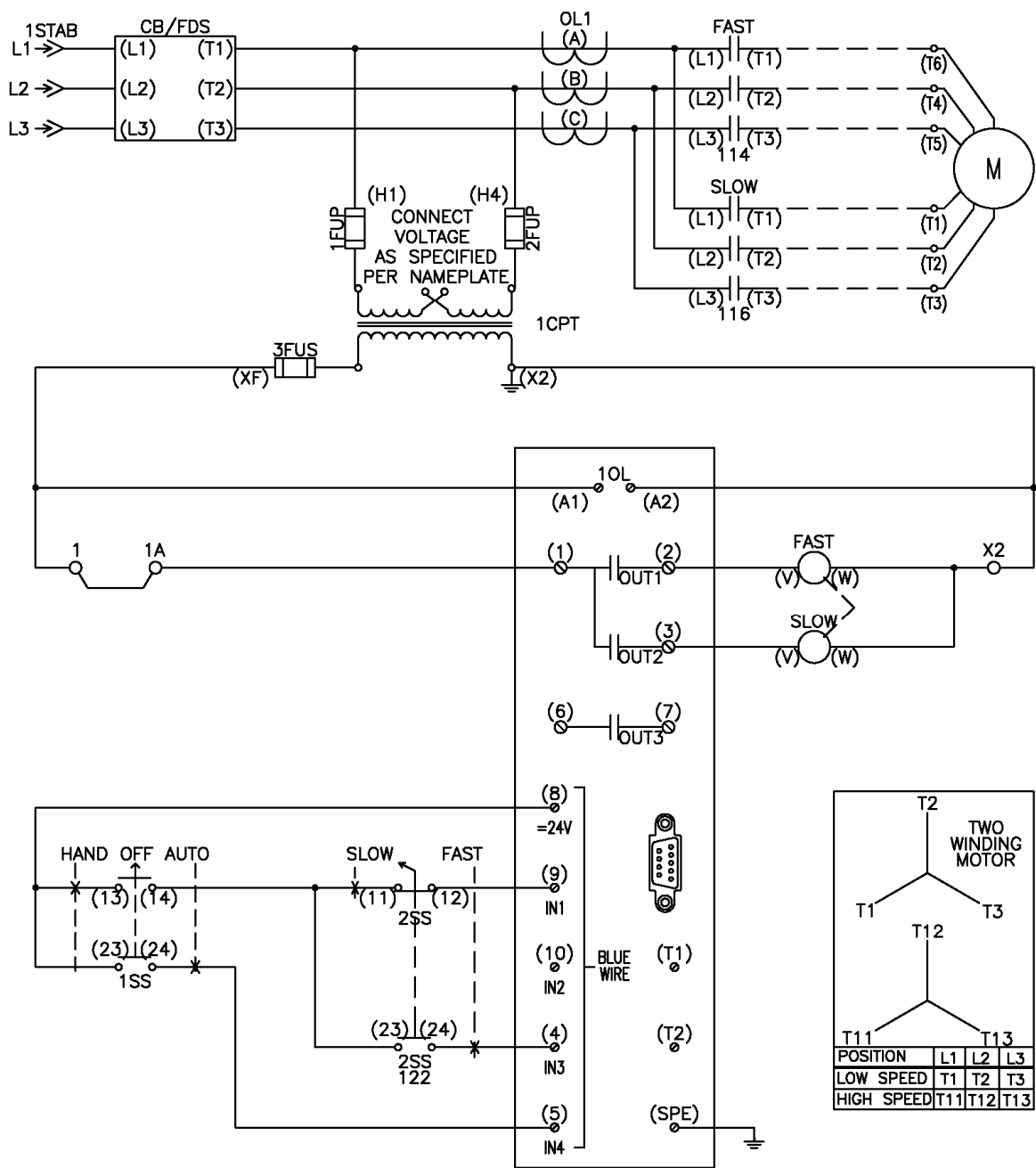


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB56

2S2W – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 3-Wire

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB56

### 2S2W – Selector Switch Operation Mode Selection – Local 2-Wire SS – Remote 3-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON >> Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Inputs 1 and 3.
2. To engage the SLOW Contactor the Selector Switch is placed into the SLOW position. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor the Selector Switch is placed into the FAST position. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 to close.
4. To disengage the SLOW Contactor or the FAST & SHORT Contactors the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 to close.
4. To disengage the SLOW Contactor or the FAST Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Reset Control

1. General Fault conditions are reset using the TEST/RESET button on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.





# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB57

### 2S2W – Selector Switch Operation Mode Selection – Local 3-Wire SS/PB – Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON >> Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the SLOW Contactor the Slow Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor the Fast Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 to close.
4. To disengage the SLOW Contactor or the FAST Contactor two methods are available. First, while the Selector Switch is placed into the HAND position the Stop Pushbutton is depressed. Second, the Selector Switch is placed into the OFF position. For either action the OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 to close.
4. To disengage the SLOW Contactor or the FAST Contactor the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB57

2S2W – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 2-Wire

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - Bit 0.5

BU - Input 4

Local Control (LC)

Not connected

Not connected

BU - Input 2

BU - Input 1

BU - Input 3

PLC/DCS (DP)

Not connected

Not connected

Truth Table 2 3/10 - Output

Cyclic Receive - Bit 0.2

Cyclic Receive - Bit 0.0

PC (DPV1)

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel (OP)

Not connected

Not connected

Not connected

Not connected

S1

S2

Off

On

On>

Off

On

On>

Off

On

On>

<>/<>

Off

On

On>

Local 1

Local 2

Local 3

Remote

Releases

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

Released Control Command

On<<

On<

Off

On>

On>>

Preferred for direct Control of Control Functions

Truth Table 2 3/10

Truth Table - Input 1

Not connected

Truth Table - Input 2

Cyclic Receive - Bit 0.0

Truth Table - Input 3

Cyclic Receive - Bit 0.2

Truth Table 3/10

I1	I2	I3	Q
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0





# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB58

### 2S2W – Selector Switch Operation Mode Selection – Local 3-Wire SS/PB – Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON >> Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the SLOW Contactor the Slow Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor the Fast Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 to close.
4. To disengage the SLOW Contactor or the FAST Contactor two methods are available. First, while the Selector Switch is placed into the HAND position the Stop Pushbutton is depressed. Second, the Selector Switch is placed into the OFF position. For either action the OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 to close.
4. To disengage the SLOW Contactor or the FAST Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB58

2S2W – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 2-Wire

### Parameter Detail

Control Selection and Operation

**Control Station**

**Operation Mode Selector**

Cyclic Receive - Bit 0.5 ☐

BU - Input 4 ☐

**Local Control (LC)**

Not connected ☐

Not connected ☐

BU - Input 2 ☐

BU - Input 1 ☐

BU - Input 3 ☐

**PLC/DCS (DP)**

Not connected ☐

Not connected ☐

Cyclic Receive - Bit 0.1 ☐

Cyclic Receive - Bit 0.2 ☐

Cyclic Receive - Bit 0.0 ☐

**PC (DPV1)**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Operator Panel (OP)**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Control Selection and Operation**

	Local 1	Local 2	Local 3	Remote
<b>Releases</b>				
On (enabled)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
On >				
<b>On (enabled)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Off (enabled)</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
On >				
<b>On (enabled)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Off (enabled)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On >				
<b>On (enabled)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Off (enabled)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On >				

**Released Control Command**

On <

On

Off

On >

**Preferred for direct Control of Control Functions**

On <

On

Off

On >

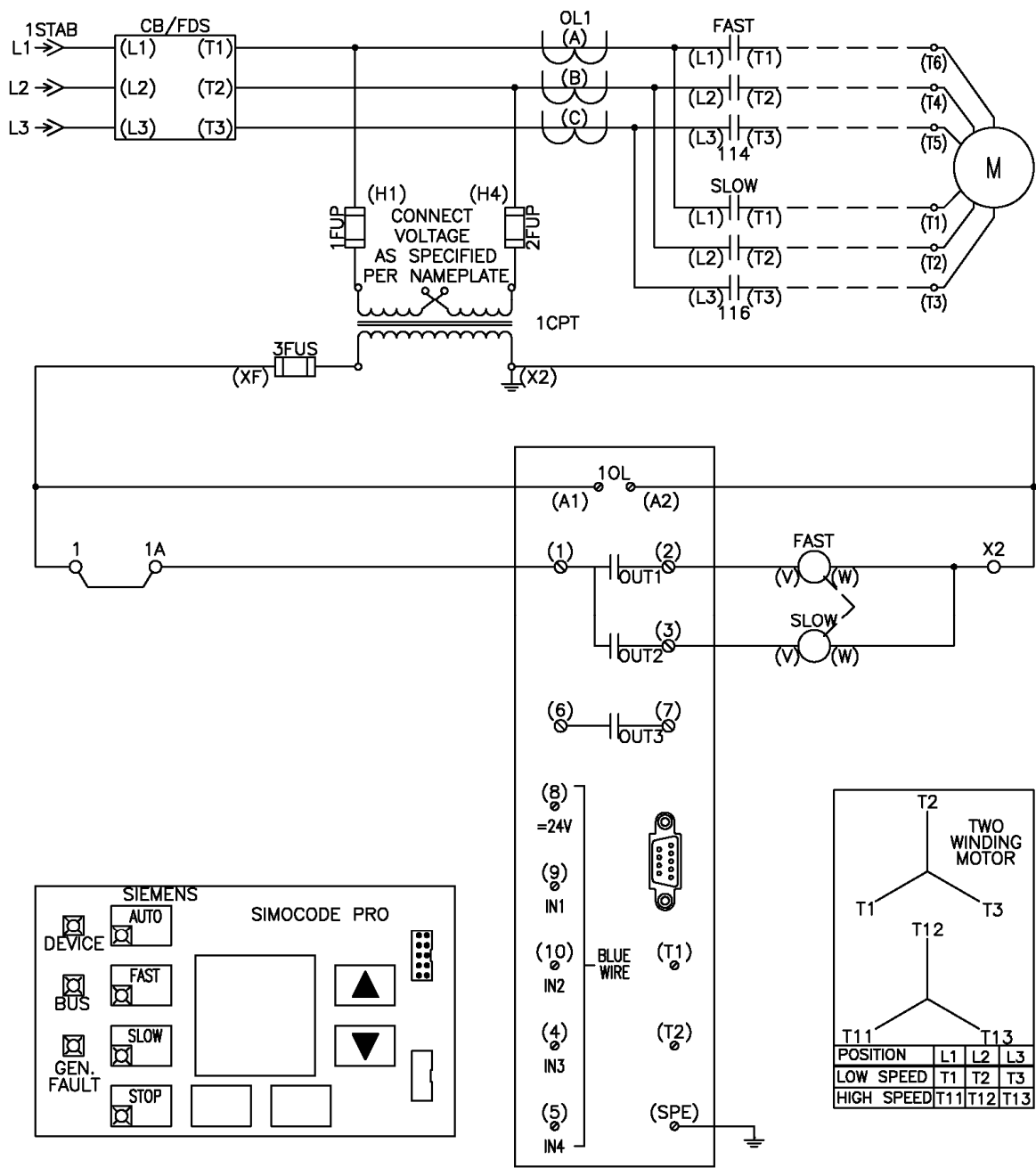


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB59

2S2W – Operator Panel Operation Mode Selection –  
Local 3-Wire OPD – Remote 2-Wire

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB59

### 2S2W – Operator Panel Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 2-Wire

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Non-Volatile Element 1 Output is connected to the Operation Mode Selector S2. Operator Panel Button 1 (AUTO) is connected to Non-Volatile Element 1 for an edge rising latch as well as to Counter 1 for latch reset. Counter 1 is connected to Non-Volatile Element 2 to maintain Operation Mode selection during loss of control power.
2. To engage Local Operation Mode the Non-Volatile Element 1 Output is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode the Non-Volatile Element 1 Output is activated while Profibus Cyclic Receive Bit 0.5 is deactivated. When mode is active indication is provided via LED on Operator Panel Button 1.
4. To engage Remote Operation Mode the Non-Volatile Element 1 Output and Profibus Cyclic Receive Bit 0.5 (maintained signal) are activated. This mode does not permit sending parameter data from the PLC/DCS. When mode is active indication is provided via LED on Operator Panel Button 1.

##### Local Control

1. Operator Panel Button 3 (SLOW) is connected to the ON > Control Command, Operator Panel Button 2 (FAST) is connected to the ON >> Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the SLOW Contactor the OP Slow Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor the OP Fast Pushbutton is depressed. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 to close.
4. To disengage the SLOW Contactor or the FAST Contactor the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default changeover Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 to close.
4. To disengage the SLOW Contactor or the FAST Contactor the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB59

2S2W – Operator Panel Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 2-Wire

### Parameter Detail

Control Selection and Operation

**Control Station**

**Operation Mode Selector**

Cyclic Receive - Bit 0.5 ☐ S1 ☐ ☐ ☐ ☐ ☐

Non-Volatile Element 1 - Output ☐ S2 ☐ ☐ ☐ ☐ ☐

**Local Control (LC)**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**PLC/DCS (DP)**

Not connected ☐

Not connected ☐

Truth Table 2 3I/1O - Output ☐

Cyclic Receive - Bit 0.2 ☐

Cyclic Receive - Bit 0.0 ☐

**PC (DPV1)**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Operator Panel (OP)**

Not connected ☐

Not connected ☐

OP - Button 4 ☐

OP - Button 3 ☐

OP - Button 2 ☐

**Released Control Command**

On (enabled) ☐ ☐ ☐ ☐

Off (enabled) ☐ ☐ ☐ ☐

On > ☐ ☐ ☐ ☐

**Released Control Command**

On << ☐

On < ☐

Off ☐

On > ☐

On >> ☐

**Truth Table 2 3I/1O**

Truth Table - Input 1 ☐ Not connected ☐

Truth Table - Input 2 ☐ Cyclic Receive - Bit 0.0 ☐

Truth Table - Input 3 ☐ Cyclic Receive - Bit 0.2 ☐

**Truth Table 3I/1O**

I1	I2	I3	Q
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB59

2S2W – Operator Panel Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 2-Wire

### Parameter Detail

AUTO Toggle Operation

Non-Volatile Element 1

Non-Volatile Element - Type

edge rising with memory

Non-Volatile Element - Input

OP - Button 1

Non-Volatile Element - Reset

Non-Volatile Element 2 - Output

Counter 1

Counter - Limit

2

Counter - Input +

OP - Button 1

Counter - Input -

Not connected

Counter - Reset

Non-Volatile Element 2 - Output

Non-Volatile Element 2

Non-Volatile Element - Type

non inverting

Non-Volatile Element - Input

Counter 1 - Output

Non-Volatile Element - Reset

Not connected







# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB60

#### 2S2W – Profibus Bit Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 3-Wire

##### Operating Instructions

###### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Non-Volatile Element 1 Output is connected to the Operation Mode Selector S2. Operator Panel Button 1 (AUTO) is connected to Non-Volatile Element 1 for an edge rising latch as well as to Counter 1 for latch reset. Counter 1 is connected to Non-Volatile Element 2 to maintain Operation Mode selection during loss of control power.
2. To engage Local Operation Mode the Non-Volatile Element 1 Output is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode the Non-Volatile Element 1 Output is activated while Profibus Cyclic Receive Bit 0.5 is deactivated. When mode is active indication is provided via LED on Operator Panel Button 1.
4. To engage Remote Operation Mode the Non-Volatile Element 1 Output and Profibus Cyclic Receive Bit 0.5 (maintained signal) are activated. This mode does not permit sending parameter data from the PLC/DCS. When mode is active indication is provided via LED on Operator Panel Button 1.

###### Local Control

1. Operator Panel Button 3 (SLOW) is connected to the ON > Control Command, Operator Panel Button 2 (FAST) is connected to the ON >> Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the SLOW Contactor the OP Slow Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor the OP Fast Pushbutton is depressed. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 to close.
4. To disengage the SLOW Contactor or the FAST Contactor the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

###### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON >> Control Command and Profibus Cyclic Receive Bit 0.1 is connected to OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the SLOW Contactor the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 2 to close.
3. To engage the FAST Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON >> Control Command is then triggered, causing SIMOCODE Output 1 to close.
4. To disengage the SLOW Contactor or the FAST Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Outputs 1 and 2 to open.
5. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation. The default Change-over Pause for changing speed from FAST operation to SLOW operation is 0 seconds.
6. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

###### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB60

2S2W – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 3-Wire

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - Bit 0.5

Non-Volatile Element 1 - Output

Local Control [LC]

Not connected

Not connected

Not connected

Not connected

PLC/DCS [DP]

Not connected

Not connected

Cyclic Receive - Bit 0.1

Cyclic Receive - Bit 0.2

Cyclic Receive - Bit 0.0

PC [DPV1]

Not connected

Not connected

Not connected

Not connected

Operator Panel [OP]

Not connected

Not Connected

OP - Button 4

OP - Button 3

OP - Button 2

S1

S2

Off

On

On>>

Off

On

On>>

Off

On

On>>

<>/<<>

Off

On

On>>

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

Local 1

Local 2

Local 3

Remote

Released Control Command

Preferred for direct Control of Control Functions

On<<

On<

Off

On>

On>>

216

Reference manual – MCC SIMOCODE Pro

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# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB60

2S2W – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 3-Wire

### Parameter Detail

Auto Toggle Detail

<b>Non-Volatile Element 1</b>	
Non-Volatile Element - Type	edge rising with memory
Non-Volatile Element - Input	OP - Button 1
Non-Volatile Element - Reset	Non-Volatile Element 2 - Output
<b>Counter 1</b>	
Counter - Limit	2
Counter - Input +	OP - Button 1
Counter - Input -	Not connected
Counter - Reset	Non-Volatile Element 2 - Output
<b>Non-Volatile Element 2</b>	
Non-Volatile Element - Type	non inverting
Non-Volatile Element - Input	Counter 1 - Output
Non-Volatile Element - Reset	Not connected

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## 8. 3RW40 Reduced Voltage Soft Starter with Input Isolation Contactor

The reduced voltage soft starter uses an SCR equipped solid state controller to provide smooth, stepless acceleration by controlling the applied voltage, current, and torque to the motor terminals for single-speed, full-voltage operation. An input isolation contactor is integrated into the design to provide complete voltage removal to the motor windings.

The basic operation of this starter is as follows.

1. A local or remote start signal is given to the SIMOCODE Pro.
2. The SIMOCODE Pro Output 3 closes giving the RVSS a signal to begin operation.
3. The RVSS RUN contact closes relaying the SIMOCODE Pro to close Output 1 which energizes the coil of Input Isolation Contactor 3M.
4. With the Input Isolation Contactor 3M closed the RVSS follows its settings for ramp-up, run, and internal bypass.
5. A local or remote stop signal is given to the SIMOCODE Pro.
6. The SIMOCODE Pro Output 3 opens giving the RVSS a signal to stop operation.
7. The RVSS follows its settings for ramp-down opening the RVSS RUN contact when the designated time has elapsed.
8. With the RVSS RUN contact open the SIMOCODE Pro opens its Output 1 which de-energizes the coil of Input Isolation Contactor 3M.
9. If a fault occurs at any time the SIMOCODE Pro will end the starter operation.

The RVSS auxiliary contacts are connected to the SIMOCODE Pro inputs to provide starter control as well as operation feedback over Profibus-DP.

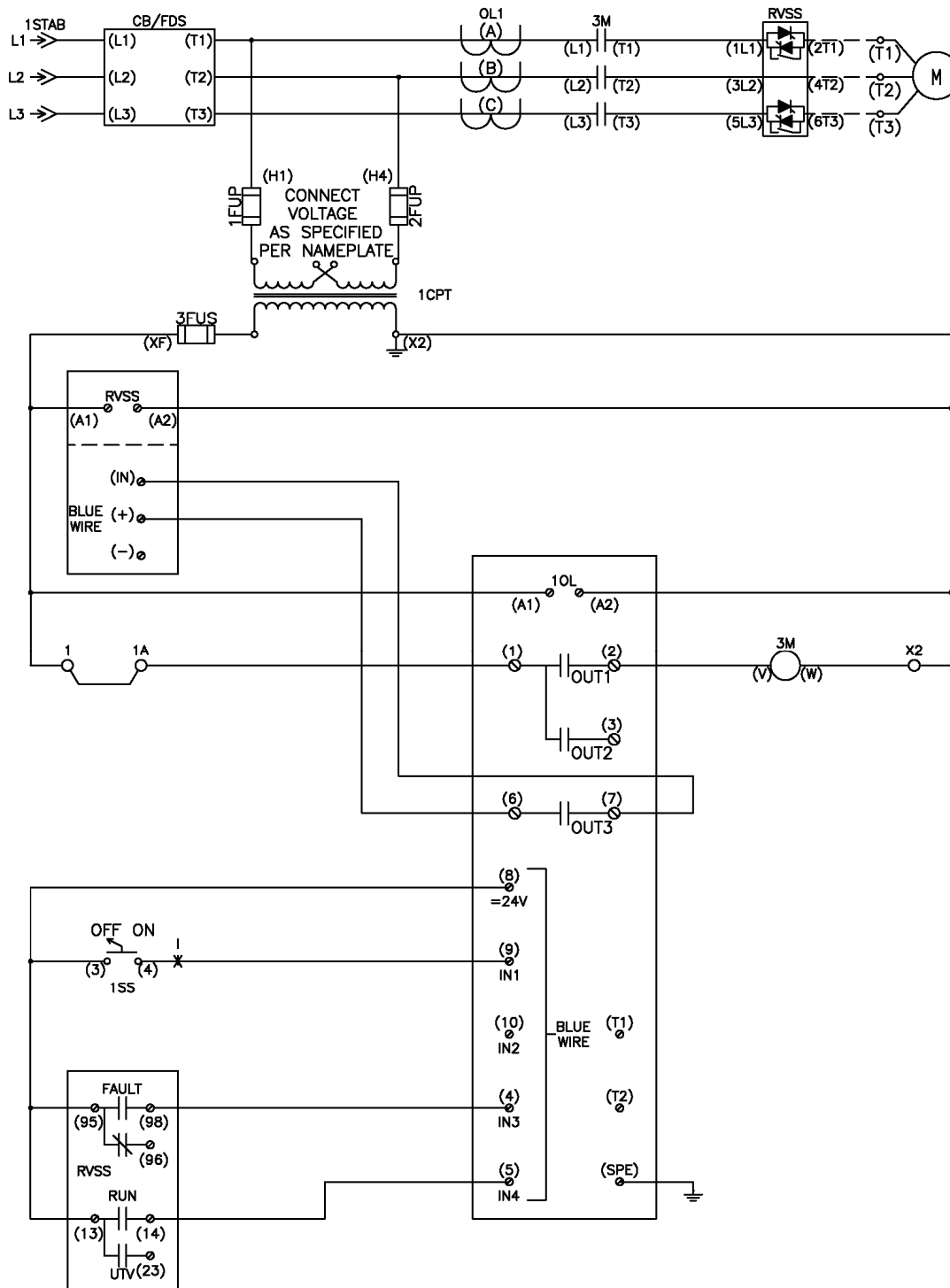
- o The RVSS RUN contact provides direct control over the 3M input isolation contactor and starter condition feedback. When active the contact will signal the SIMOCODE Pro to close Output 1 to energize the 3M Isolation Contactor coil. This contact will switch states during ramp-up, internal bypass, and ramp-down.
- o The RVSS FAULT contact provides starter condition feedback. When active the contact will signal the SIMOCODE Pro to trigger an external fault command. This contact will switch states during thyristor thermal overload, phase failure, no load voltage, mains under-voltage, mains over-voltage, or equipment error.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB62

RVSS – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS – Remote 2-Wire 3RW40 w/Input Isolation

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB62

### RVSS – Profibus Bit Operation Mode Selection – Local 2-Wire SS – Remote 2-Wire 3RW40 w/Input Isolation

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command and connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS the Selector Switch is placed into the ON position. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To disengage the RVSS the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Output 3 to open.
5. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to SIMOCODE Execution Time)
6. In the event of an Overload or any other General Fault, SIMOCODE Output 3 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Signal Conditioner 1 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Profibus Cyclic Receive Bit 0.2 is connected to the Signal Conditioner 1 Input for inversion.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.2 is deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 3 to open.
5. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 1 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time)
6. In the event of an Overload or any other General Fault event SIMOCODE Output 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Input 3 will indicate RVSS Fault Status only.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB62

RVSS – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS – Remote 2-Wire 3RW40 w/ Input Isolation

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - Bit 0.5

Fixed Level - '1'

Local Control [LC]

Not connected

Not connected

BU - Input 1

BU - Input 1

Not connected

PLC/DCS [DP]

Not connected

Not connected

Signal Conditioner 1 - Output

Cyclic Receive - Bit 0.2

Not connected

PC [DPV1]

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel [OP]

Not connected

Not connected

Not connected

Not connected

Not connected

S1

S2

Local 1

Local 2

Local 3

Remote

Releases

On (enabled)

On (enabled)

On (enabled)

On (enabled)

On (enabled)

On (enabled)

Off

On

Off

On

Off

On

Released Control Command

On<<

On<

Off

On>

On>>

Preferred for direct Control of Control Functions

Signal Conditioner 1

Signal Conditioner - Type

Inverting

Signal Conditioner - Input

Cyclic Receive - Bit 0.2

Signal Conditioner - Reset

Not connected

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB62

RVSS – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS – Remote 2-Wire 3RW40 w/ Input Isolation

### Parameter Detail

Control Selection and Operation

Basic Unit

BU - Output 1

BU - Input 4

BU - Output 2

Not connected

BU - Output 3

Contactor Control - 1 GE1

External Fault 1

External Fault - Input

BU - Input 3

External Fault - Reset

Not connected

Response

tripping

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Off Command-Reset

Making

RVSS FAULT

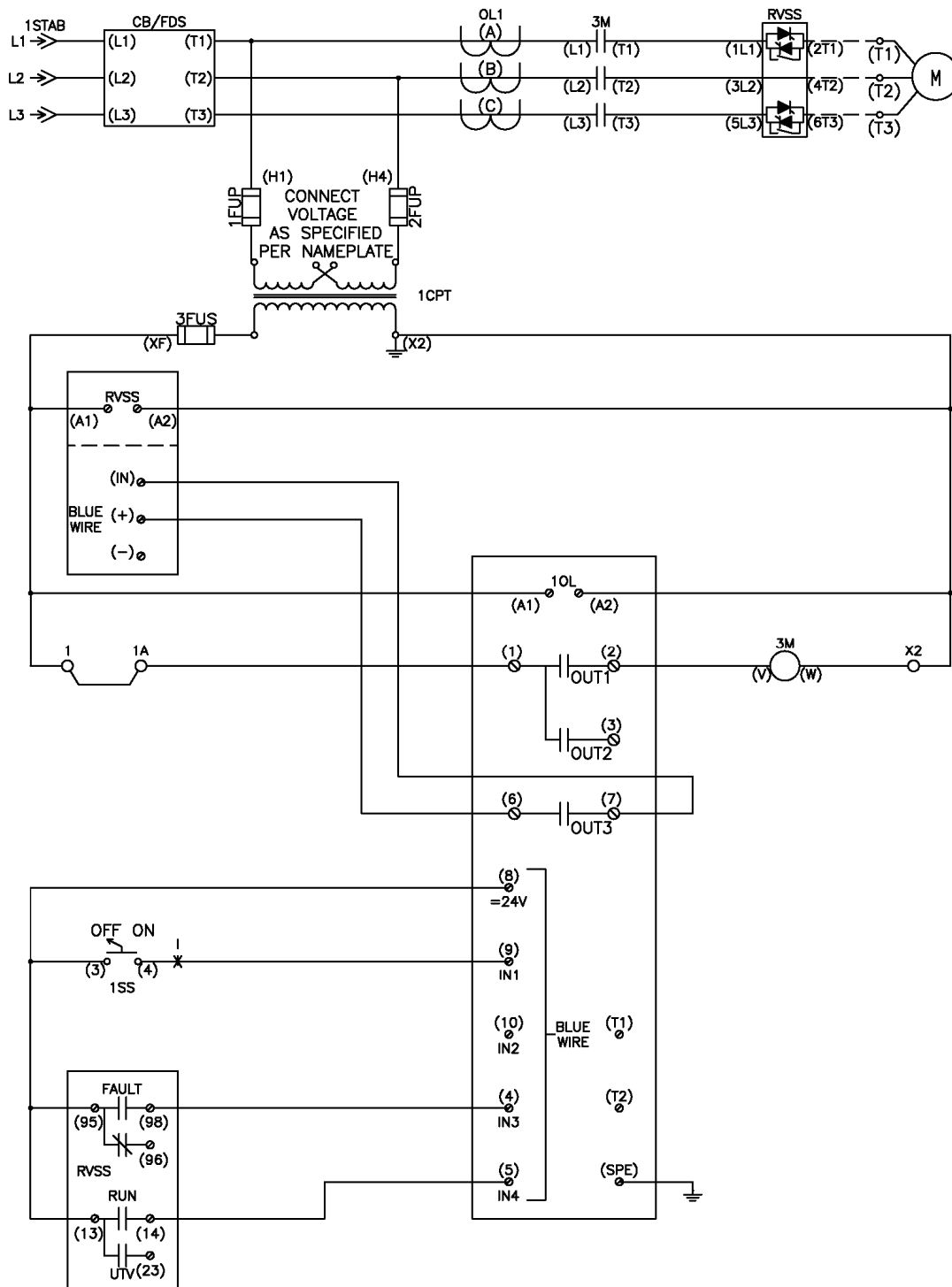


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB63

RVSS – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS – Remote 3-Wire 3RW40 w/Input Isolation

Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB63

### RVSS – Profibus Bit Operation Mode Selection – Local 2-Wire SS – Remote 3-Wire 3RW40 w/Input Isolation

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command and connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS the Selector Switch is placed into the ON position. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To disengage the RVSS the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Output 3 to open.
5. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 1 to open. (RVSS Ramp-down time must be less than or equal to SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 3 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 3 to open.
5. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 1 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault, SIMOCODE Output 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Input 3 will indicate RVSS Fault Status only.

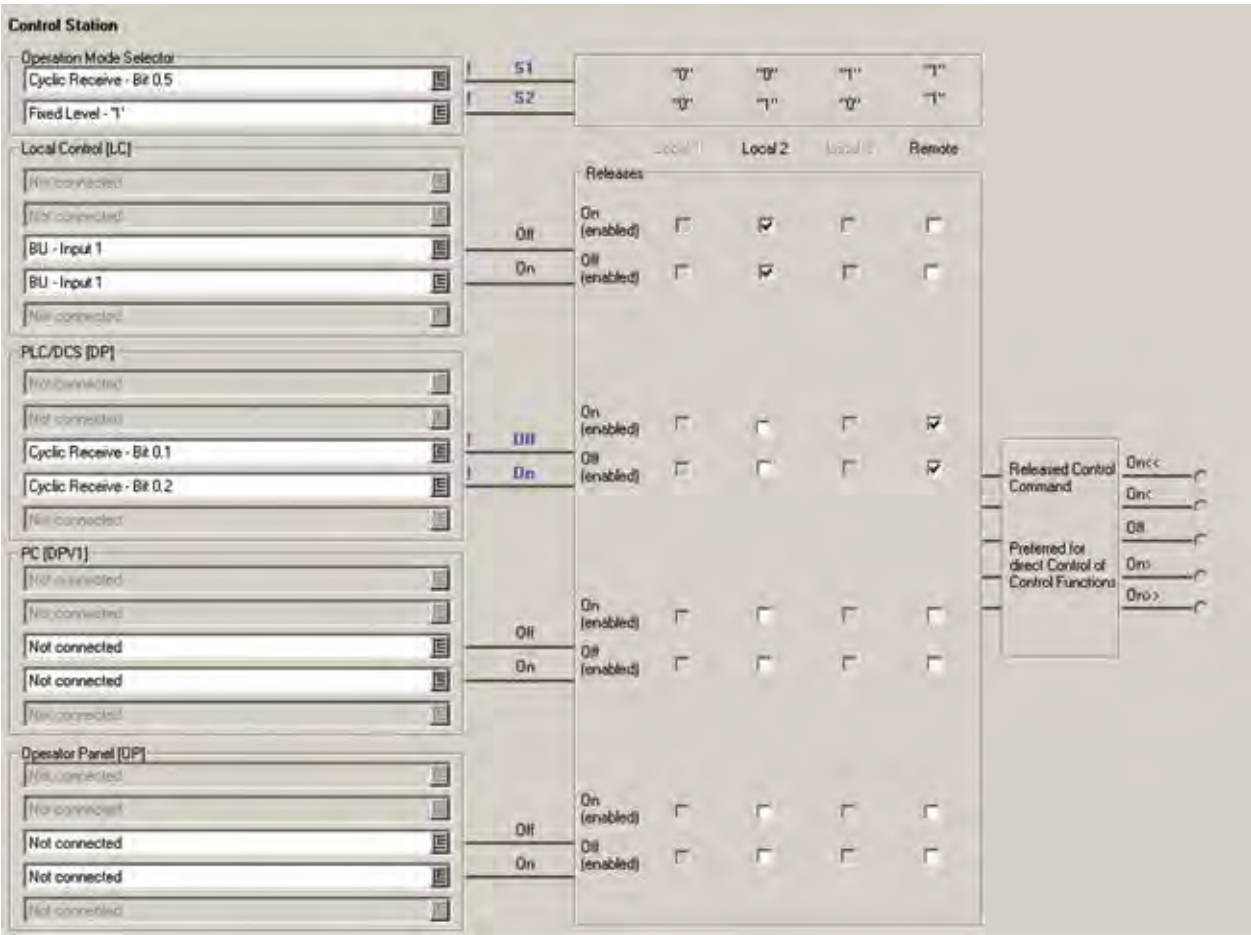
# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB63

RVSS – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS – Remote 3-Wire 3RW40 w/Input Isolation

### Parameter Detail

Control Selection and Operation



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB63

RVSS – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS – Remote 3-Wire 3RW40 w/Input Isolation

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

BU - Input 4

BU - Output 2

Not connected

BU - Output 3

Contactor Control - 1 GE1

External Fault 1

External Fault - Input

BU - Input 3

External Fault - Reset

Not connected

Response

tripping

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Off Command-Reset

Making

RVSS FAULT



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB64

### RVSS – Profibus Bit Operation Mode Selection – Local 3-Wire PB – Remote 2-Wire 3RW40 w/Input Isolation

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS the Start Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To disengage the RVSS the Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 3 to open.
5. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 1 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 3 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Signal Conditioner 1 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Profibus Cyclic Receive Bit 0.2 is connected to the Signal Conditioner 1 Input for inversion.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.2 is deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 3 to open.
5. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 1 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time)
6. In the event of an Overload or any other General Fault event SIMOCODE Output 3 will open..

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Input 3 will indicate RVSS Fault Status only.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB64

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 2-Wire 3RW40 w/Input Isolation

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - Bit 0.5

Fixed Level - '1'

Local Control [LC]

Not connected

Not connected

BU - Input 2

BU - Input 1

Not connected

PLC/DCS [DP]

Not connected

Not connected

Signal Conditioner 1 - Output

Cyclic Receive - Bit 0.2

Not connected

PC [DPV1]

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel [OP]

Not connected

Not connected

Not connected

Not connected

Not connected

S1

S2

0'

0'

1'

1'

0'

1'

0'

1'

Local 1

Local 2

Local 3

Remote

Releases

On (enabled)

On (enabled)

On (enabled)

On (enabled)

On (enabled)

On (enabled)

On (enabled)

On (enabled)

On (enabled)

On (enabled)

Released Control Command

On<

On<

On<

On<

On<

Preferred for direct Control of Control Functions

On<

On<

On<

On<

Signal Conditioner 1

Signal Conditioner - Type

Inverting

Signal Conditioner - Input

Cyclic Receive - Bit 0.2

Signal Conditioner - Reset

Not connected

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB64

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 2-Wire 3RW40 w/Input Isolation

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

BU - Input 4

BU - Output 2

Not connected

BU - Output 3

Contactor Control - 1 GE1

External Fault 1

External Fault - Input

BU - Input 3

External Fault - Reset

Not connected

Response

tripping

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Off Command-Reset

Making

RVSS FAULT



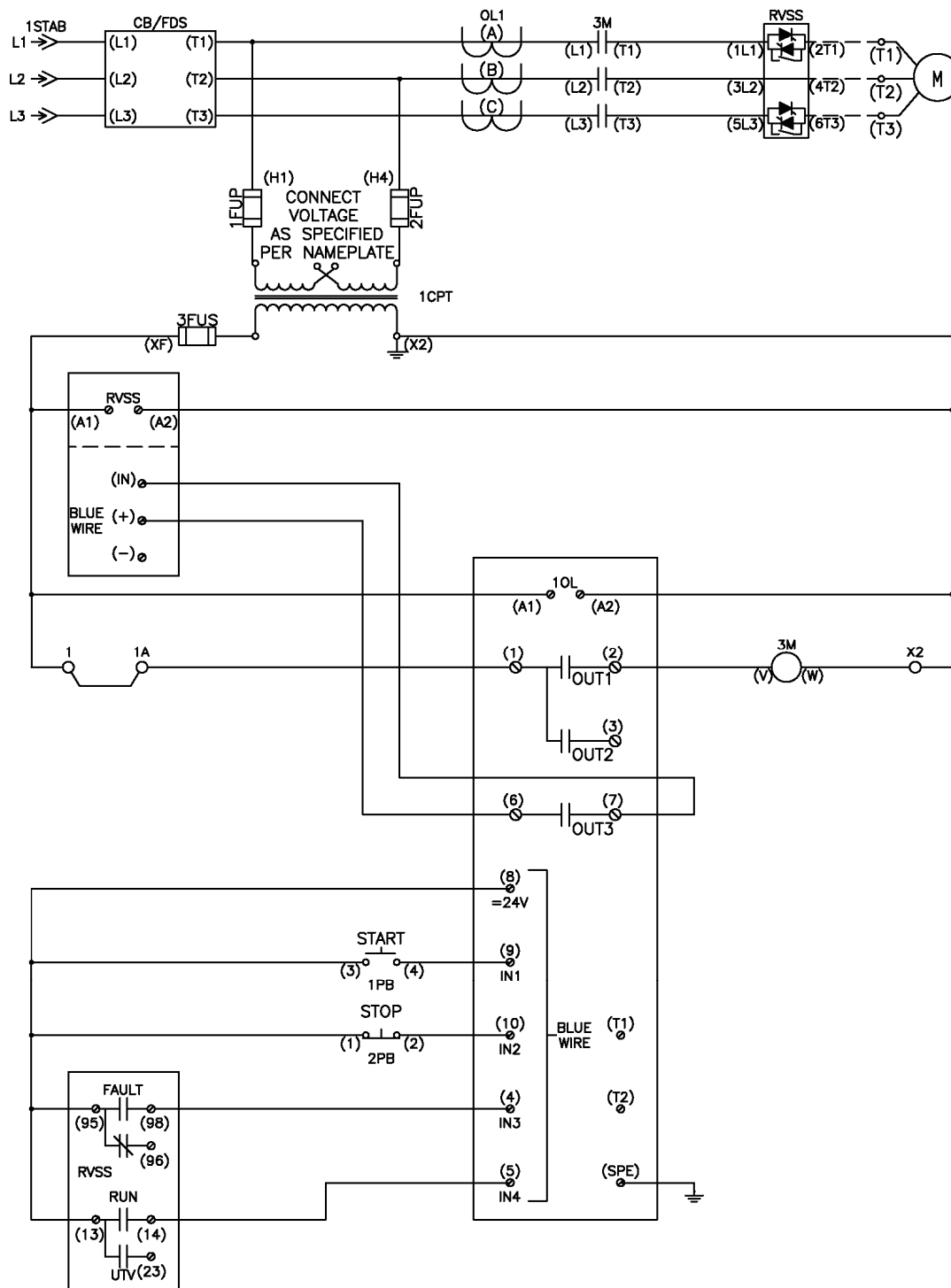
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB65

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 3-Wire 3RW40 w/Input Isolation

Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB65

### RVSS – Profibus Bit Operation Mode Selection – Local 3-Wire PB – Remote 3-Wire 3RW40 w/Input Isolation

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. Operator Panel Button 3 (START) is connected to the ON > Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the RVSS the OP Start Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To disengage the RVSS the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 3 to open.
5. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing Output 1 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time)
6. In the event of an Overload or any other General Fault event SIMOCODE Output 3 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Signal Conditioner 1 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Profibus Cyclic Receive Bit 0.2 is connected to the Signal Conditioner 1 Input for inversion.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing Output 1 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.2 is deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 3 to open.
5. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing Output 1 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time)
6. In the event of an Overload or any other General Fault, SIMOCODE Output 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Input 3 will indicate RVSS Fault Status only.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB65

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 3-Wire 3RW40 w/Input Isolation

### Parameter Detail

Control Selection and Operation

**Control Station**

Operation Mode Selector

Cyclic Receive - Bx 0.5

Fixed Level - '1'

Local Control [LC]

Not connected

Not connected

BU - Input 2

BU - Input 1

Not connected

PLC/DCS [DP]

Not connected

Not connected

Cyclic Receive - Bx 0.1

Cyclic Receive - Bx 0.2

Not connected

PC [DPV1]

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel [OP]

Not connected

Not connected

Not connected

Not connected

Not connected

51

52

Local 1

Local 2

Local 3

Remote

Releases

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

Released Control Command

Preferred for direct Control of Control Functions

On<<

On<

Off

On>

On>>

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB65

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 3-Wire 3RW40 w/Input Isolation

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

BU - Input 4

BU - Output 2

Not connected

BU - Output 3

Contactor Control - 1 GE1

External Fault 1

External Fault - Input

BU - Input 3

External Fault - Reset

Not connected

Response

tripping

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Off Command-Reset

Making

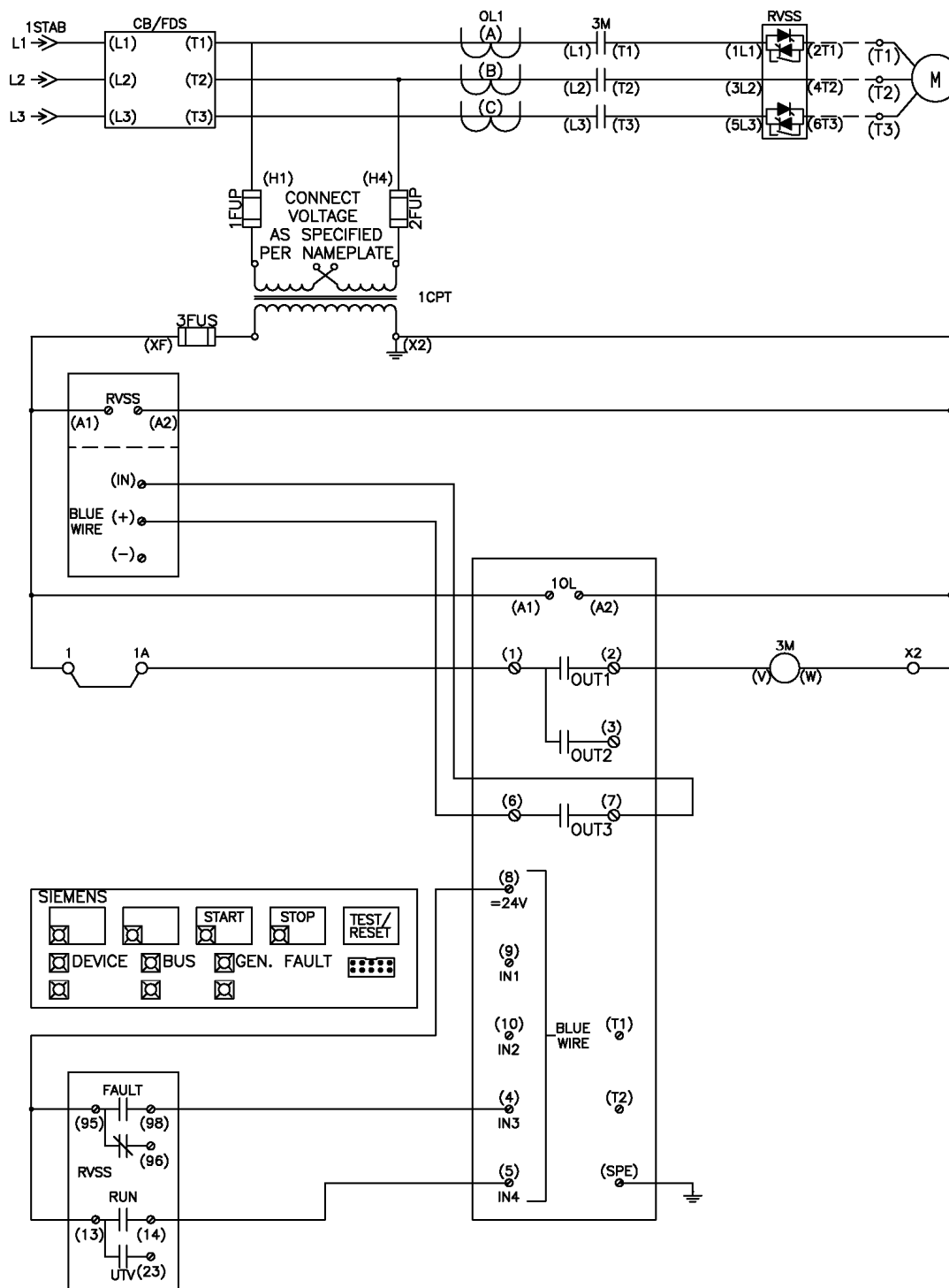
RVSS FAULT

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB66

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP – Remote 3-Wire 3RW40 w/Input Isolation

Connection Diagram





# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB66

### RVSS – Profibus Bit Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 3-Wire 3RW40 w/Input Isolation

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. Operator Panel Button 3 (START) is connected to the ON > Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the RVSS the OP Start Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To disengage the RVSS the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 3 to open.
5. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 1 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 3 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 3 to open.
5. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing Output 1 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time)
6. In the event of an Overload or any other General Fault event SIMOCODE Output 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Input 3 will indicate RVSS Fault Status only.





# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB66

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 3-Wire 3RW40 w/Input Isolation

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

BU - Input 4

BU - Output 2

Not connected

BU - Output 3

Contactor Control - 1 GE1

External Fault 1

External Fault - Input

BU - Input 3

External Fault - Reset

Not connected

Response

tripping

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Off Command-Reset

Mapping

RVSS FAULT





# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB67

### RVSS – Profibus Bit Operation Mode Selection – No Local – Remote 2-Wire 3RW40 w/Input Isolation

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command and connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS the Selector Switch is placed into the HAND position. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 2 is then activated, causing SIMOCODE Output 1 to close.
4. To disengage the RVSS the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Output 3 to open.
5. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 2 is deactivated, causing SIMOCODE Output 1 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 3 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Signal Conditioner 1 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Profibus Cyclic Receive Bit 0.2 is connected to the Signal Conditioner 1 Input for inversion.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 2 is then activated, causing SIMOCODE Output 1 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.2 is deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 3 to open.
5. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 2 is deactivated, causing SIMOCODE Output 1 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Input 3 will indicate RVSS Fault Status only.

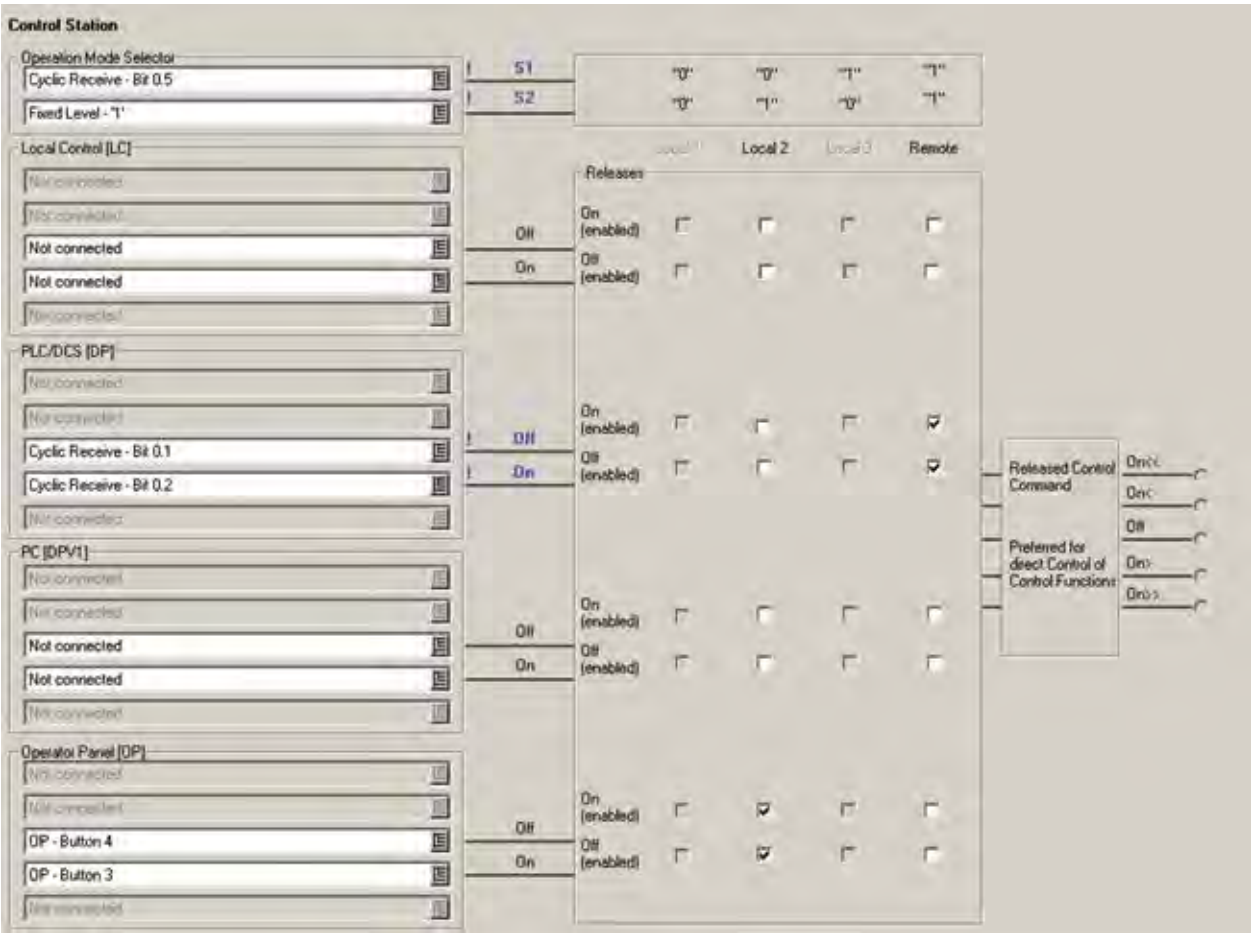
# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB67

RVSS – Profibus Bit Operation Mode Selection –  
No Local – Remote 2-Wire 3RW40 w/Input Isolation

### Parameter Detail

Control Selection and Operation



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB67

RVSS – Profibus Bit Operation Mode Selection –  
No Local – Remote 2-Wire 3RW40 w/Input Isolation

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

BU - Input 4

BU - Output 2

Not connected

BU - Output 3

Contactor Control - 1 GE1

External Fault 1

External Fault - Input

BU - Input 3

External Fault - Reset

Not connected

Response

tripping

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Off Command-Reset

Labeling

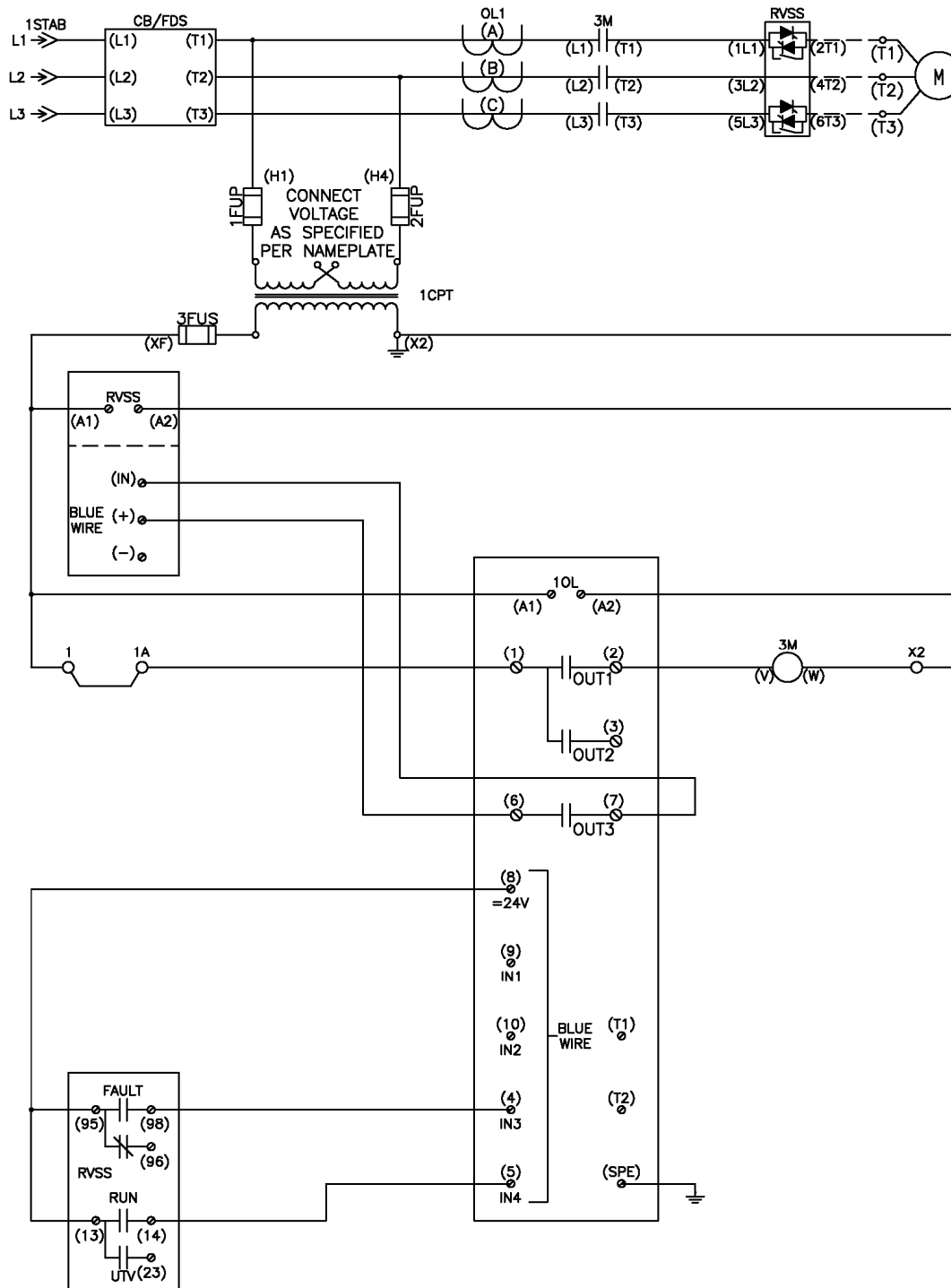
RVSS FAULT

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB68

RVSS – Profibus Bit Operation Mode Selection – No Local – Remote 2 Wire  
3RW40 w/ Input Isolation

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB68

### RVSS – Profibus Bit Operation Mode Selection – No Local – Remote 2 Wire 3RW40 w/ Input Isolation

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control (for field commissioning purposes only)

1. SIMOCODE Input 1 is connected to the ON > Control Command and connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS the SIMOCODE Input 1 is activated. The ON > Control Command is then triggered causing the SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Input 4 is then activated causing the SIMOCODE Output 1 to close.
4. To disengage the RVSS the SIMOCODE Input 1 is deactivated. The OFF Control Command is then triggered causing the SIMOCODE Output 3 to open.
5. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Input 4 is deactivated causing the SIMOCODE Output 1 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time)
6. In the event of an Overload or any other General Fault event the SIMOCODE Output 3 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Signal Conditioner 1 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Profibus Cyclic Receive Bit 0.2 is connected to the Signal Conditioner 1 Input for inversion.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered causing the SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Input 4 is then activated causing the SIMOCODE Output 1 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.2 is deactivated. The OFF Control Command is then triggered causing the SIMOCODE Output 3 to open.
5. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Input 4 is deactivated causing the SIMOCODE Output 1 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time)
6. In the event of an Overload or any other General Fault event the SIMOCODE Output 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Input 3 will indicate RVSS Fault Status only



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB68

RVSS – Profibus Bit Operation Mode Selection –  
No Local – Remote 2 Wire 3RW40 w/ Input Isolation

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - Bit 0.5

Fixed Level - 1'

Local Control [LC]

Not connected

Not connected

BU - Input 1

BU - Input 1

Not connected

PLC/DCS [DP]

Not connected

Not connected

Signal Conditioner 1 - Output

Cyclic Receive - Bit 0.2

Not connected

PC [DPV1]

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel [OP]

Not connected

Not connected

Not connected

Not connected

Not connected

S1

S2

0'

0'

1'

1'

0'

1'

0'

1'

Local 1

Local 2

Local 3

Remote

Releases

On (enabled)

On (enabled)

On (enabled)

On (enabled)

On (enabled)

On (enabled)

On (enabled)

On (enabled)

On (enabled)

On (enabled)

Off

On

Off

On

Off

On

Off

On

Off

On

Released Control Command

On<<

On<

On#

On>

On>>

Preferred for direct Control of Control Functions

Signal Conditioner 1

Signal Conditioner - Type

inverting

Signal Conditioner - Input

Cyclic Receive - Bit 0.2

Signal Conditioner - Reset

Not connected

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB68

RVSS – Profibus Bit Operation Mode Selection –  
No Local – Remote 2-Wire 3RW40 w/Input Isolation

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

BU - Input 4

BU - Output 2

Not connected

BU - Output 3

Contactor Control - 1 GE1

External Fault 1

External Fault - Input

BU - Input 3

External Fault - Reset

Not connected

Response

tripping

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Off Command-Reset

Making

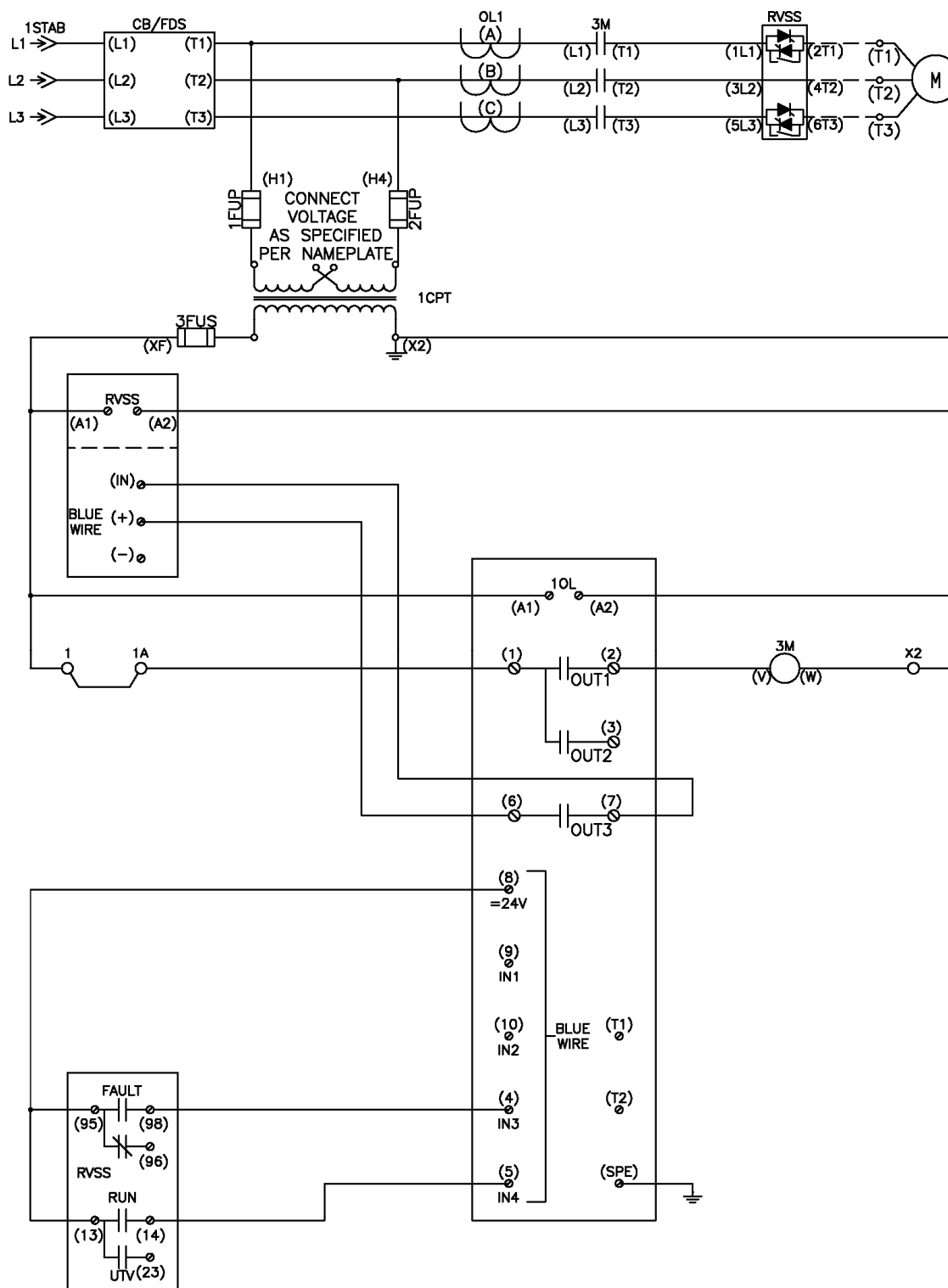
RVSS FAULT

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB69

RVSS – Profibus Bit Operation Mode Selection –  
No Local – Remote 3-Wire 3RW40 w/Input Isolation

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB69

#### RVSS – Profibus Bit Operation Mode Selection – No Local – Remote 3-Wire 3RW40 w/Input Isolation

##### Operating Instructions

###### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

###### Local Control (for field commissioning purposes only)

1. SIMOCODE Input 1 is connected to the ON > Control Command and connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS SIMOCODE Input 1 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To disengage the RVSS SIMOCODE Input 1 is deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 3 to open.
5. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing Output 1 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time)
6. In the event of an Overload or any other General Fault event SIMOCODE Output 3 will open.

###### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 3 to open.
5. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 1 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time)
6. In the event of an Overload or any other General Fault event SIMOCODE Output 3 will open.

###### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Input 3 will indicate RVSS Fault Status only.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB69

RVSS – Profibus Bit Operation Mode Selection –  
No Local – Remote 3-Wire 3RW40 w/Input Isolation

### Parameter Detail

Control Selection and Operation

**Control Station**

**Operation Mode Selector**

Cyclic Receive - Bit 0.5

Fixed Level - 1'

**Local Control (LC)**

Not connected

Not connected

BU - Input 1

BU - Input 1

Not connected

**PLC/DCS (DP)**

Not connected

Not connected

Cyclic Receive - Bit 0.1

Cyclic Receive - Bit 0.2

Not connected

**PC (DPV1)**

Not connected

Not connected

Not connected

Not connected

Not connected

**Operator Panel (OP)**

Not connected

Not connected

Not connected

Not connected

Not connected

	Local 1	Local 2	Local 3	Remote
Releases				
On (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Released Control Command

On <<

On <

On

On >

On >>

Preferred for direct Control of Control Functions

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB69

RVSS – Profibus Bit Operation Mode Selection –  
No Local – Remote 3-Wire 3RW40 w/Input Isolation

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

BU - Input 4

BU - Output 2

Not connected

BU - Output 3

Contactor Control - 1 GE1

External Fault 1

External Fault - Input

BU - Input 3

External Fault - Reset

Not connected

Response

tripping

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Off Command-Reset

Making

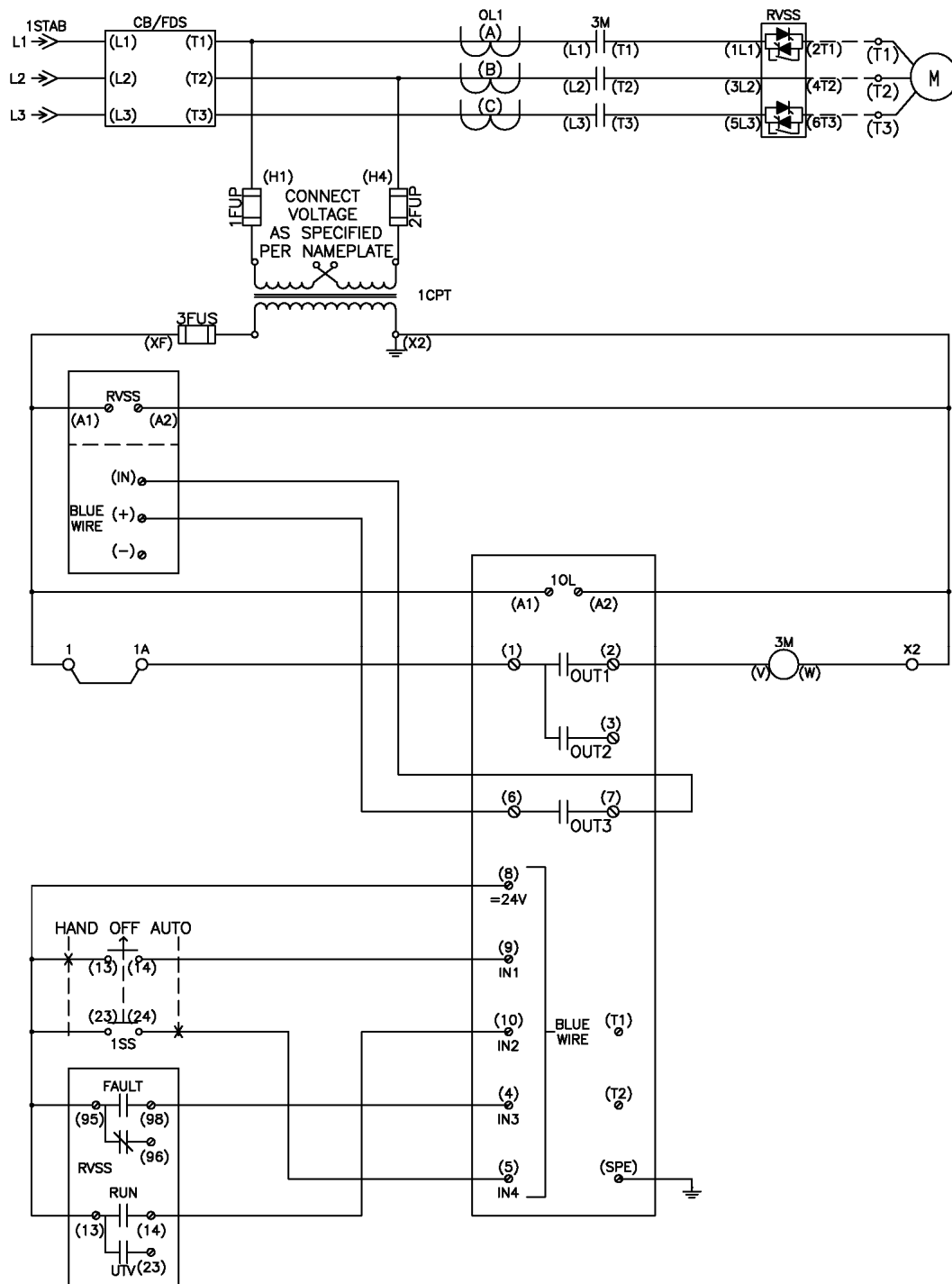
RVSS FAULT

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB70

RVSS – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 2-Wire 3RW40 w/Input Isolation

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB70

### RVSS – Selector Switch Operation Mode Selection – Local 2-Wire SS – Remote 2-Wire 3RW40 w/Input Isolation

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command and connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS the Selector Switch is placed into the HAND position. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 2 is then activated, causing SIMOCODE Output 1 to close.
4. To disengage the RVSS the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Output 3 to open.
5. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 2 is deactivated, causing SIMOCODE Output 1 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 3 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Signal Conditioner 1 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Profibus Cyclic Receive Bit 0.2 is connected to the Signal Conditioner 1 Input for inversion.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 2 is then activated, causing SIMOCODE Output 1 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.2 is deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 3 to open.
5. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 2 is deactivated, causing SIMOCODE Output 1 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Input 3 will indicate RVSS Fault Status only.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB70

RVSS – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 2-Wire 3RW40 w/Input Isolation

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - Bit 0.5

BU - Input 4

Local Control [LC]

Not connected

Not connected

BU - Input 1

BU - Input 1

Not connected

PLC/OCS [DP]

Not connected

Not connected

Signal Conditioner 1 - Output

Cyclic Receive - Bit 0.2

Not connected

PC [DPV1]

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel [OP]

Not connected

Not connected

Not connected

Not connected

Not connected

S1

S2

Off

On

Off

On

Off

On

Off

On

Off

On

Local 1

Local 2

Local 3

Remote

Released

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

Released Control Command

On<

On

Off

On>

On>>

Signal Conditioner 1

Signal Conditioner - Type

inverting

Signal Conditioner - Input

Cyclic Receive - Bit 0.2

Signal Conditioner - Reset

Not connected

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB70

RVSS – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 2-Wire 3RW40 w/Input Isolation

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

BU - Input 2

BU - Output 2

Not connected

BU - Output 3

Contactor Control - 1 QE1

External Fault 1

External Fault - Input

BU - Input 3

External Fault - Reset

Not connected

Response

latching

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Dll Command-Reset

Marking

RVSS FAULT



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB71

### RVSS – Selector Switch Operation Mode Selection – Local 2-Wire SS – Remote 3-Wire 3RW40 w/Input Isolation

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command and connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS the Selector Switch is placed into the HAND position. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 2 is then activated, causing SIMOCODE Output 1 to close.
4. To disengage the RVSS the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Output 3 to open.
5. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 2 is deactivated, causing SIMOCODE Output 1 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event, SIMOCODE Output 3 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 2 is then activated, causing SIMOCODE Output 1 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 3 to open.
5. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 2 is deactivated, causing Output 1 to open. (RVSS Ramp-down time must be less than or equal to SIMOCODE Execution Time)
6. In the event of an Overload or any other General Fault event SIMOCODE Output 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Input 3 will indicate RVSS Fault Status only.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB71

RVSS – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 3-Wire 3RW40 w/Input Isolation

### Parameter Detail

Control Selection and Operation

**Control Station**

**Operation Mode Selector**

Cyclic Receive - Bit 0.5 ☐

BU - Input 4 ☐

**Local Control (LC)**

Not connected ☐

Not connected ☐

BU - Input 1 ☐

BU - Input 1 ☐

Not connected ☐

**PLC/OCS (DP)**

Not connected ☐

Not connected ☐

Cyclic Receive - Bit 0.1 ☐

Cyclic Receive - Bit 0.2 ☐

Not connected ☐

**PC (DPV1)**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Operator Panel (OP)**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Control Selection and Operation**

	Local 1	Local 2	Local 3	Remote
<b>Releases</b>				
On (enabled)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>On</b>				
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Off</b>				
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>On</b>				
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Released Control Command**

On < ☐

On < ☐

Off < ☐

On > ☐

On > ☐

**Preferred for direct Control of Control Functions**

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB71

RVSS – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 3-Wire 3RW40 w/Input Isolation

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

BU - Input 2

BU - Output 2

Not connected

BU - Output 3

Contactor Control - 1 QE1

External Fault 1

External Fault - Input

BU - Input 3

External Fault - Reset

Not connected

Response

latching

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Dll Command-Reset

Marking

RVSS FAULT



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB72

### RVSS – Selector Switch Operation Mode Selection – Local 3-Wire SS/PB – Remote 2-Wire 3RW40 w/Input Isolation

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS the Selector Switch is placed into the HAND position and the Start Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing SIMOCODE Output 1 to close.
4. To disengage the RVSS two methods are available. 1: while the Selector Switch is placed into the HAND position the Stop Pushbutton is depressed. 2: the Selector Switch is placed into the OFF position. For either action the OFF Control Command is then triggered, causing SIMOCODE Output 3 to open.
5. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing SIMOCODE Output 1 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time)
6. In the event of an Overload or any other General Fault event SIMOCODE Output 3 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Signal Conditioner 1 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Profibus Cyclic Receive Bit 0.2 is connected to the Signal Conditioner 1 Input for inversion.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing SIMOCODE Output 1 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.2 is deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 3 to open.
5. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing SIMOCODE Output 1 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time)
6. In the event of an Overload or any other General Fault event SIMOCODE Output 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Digital module Input 1 will indicate RVSS Fault Status only.





# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB72

RVSS – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 2-Wire 3RW40 w/Input Isolation

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

DM1 - Input 2

BU - Output 2

Not connected

BU - Output 3

Contactor Control - 1 QE1

External Fault 1

External Fault - Input

DM1 - Input 1

External Fault - Reset

Not connected

Response

tripping

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Off Command-Reset

Masking

RVSS FAULT

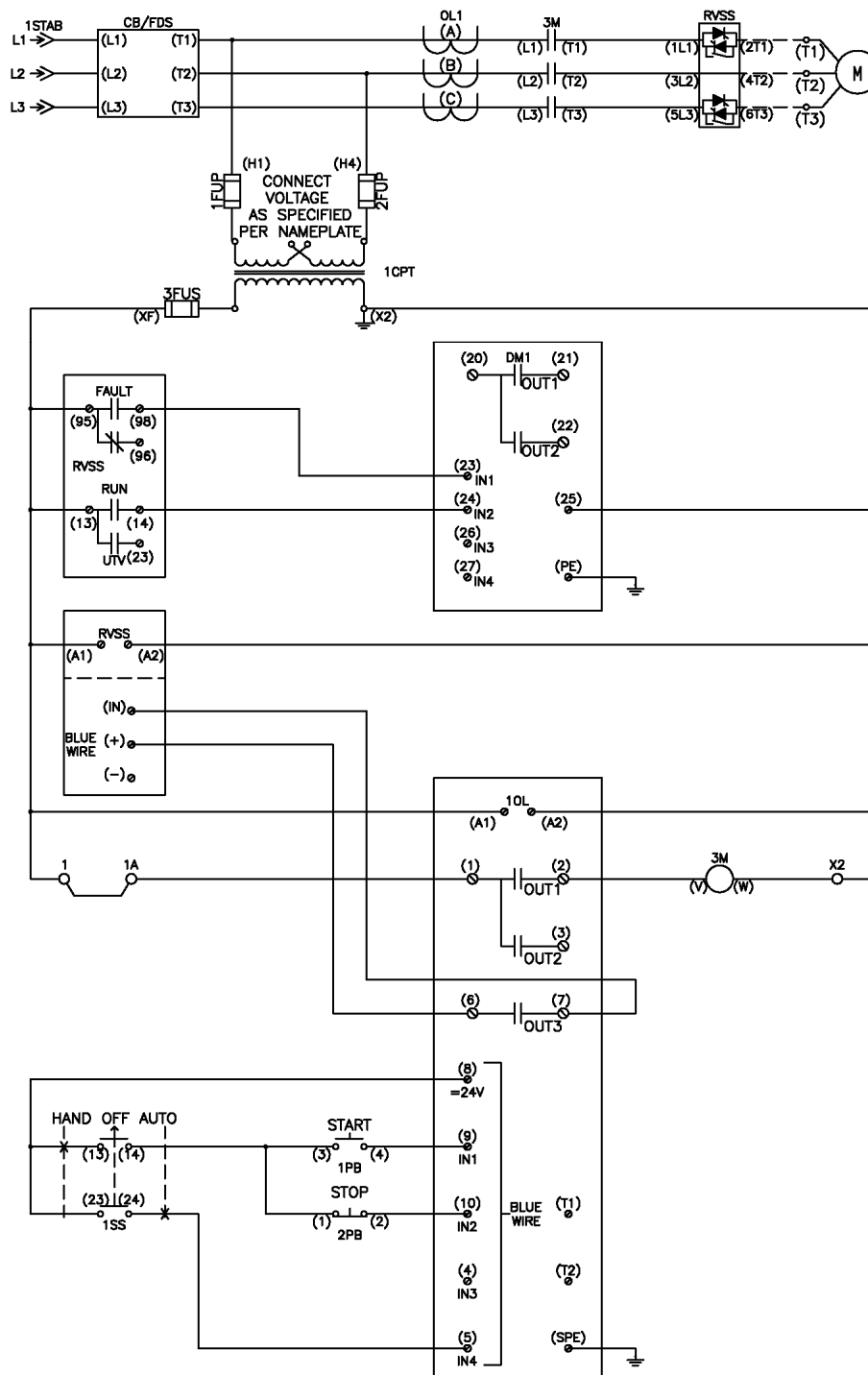
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB73

RVSS – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 3-Wire 3RW40 w/Input Isolation

#### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB73

#### RVSS – Selector Switch Operation Mode Selection – Local 3-Wire SS/PB – Remote 3-Wire 3RW40 w/Input Isolation

##### Operating Instructions

###### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to Operation Mode Selector S2.
2. To engage Local Operation Mode, SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode, SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode, SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

###### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS the Selector Switch is placed into the HAND position and the Start Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing SIMOCODE Output 1 to close.
4. To disengage the RVSS two methods are available. First, while the Selector Switch is placed into the HAND position the Stop Pushbutton is depressed. Second, the Selector Switch is placed into the OFF position. For either action the OFF Control Command is triggered, causing SIMOCODE Output 3 to open.
5. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing SIMOCODE Output 1 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault, SIMOCODE Output 3 will open.

###### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing SIMOCODE Output 1 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 3 to open.
5. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing SIMOCODE Output 1 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault, SIMOCODE Output 3 will open.

###### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Digital Module Input 1 will indicate RVSS Fault Status only.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB73

RVSS – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 3-Wire 3RW40 w/Input Isolation

### Parameter Detail

Control Selection and Operation

**Control Station**

**Operation Mode Selector**

Cyclic Receive - Bit 0.5 ☐

BU - Input 4 ☐

**Local Control [LC]**

Not connected ☐

Not connected ☐

BU - Input 2 ☐

BU - Input 1 ☐

Not connected ☐

**PLC/OES [DP]**

Not connected ☐

Not connected ☐

Cyclic Receive - Bit 0.1 ☐

Cyclic Receive - Bit 0.2 ☐

Not connected ☐

**PC [DPV1]**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Operator Panel [OP]**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Releases**

	Local 1	Local 2	Local 3	Remote
On (enabled)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Released Control Command**

On < ☐

On ☐

Off ☐

On > ☐

On >> ☐

**Preferred for direct Control of Control Functions**

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB73

RVSS – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 3-Wire 3RW40 w/Input Isolation

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

DM1 - Input 2

BU - Output 2

Not connected

BU - Output 3

Contactor Control - 1 QE1

External Fault 1

External Fault - Input

DM1 - Input 1

External Fault - Reset

Not connected

Response

tripping

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Oil Command-Reset

Marking

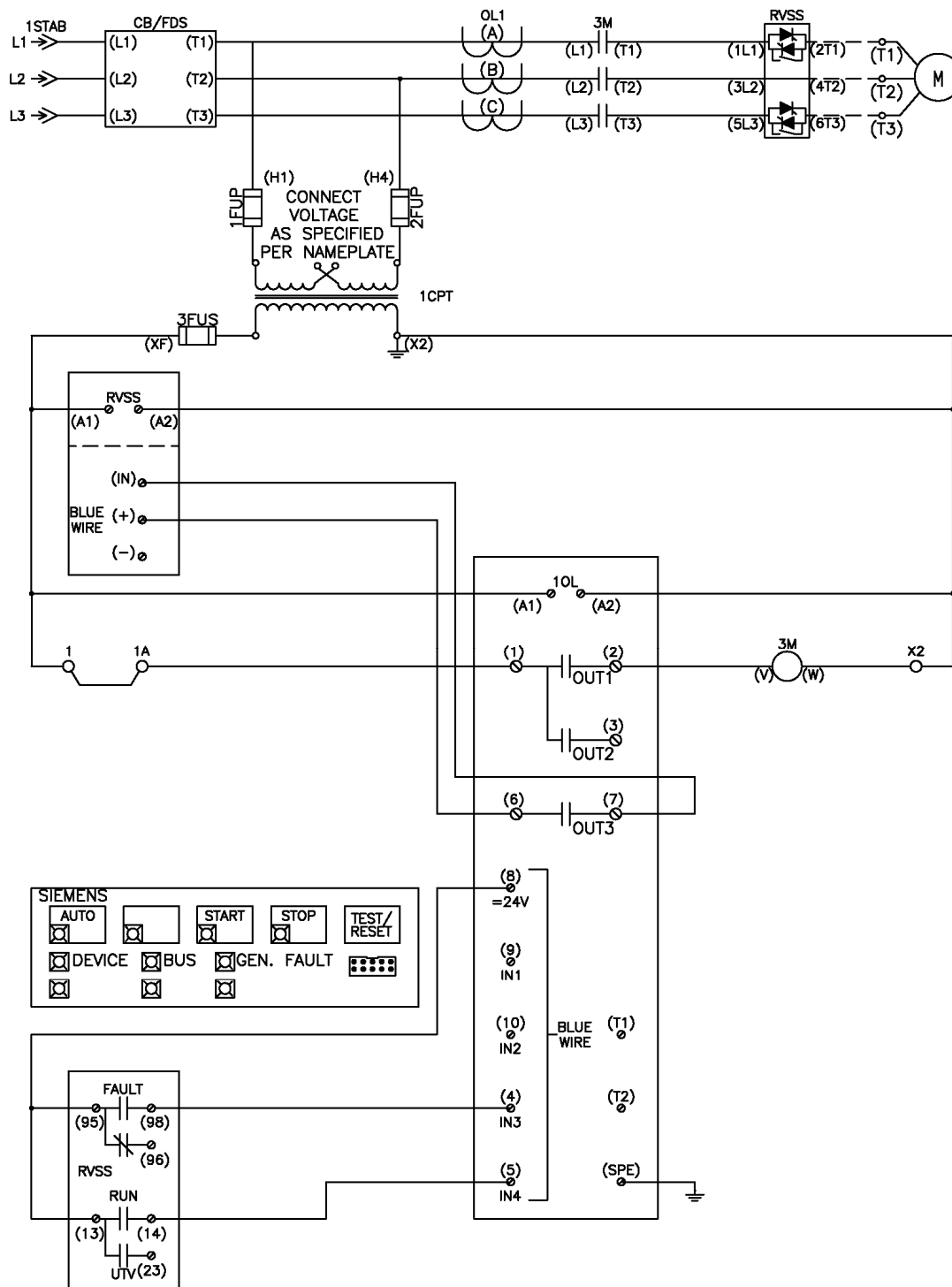
RVSS FAULT

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB74

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OP – Remote 2-Wire 3RW40 w/Input Isolation

Connection Diagram



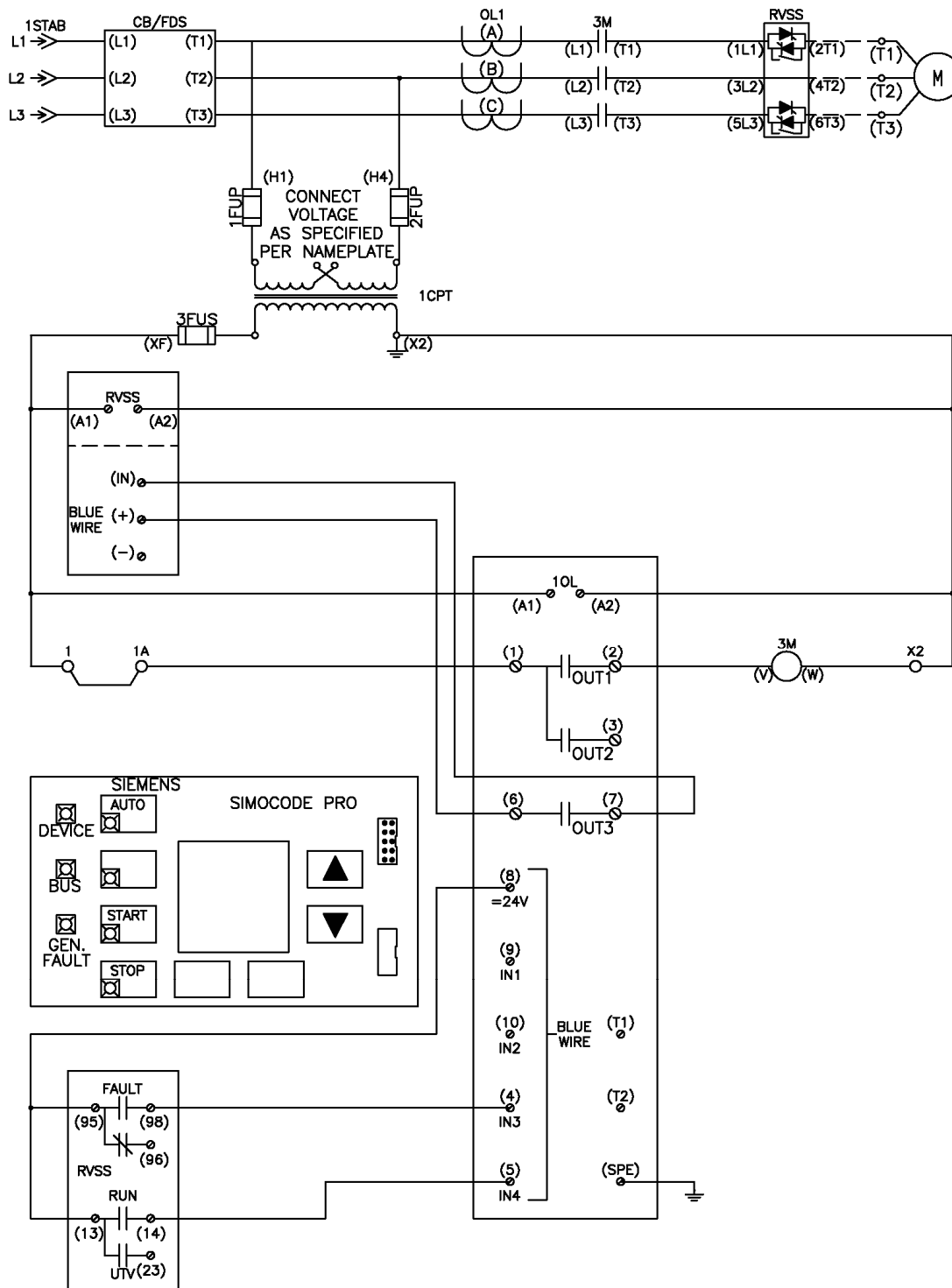
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB74

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OPD – Remote 2-Wire 3RW40 w/Input Isolation

#### Connection Diagram





# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB74

#### RVSS – Operator Panel Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 2-Wire 3RW40 w/Input Isolation

##### Operating Instructions

###### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Non-Volatile Element 1 Output is connected to the Operation Mode Selector S2. Operator Panel Button 1 (AUTO) is connected to Non-Volatile Element 1 for an edge rising latch as well as to Counter 1 for latch reset. Counter 1 is connected to Non-Volatile Element 2 to maintain Operation Mode selection during loss of control power.
2. To engage Local Operation Mode the Non-Volatile Element 1 Output is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode the Non-Volatile Element 1 Output is activated while Profibus Cyclic Receive Bit 0.5 is deactivated. When mode is active indication is provided via LED on Operator Panel Button 1.
4. To engage Remote Operation Mode the Non-Volatile Element 1 Output and Profibus Cyclic Receive Bit 0.5 (maintained signal) are activated. This mode does not permit sending parameter data from the PLC/DCS. When mode is active indication is provided via LED on Operator Panel Button 1.

###### Local Control

5. Operator Panel Button 3 (START) is connected to the ON > Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
6. To engage the RVSS the OP Start Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
7. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
8. To disengage the RVSS the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 3 to open.
9. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 1 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
10. In the event of an Overload or any other General Fault event SIMOCODE Output 3 will open.

###### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Signal Conditioner 1 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Profibus Cyclic Receive Bit 0.2 is connected to the Signal Conditioner 1 Input for inversion.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.2 is deactivated. The OFF Control Command is then triggered, | causing SIMOCODE Output 3 to open.
5. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 1 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 3 will open.

###### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Input 3 will indicate RVSS Fault Status only.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB74

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 2-Wire 3RW40 w/Input Isolation

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - Bit 0.5

Non-Volatile Element 1 - Output

Local Control (LC)

Not connected

Not connected

Not connected

Not connected

PLC/DCS (DP)

Not connected

Not connected

Signal Conditioner 1 - Output

Cyclic Receive - Bit 0.2

Not connected

PC (DPV1)

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel (OP)

Not connected

Not connected

OP - Button 4

OP - Button 3

Not connected

Signal Conditioner 1

Signal Conditioner - Type: 

inverting

Signal Conditioner - Input: 

Cyclic Receive - Bit 0.2

Signal Conditioner - Reset: 

Not connected

S1

S2

Off

On

Off

On

Off

On

Off

On

Off

On

Released

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

Local 1

Local 2

Local 3

Remote

Released Control Command

On<<

On<

Off

On>

On>>

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB74

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 2-Wire 3RW40 w/Input Isolation

### Parameter Detail

AUTO Toggle Operation

**Non-Volatile Element 1**

Non-Volatile Element - Type

edge rising with memory

Non-Volatile Element - Input

OP - Button 1

Non-Volatile Element - Reset

Non-Volatile Element 2 - Output

**Counter 1**

Counter - Limit

2

Counter - Input +

OP - Button 1

Counter - Input -

Not connected

Counter - Reset

Non-Volatile Element 2 - Output

**Non-Volatile Element 2**

Non-Volatile Element - Type

non inverting

Non-Volatile Element - Input

Counter 1 - Output

Non-Volatile Element - Reset

Not connected

### RVSS Control and Operation

**Basic Unit**

BU - Output 1

BU - Input 4

BU - Output 2

Not connected

BU - Output 3

Contactor Control - 1 QE1

**External Fault 1**

External Fault - Input

BU - Input 3

External Fault - Reset

Not connected

Response

tripping

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Off Command Reset

Making

RVSS FAULT

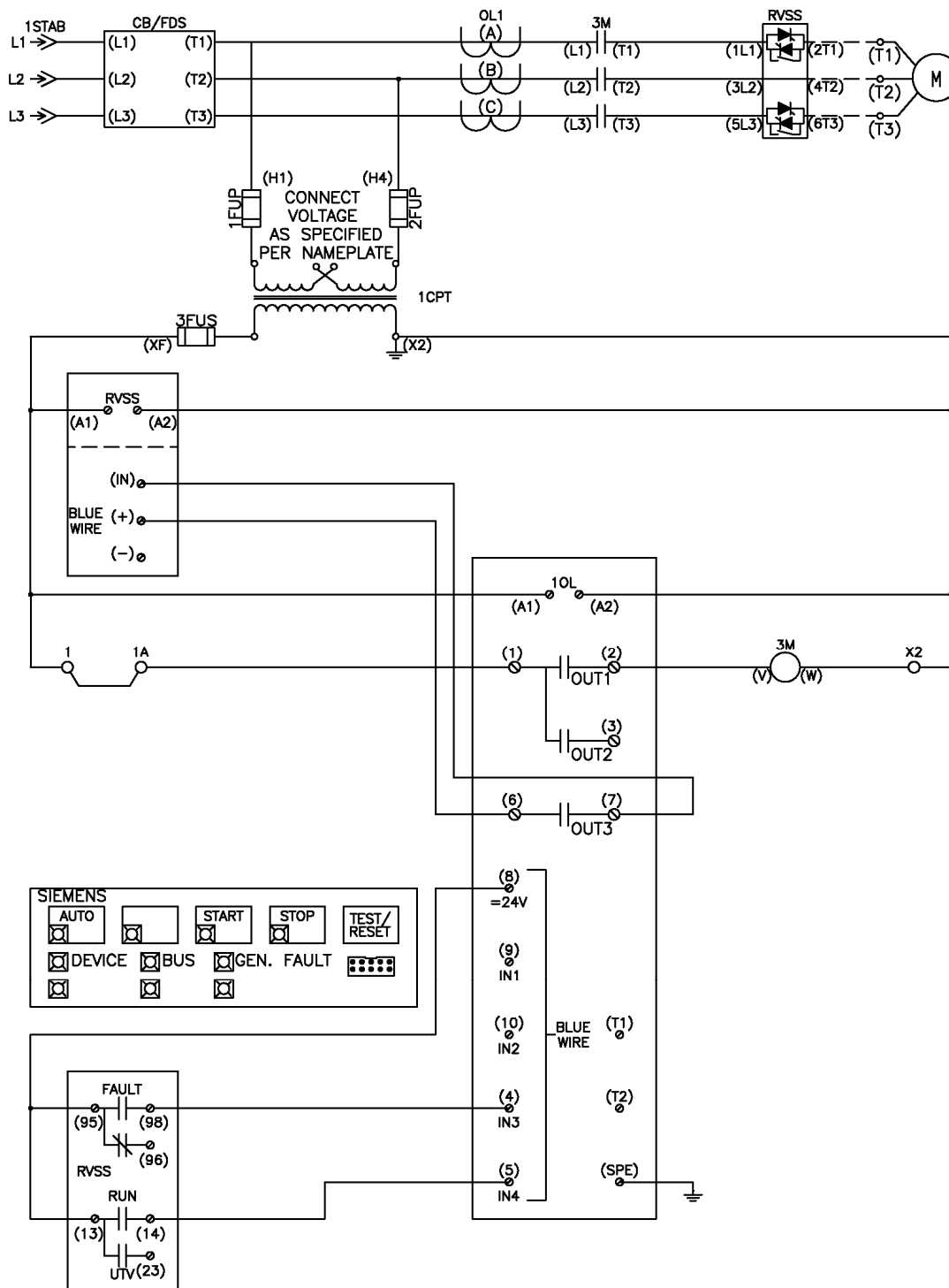
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB75

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OP – Remote 3-Wire 3RW40 w/Input Isolation

#### Connection Diagram





# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB75

#### RVSS – Operator Panel Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 3-Wire 3RW40 w/Input Isolation

##### Operating Instructions

###### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Non-Volatile Element 1 Output is connected to the Operation Mode Selector S2. Operator Panel Button 1 (AUTO) is connected to Non-Volatile Element 1 for an edge rising latch as well as to Counter 1 for latch reset. Counter 1 is connected to Non-Volatile Element 2 to maintain Operation Mode selection during loss of control power.
2. To engage Local Operation Mode the Non-Volatile Element 1 Output is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode, Non-Volatile Element 1 Output is activated while Profibus Cyclic Receive Bit 0.5 is deactivated. When mode is active indication is provided via the LED on Operator Panel Button 1.
4. To engage Remote Operation Mode the Non-Volatile Element 1 Output and Profibus Cyclic Receive Bit 0.5 (maintained signal) are activated. This mode does not permit sending parameter data from the PLC/DCS. When mode is active indication is provided via LED on Operator Panel Button 1.

###### Local Control

1. Operator Panel Button 3 (START) is connected to the ON > Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the RVSS the OP Start Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To disengage the RVSS the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 3 to open.
5. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 1 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 3 will open.

###### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 3 to open.
5. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing Output 1 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time)
6. In the event of an Overload or any other General Fault event SIMOCODE Output 3 will open.

###### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Input 3 will indicate RVSS Fault Status only.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB75

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 3-Wire 3RW40 w/Input Isolation

### Parameter Detail

Control Selection and Operation

**Control Station**

**Operation Mode Selector**

Cyclic Receive - Bit 0.5 ☐

Non-Volatile Element 1 - Output ☐

**Local Control [LC]**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**PLC/OCS [DP]**

Not connected ☐

Not connected ☐

Cyclic Receive - Bit 0.1 ☐

Cyclic Receive - Bit 0.2 ☐

Not connected ☐

**PC [DPV1]**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Operator Panel [OP]**

Not connected ☐

Not connected ☐

OP - Button 4 ☐

OP - Button 3 ☐

Not connected ☐

	Local 1	Local 2	Local 3	Remote
Releases:				
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Released Control Command

Preferred for direct Control of Control Functions

On<<

On<

Off

On>

On>>



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB75

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 3-Wire 3RW40 w/Input Isolation

### Parameter Detail

AUTO Toggle Operation

Non-Volatile Element 1

Non-Volatile Element - Type

edge rising with memory

Non-Volatile Element - Input

OP - Button 1

Non-Volatile Element - Reset

Non-Volatile Element 2 - Output

Counter 1

Counter - Limit

2

Counter - Input +

OP - Button 1

Counter - Input -

Not connected

Counter - Reset

Non-Volatile Element 2 - Output

Non-Volatile Element 2

Non-Volatile Element - Type

non inverting

Non-Volatile Element - Input

Counter 1 - Output

Non-Volatile Element - Reset

Not connected

### RVSS Control and Operation

Basic Unit

BU - Output 1

BU - Input 4

BU - Output 2

Not connected

BU - Output 3

Contactor Control - 1 QE1

External Fault 1

External Fault - Input

BU - Input 3

External Fault - Reset

Not connected

Response

tripping

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Off Command Reset

Making

RVSS FAULT



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## 9. 3RW40 Reduced Voltage Soft Starter with Input Isolation and Bypass Contactors

The reduced voltage soft starter uses an SCR equipped solid state controller to provide smooth, stepless acceleration by controlling the applied voltage, current, and torque to the motor terminals for single-speed, full-voltage operation. An input isolation contactor is integrated into the design to provide complete voltage removal to the motor windings. A bypass contactor is integrated into the design to provide selectable direct across the line, single-speed, single-direction, full-voltage operation.

### The basic RVSS operation of this starter is as follows:

1. A local or remote RVSS start signal is given to the SIMOCODE Pro.
2. The SIMOCODE Pro Output 3 closes giving the RVSS a signal to begin operation.
3. The RVSS RUN contact closes relaying the SIMOCODE Pro to close Output 1 which energizes the coil of Input Isolation Contactor 3M.
4. With the Input Isolation Contactor 3M closed the RVSS follows its settings for ramp-up, run, and internal bypass.
5. A local or remote stop signal is given to the SIMOCODE Pro.
6. The SIMOCODE Pro Output 3 opens giving the RVSS a signal to stop operation.
7. The RVSS follows its settings for ramp-down opening the RVSS RUN contact when the designated time has elapsed.
8. With the RVSS RUN contact open the SIMOCODE Pro opens its Output 1 which de-energizes the coil of Input Isolation Contactor 3M.
9. If a fault occurs at any time the SIMOCODE Pro will end the starter operation.

### The basic BYPASS operation of this starter is as follows:

1. A local or remote BYPASS start signal is given to the SIMOCODE Pro.
2. The SIMOCODE Pro Output 2 closes which energizes the coil of Bypass Contactor 2M.
3. A local or remote stop signal is given to the SIMOCODE Pro.
4. The SIMOCODE Pro Output 2 opens which de-energizes the coil of Bypass Contactor 2M.
5. If a fault occurs at any time the SIMOCODE Pro will end the starter operation.

The RVSS auxiliary contacts are connected to the SIMOCODE Pro inputs to provide starter control as well as operation feedback over Profibus-DP.

- o The RVSS RUN contact provides direct control over the 3M input isolation contactor and starter condition feedback. When active the contact will signal the SIMOCODE Pro to close Output 1 to energize the 3M contactor coil. This contact will switch states during ramp-up, internal bypass, and ramp-down.
- o The RVSS FAULT contact provides starter condition feedback. When active, the contact will signal the SIMOCODE Pro to trigger an external fault command. This contact will change states during thyristor thermal overload, phase failure, no load voltage, mains under-voltage, mains over-voltage, or equipment error.

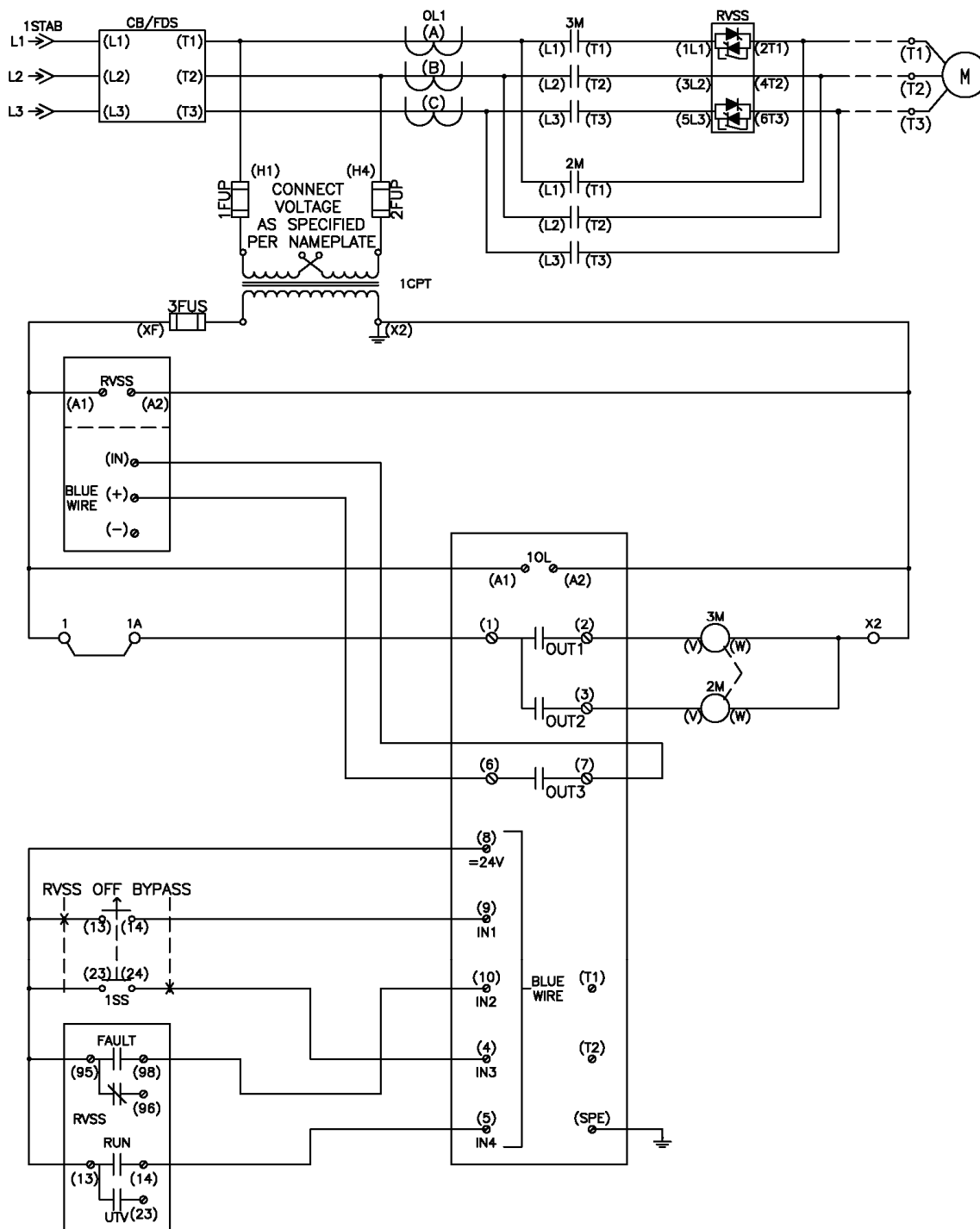
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB77

RVSS – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

#### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB77

### RVSS – Profibus Bit Operation Mode Selection – Local 2-Wire SS – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Input 1 and SIMOCODE Input 3.
2. To engage the RVSS the Selector Switch is placed into the RVSS position. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor the Selector Switch is placed into the BYPASS position. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event the SIMOCODE Outputs 2 and 3 will open.

# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB77

#### RVSS – Profibus Bit Operation Mode Selection – Local 2-Wire SS – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

##### Operating Instructions

###### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event the SIMOCODE Outputs 2 and 3 will open.

###### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Input 2 will indicate RVSS Fault Status only.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB77

RVSS – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

BU - Input 4

BU - Output 2

Contactor Control - 2 OE2

BU - Output 3

Contactor Control - 1 QE1

External Fault 1

External Fault - Input

BU - Input 2

External Fault - Reset

Not connected

Response

tripping

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1.2.3

☐ Off Command Reset

Labeling

RVSS FAULT



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB78

### RVSS – Profibus Bit Operation Mode Selection – Local 2-Wire SS – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Input 1 and SIMOCODE Input 3.
2. To engage the RVSS the Selector Switch is placed into the RVSS position. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor the Selector Switch is placed into the BYPASS position. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event the SIMOCODE Outputs 2 and 3 will open.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB78

### RVSS – Profibus Bit Operation Mode Selection – Local 2-Wire SS – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

#### Operating Instructions

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event the SIMOCODE Outputs 2 and 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Input 2 will indicate RVSS Fault Status only.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB78

RVSS – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - 8@ 0.5

Fixed Level - '1'

Local Control (LC)

Not connected

BU - Input 3

Truth Table 1 3/10 - Output

BU - Input 1

Not connected

PLC/DCS (DP)

Not connected

Cyclic Receive - 8@ 0.0

Cyclic Receive - 8@ 0.1

Cyclic Receive - 8@ 0.2

Not connected

PC (DPV1)

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel (OP)

Not connected

Not connected

Not connected

Not connected

Not connected

ST

S2

'0'

'0'

'1'

'1'

'0'

'1'

'0'

'1'

Local 1

Local 2

Local 3

Remote

On<

Off

On<

On (enabled)

Off (enabled)

On (enabled)

Released Control Command

Preferred for direct Control of Control Functions

On<<

On<

On

On>

On>>

Truth Table 1 3/10

Truth Table - Input 1

Not connected

Truth Table - Input 2

BU - Input 1

Truth Table - Input 3

BU - Input 3

Truth Table 3/10

I1	I2	I3	O
0	0	0	0
0	0	1	1
0	1	0	1
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB78

RVSS – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

### Parameter Detail

RVSS Control and Operation

**Basic Unit**

BU - Output 1	BU - Input 4
BU - Output 2	Contactor Control - 2 QE2
BU - Output 3	Contactor Control - 1 QE1

**External Fault 1**

External Fault - Input	BU - Input 2
External Fault - Reset	Not connected
Response	tripping

Type

<input checked="" type="radio"/> normally open (NO)	<input type="radio"/> normally closed (NC)
---	--

Activity

<input checked="" type="radio"/> always	<input type="radio"/> only if motor runs
---	--

External Fault - Reset also by

<input checked="" type="checkbox"/> Test/Reset Button, RS232 (Panel Reset)	<input type="checkbox"/> Auto-Reset
<input checked="" type="checkbox"/> Remote Reset, Reset 1.2.3	<input type="checkbox"/> Off Command Reset

Labeling

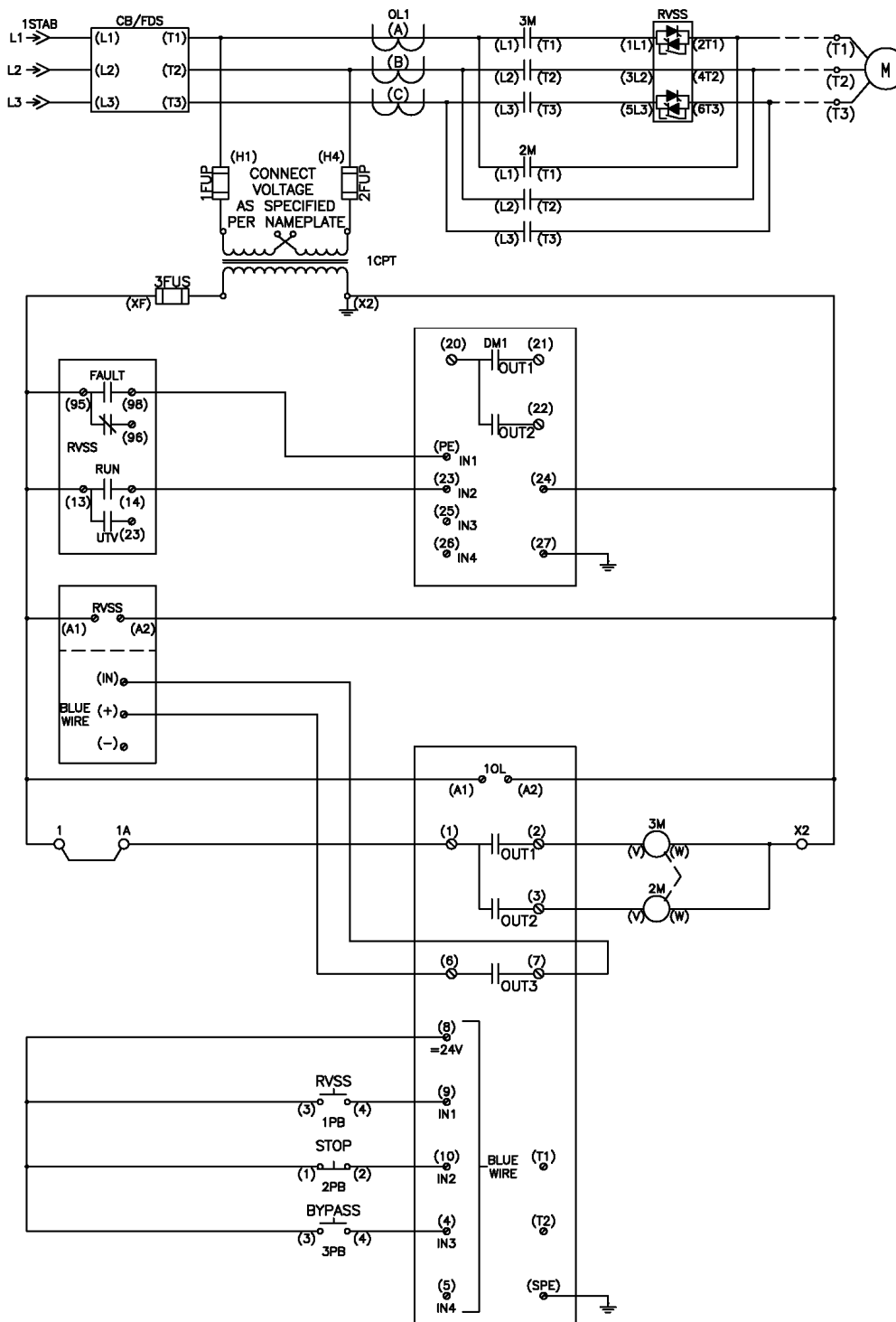
RVSS FAULT
------------

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB79

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB79

### RVSS – Profibus Bit Operation Mode Selection – Local 3-Wire PB – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS the RVSS Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor the BYPASS Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON< Control Command is then triggered, causing SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time)
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event the SIMOCODE Outputs 2 and 3 will open.

# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB79

#### RVSS – Profibus Bit Operation Mode Selection – Local 3-Wire PB – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

##### Operating Instructions

###### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time)
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event the SIMOCODE Outputs 2 and 3 will open.

###### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Digital Module Input 1 will indicate RVSS Fault Status only.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB79

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

DM1 - Input 2

BU - Output 2

Contactor Control - 2 OE2

BU - Output 3

Contactor Control - 1 QE1

External Fault 1

External Fault - Input

DM1 - Input 1

External Fault - Reset

Not connected

Response

tripping

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1.2.3

☐ Dll Command-Reset

Making

RVSS FAULT

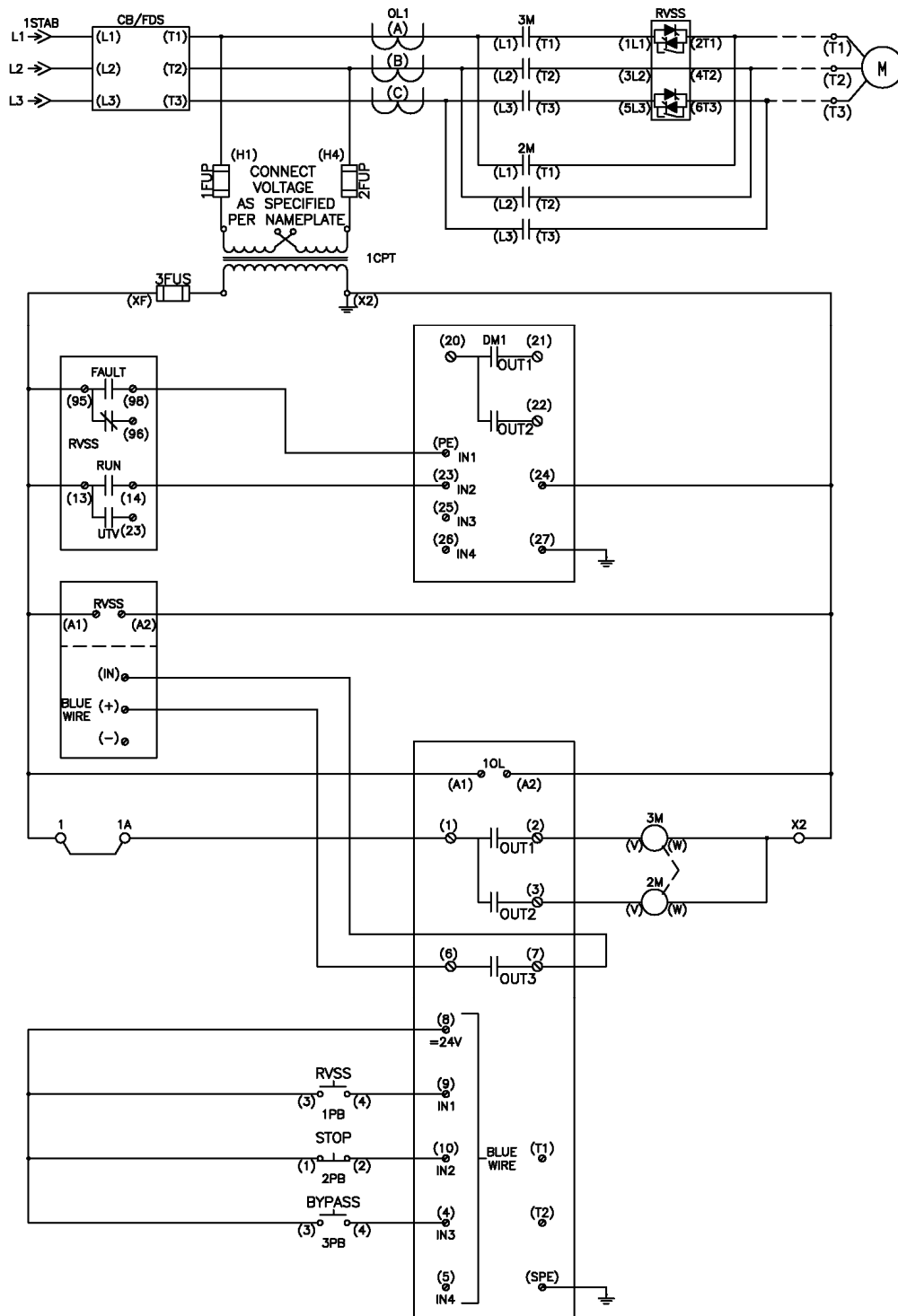


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB80

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB80

#### RVSS – Profibus Bit Operation Mode Selection – Local 3-Wire PB – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

##### Operating Instructions

###### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

###### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS the RVSS Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor the BYPASS Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON< Control Command is then triggered, causing SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event the SIMOCODE Outputs 2 and 3 will open.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB80

### RVSS – Profibus Bit Operation Mode Selection – Local 3-Wire PB – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

#### Operating Instructions

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event the SIMOCODE Outputs 2 and 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Digital Module Input 1 will indicate RVSS Fault Status only.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB80

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

DM1 - Input 2

BU - Output 2

Contactor Control - 2 OE2

BU - Output 3

Contactor Control - 1 QE1

External Fault 1

External Fault - Input

DM1 - Input 1

External Fault - Reset

Not connected

Response

tripping

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1.2.3

☐ Dll Command-Reset

Marking

RVSS FAULT

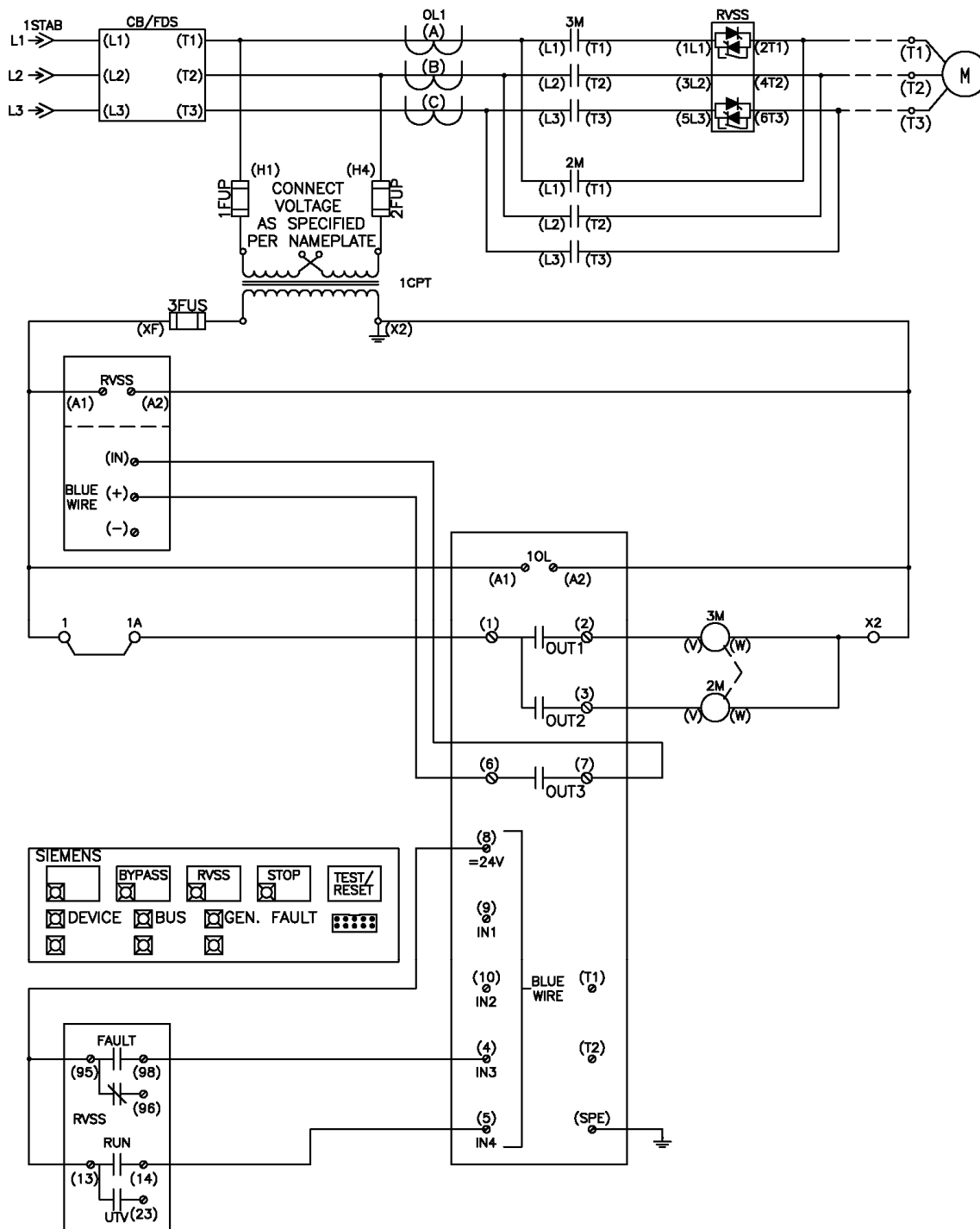
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB81

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

#### Connection Diagram





# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB81

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

### Operating Instructions

#### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

#### Local Control

1. Operator Panel Button 3 (RVSS) is connected to the ON > Control Command, Operator Panel Button 2 (BYPASS) is connected to the ON < Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the RVSS the OP RVSS Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor the OP BYPASS Pushbutton is depressed. The ON< Control Command is then triggered, causing SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event the SIMOCODE Outputs 2 and 3 will open.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB81

### RVSS – Profibus Bit Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

#### Operating Instructions

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event the SIMOCODE Outputs 2 and 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Input 3 will indicate RVSS Fault Status only.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB81

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - Bit 0.5

Fixed Level - 1

Local Control (LC)

Not connected

Not connected

Not connected

Not connected

Full connected

PLC/DCS (DP)

Not connected

Cyclic Receive - Bit 0.0

Truth Table 2 3/10 - Output

Cyclic Receive - Bit 0.2

Full connected

PC (DPV1)

Not connected

Not connected

Not connected

Not connected

Full connected

Operator Panel (OP)

Not connected

OP - Button 2

OP - Button 4

OP - Button 3

Not connected

S1

0

0

1

1

S2

0

1

0

1

Local 1

Local 2

Local 3

Remote

On

On (enabled)

Off

Off (enabled)

Released Control Command

On<

On<

Off

On>

On>

Preferred for direct Control of Control Functions

Truth Table 2 3/10

Truth Table - Input 1

Not connected

Truth Table - Input 2

Cyclic Receive - Bit 0.0

Truth Table - Input 3

Cyclic Receive - Bit 0.2

Truth Table 3/10

I1	I2	I3	O
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB81

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

### Parameter Detail

RVSS Control and Operation

**Basic Unit**

BU - Output 1	BU - Input 4
BU - Output 2	Contactor Control - 2 OE2
BU - Output 3	Contactor Control - 1 QE1

**External Fault 1**

External Fault - Input	BU - Input 3
External Fault - Reset	Not connected
Response	tripping

Type

☒ normally open (NO) ☐ normally closed (NC)

Activity

☒ always ☐ only if motor runs

External Fault - Reset also by

<input checked="" type="checkbox"/> Test/Reset Button, RS232 (Panel Reset)	<input type="checkbox"/> Auto-Reset
<input checked="" type="checkbox"/> Remote Reset, Reset 1.2.3	<input type="checkbox"/> Off Command Reset

Marking

RVSS FAULT

# tiastar Smart MCC SIMOCODE Pro Control

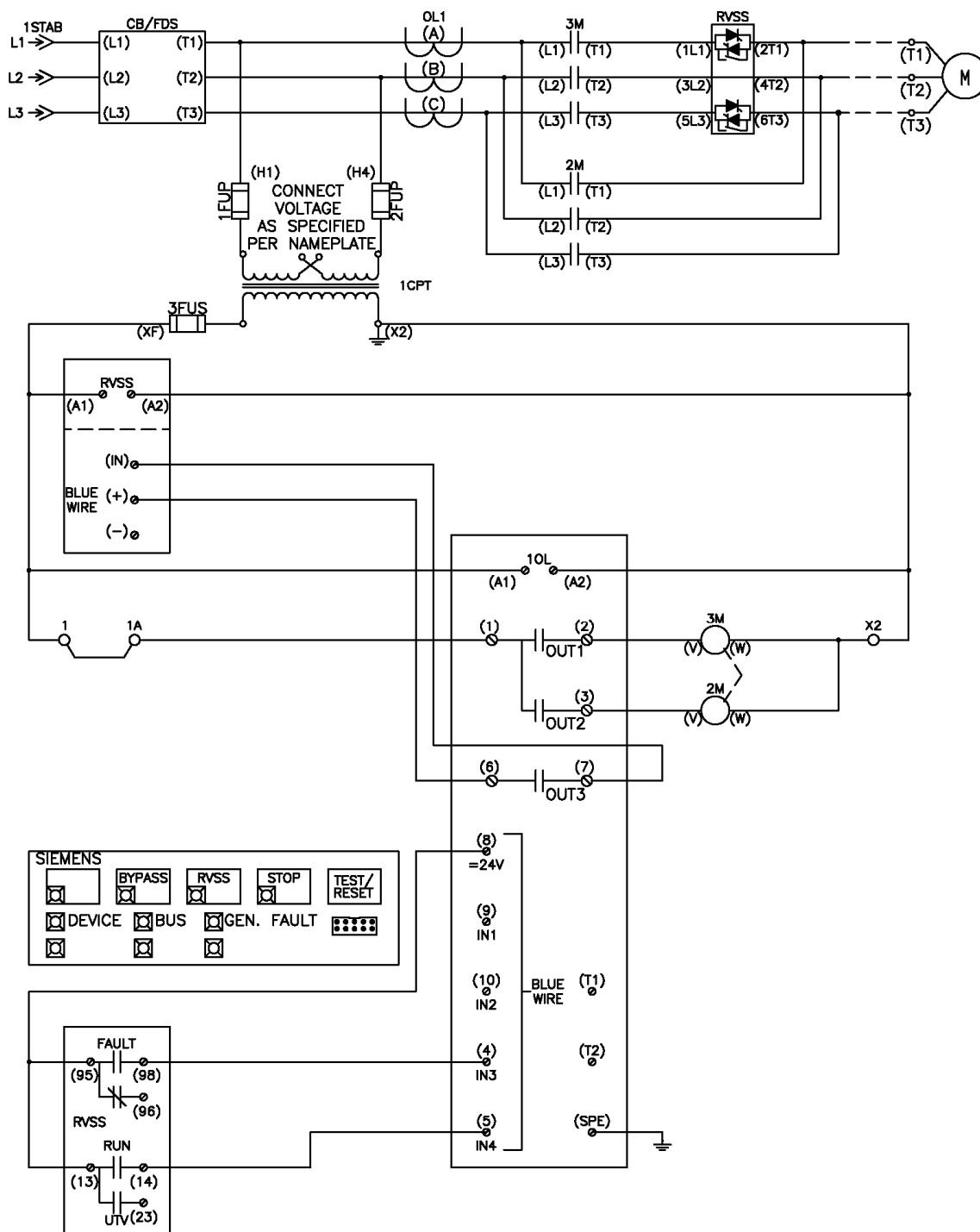
## Reference Manual

### PB82

RVSS – Profibus Bit Operation Mode Selection –

Local 3-Wire OP – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

#### Connection Diagram

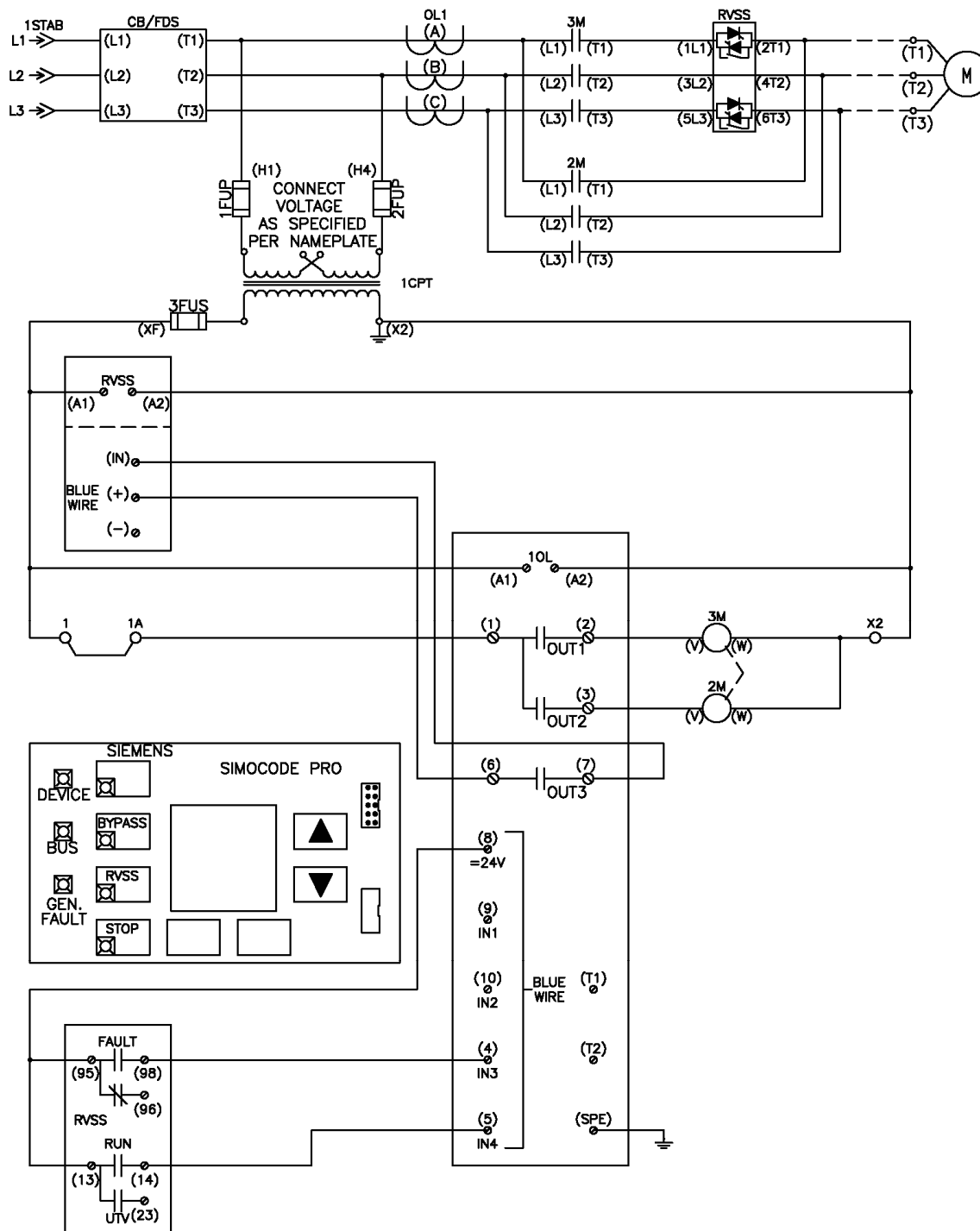


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB82

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire OPD – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB82

### RVSS – Profibus Bit Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. Operator Panel Button 3 (RVSS) is connected to the ON > Control Command, Operator Panel Button 2 (BYPASS) is connected to the ON < Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the RVSS the OP RVSS Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor the OP BYPASS Pushbutton is depressed. The ON< Control Command is then triggered, causing SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event the SIMOCODE Outputs 2 and 3 will open.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB82

### RVSS – Profibus Bit Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

#### Operating Instructions

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event the SIMOCODE Outputs 2 and 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Input 3 will indicate RVSS Fault Status only.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB82

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

### Parameter Detail

Control Selection and Operation

**Control Station**

Operation Mode Selector

Cyclic Receive - Bit 0.5

Fixed Level - 1"

Local Control (LC)

Not connected

Not connected

Not connected

Not connected

Not connected

PLC/DCS (DP)

Not connected

Cyclic Receive - Bit 0.0

Cyclic Receive - Bit 0.1

Cyclic Receive - Bit 0.2

Not connected

PC (DPV1)

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel (OP)

Not connected

OP - Button 2

OP - Button 4

OP - Button 3

Not connected

	Local 1	Local 2	Local 3	Remote
Releaser				
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Released Control Command				<input type="checkbox"/>
Preferred for direct Control of Control Functions				<input type="checkbox"/>

Released Control Command

Preferred for direct Control of Control Functions

On<<

On<

Off

On>

On>>



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB82

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

BU - Input 4

BU - Output 2

Contactor Control - 2 OE2

BU - Output 3

Contactor Control - 1 QE1

External Fault 1

External Fault - Input

BU - Input 3

External Fault - Reset

Not connected

Response

tripping

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1.2.3

☐ Off Command Reset

Labeling

RVSS FAULT

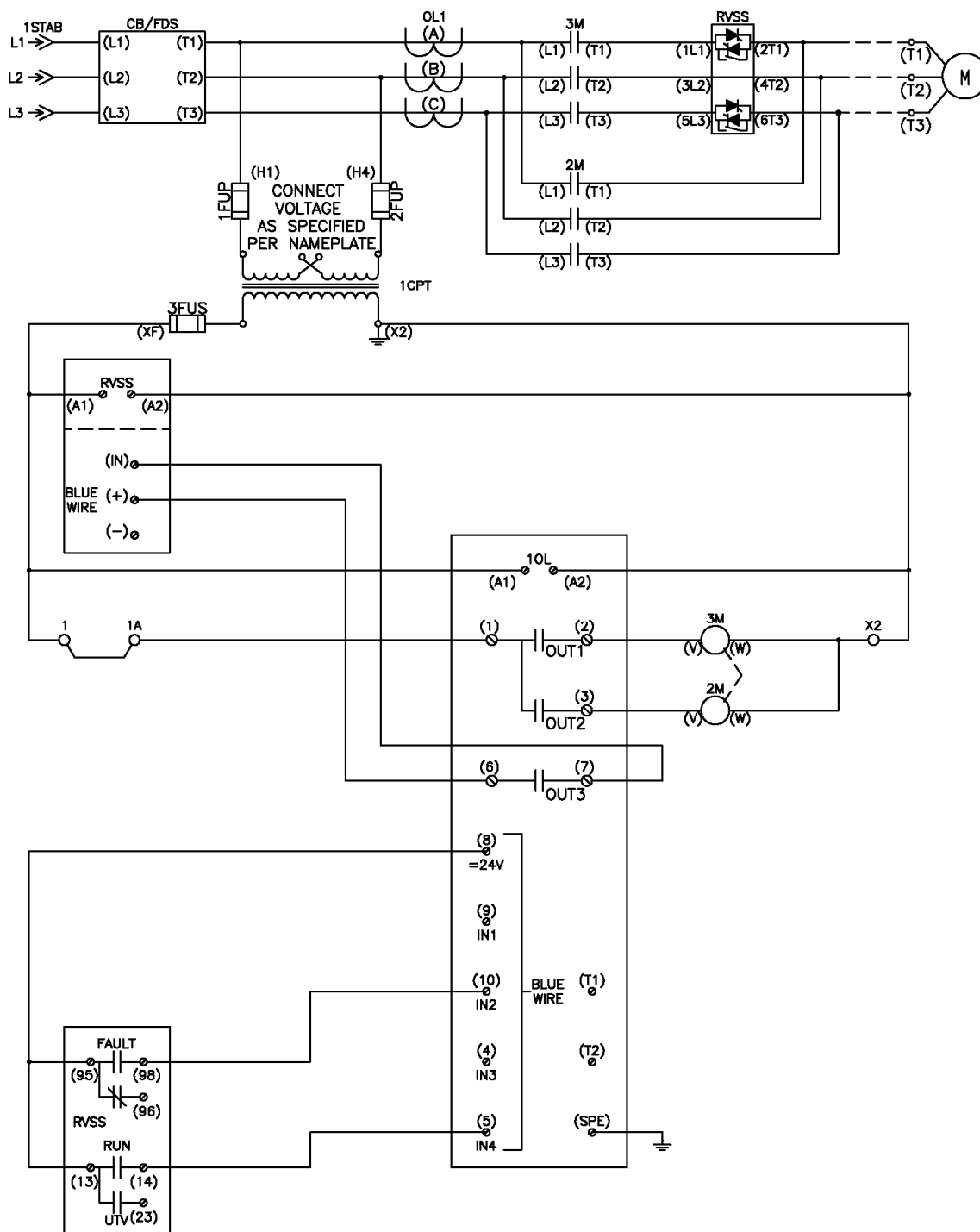
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB83

RVSS – Profibus Bit Operation Mode Selection –  
No Local – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

#### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB83

#### RVSS – Profibus Bit Operation Mode Selection – No Local – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

##### Operating Instructions

###### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

###### Local Control (for field commissioning purposes only)

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Input 1 and SIMOCODE Input 3.
2. To engage the RVSS the SIMOCODE Input 1 is activated. The ON > Control Command is then triggered causing the SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Input 4 is then activated causing the SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor the SIMOCODE Input 3 is activated. The ON < Control Command is then triggered causing the SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the SIMOCODE Input 1 and the SIMOCODE Input 3 are deactivated. The OFF Control Command is then triggered causing the SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Input 4 is deactivated causing the SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event the SIMOCODE Output 2 and SIMOCODE Output 3 will open.

# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB83

#### RVSS – Profibus Bit Operation Mode Selection – No Local – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

##### Operating Instructions

###### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event the SIMOCODE Outputs 2 and 3 will open.

###### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Input 2 will indicate RVSS Fault Status only.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB83

RVSS – Profibus Bit Operation Mode Selection –  
No Local – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - Bit 0.5

Fixed Level - '1'

Local Control (LC)

Not connected

BU - Input 3

Truth Table 1 3I/1O - Output

BU - Input 1

Not connected

PLC/DCS (DP)

Not connected

Cyclic Receive - Bit 0.0

Truth Table 2 3I/1O - Output

Cyclic Receive - Bit 0.2

Not connected

PC (DPV1)

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel (OP)

Not connected

Not connected

Not connected

Not connected

Not connected/Mod

51

'0'

'0'

'1'

'1'

52

'0'

'1'

'0'

'1'

Local 1

Local 2

Local 3

Remote

On

On (enabled)

Off

Off (enabled)

On

On (enabled)

Off

Off (enabled)

On

On (enabled)

Off

Off (enabled)

On

On (enabled)

Off

Off (enabled)

On

On (enabled)

Off

Off (enabled)

On

On (enabled)

Off

Off (enabled)

Released

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

Released Control Command

On

On

Off

On

On

Preferred for direct Control of Control Functions

On

On

Off

On

On

Truth Table 1 3I/1O

Truth Table - Input 1

Not connected

Truth Table - Input 2

BU - Input 1

Truth Table - Input 3

BU - Input 3

Truth Table 3I/1O

I1	I2	I3	O
0	0	0	0
0	0	1	1
0	1	0	1
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

Truth Table 2 3I/1O

Truth Table - Input 1

Not connected

Truth Table - Input 2

Cyclic Receive - Bit 0.0

Truth Table - Input 3

Cyclic Receive - Bit 0.2

Truth Table 3I/1O

I1	I2	I3	O
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB83

RVSS – Profibus Bit Operation Mode Selection –  
No Local – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

### Parameter Detail

RVSS Control and Operation

The screenshot displays the 'RVSS Control and Operation' configuration interface. It is organized into several sections: 'Basic Unit', 'External Fault 1', 'Type', 'Activity', 'External Fault - Reset also by', and 'Naming'. Each section contains specific parameters that can be configured via dropdown menus, checkboxes, or text input fields.

Basic Unit	
BU - Output 1	DM1 - Input 2
BU - Output 2	Contactor Control - 2 OE2
BU - Output 3	Contactor Control - 1 QE1

External Fault 1	
External Fault - Input	DM1 - Input 1
External Fault - Reset	Not connected
Response	tripping

Type	
<input checked="" type="radio"/> normally open (NO)	<input type="radio"/> normally closed (NC)

Activity	
<input checked="" type="radio"/> always	<input type="radio"/> only if motor runs

External Fault - Reset also by	
<input checked="" type="checkbox"/> Test/Reset Button, RS232 (Panel Reset)	<input type="checkbox"/> Auto-Reset
<input checked="" type="checkbox"/> Remote Reset, Reset 1.2.3	<input type="checkbox"/> Dll Command-Reset

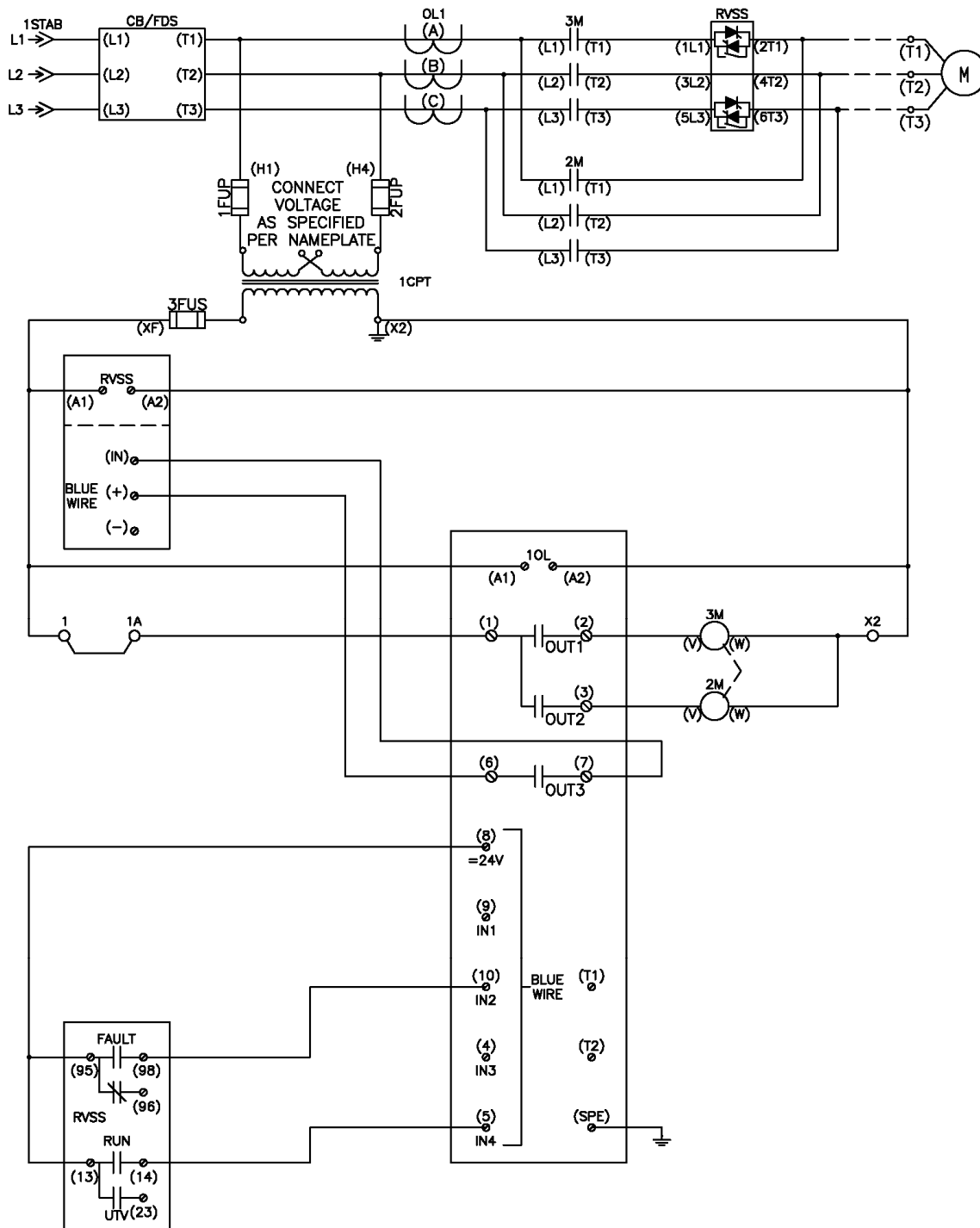
Naming	
Marking	RVSS FAULT

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB84

RVSS – Profibus Bit Operation Mode Selection –  
No Local – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB84

### RVSS – Profibus Bit Operation Mode Selection – No Local – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control (for field commissioning purposes only)

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Input 1 and SIMOCODE Input 3.
2. To engage the RVSS SIMOCODE Input 1 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor SIMOCODE Input 3 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor SIMOCODE Input 1 and SIMOCODE Input 3 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event the SIMOCODE Outputs 2 and 3 will open.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB84

### RVSS – Profibus Bit Operation Mode Selection – No Local – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

#### Operating Instructions

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time)
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event the SIMOCODE Outputs 2 and 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Input 2 will indicate RVSS Fault Status only.

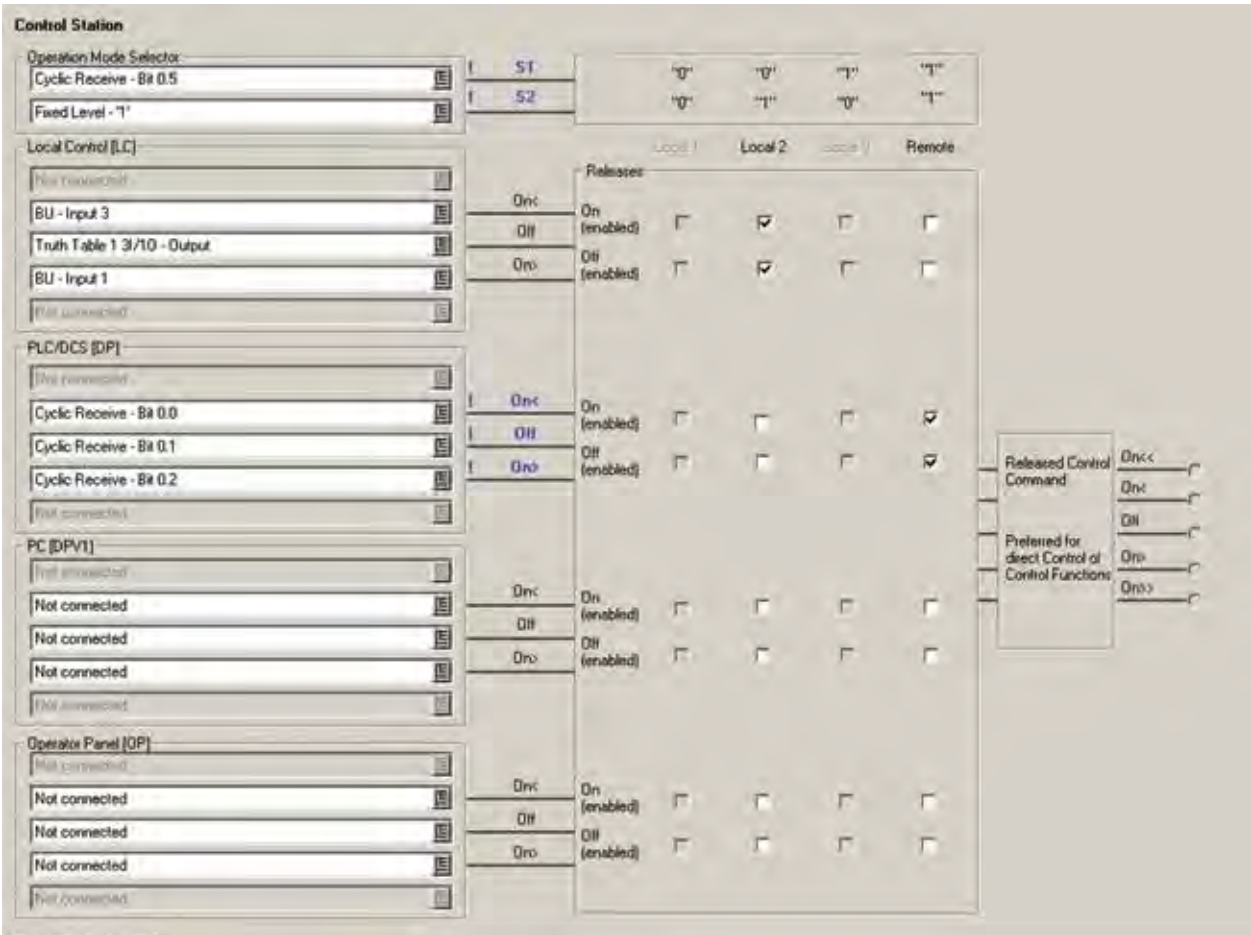
# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB84

RVSS – Profibus Bit Operation Mode Selection –  
No Local – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

### Parameter Detail

Control Selection and Operation



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB84

RVSS – Profibus Bit Operation Mode Selection –  
No Local – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

### Operating Instructions

RVSS Control and Operation

**Basic Unit**

BU - Output 1 BU - Input 4

BU - Output 2 Contactor Control - 2 OE2

BU - Output 3 Contactor Control - 1 OE1

**External Fault 1**

External Fault - Input BU - Input 2

External Fault - Reset Not connected

Response tripping

Type

☒ normally open (NO) ☐ normally closed (NC)

Activity

☒ always ☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset) ☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3 ☐ Dll Command-Reset

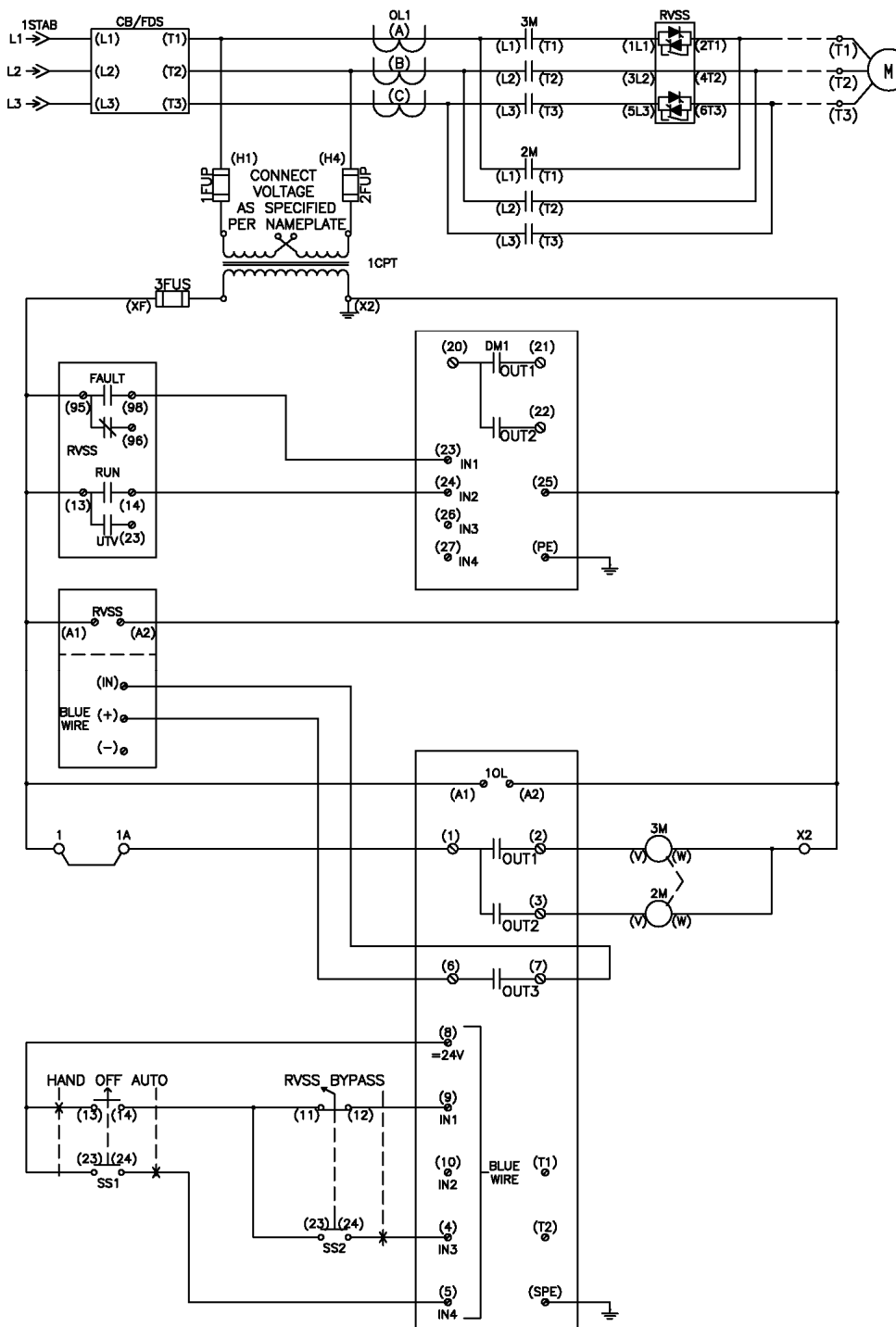
Labeling RVSS FAULT

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB85

RVSS – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB85

### RVSS – Selector Switch Operation Mode Selection – Local 2-Wire SS – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Input 1 and SIMOCODE Input 3.
2. To engage the RVSS the Selector Switch is placed into the RVSS position. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor the Selector Switch is placed into the BYPASS position. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time)
7. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Outputs 2 and 3 will open.

# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB85

#### RVSS – Selector Switch Operation Mode Selection – Local 2-Wire SS – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

##### Operating Instructions

###### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time)
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event the SIMOCODE Outputs 2 and 3 will open.

###### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Digital Module Input 1 will indicate RVSS Fault Status only.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB85

RVSS – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

### Parameter Detail

Control Selection and Operation

**Control Station**

**Operation Mode Selector**

Cyclic Receive - BR 0.5

BU - Input 4

**Local Control (LC)**

Not connected

BU - Input 3

Truth Table 1 3/10 - Output

BU - Input 1

Not connected

**PLC/DCS (DP)**

Not connected

Cyclic Receive - BR 0.0

Truth Table 2 3/10 - Output

Cyclic Receive - BR 0.2

Not connected

**PC (DPV)**

Not connected

Not connected

Not connected

Not connected

**Operator Panel (OP)**

Not connected

Not connected

Not connected

Not connected

**Truth Table 1 3/10**

Truth Table - Input 1: Not connected

Truth Table - Input 2: BU - Input 1

I1	I2	I3	Q
0	0	0	0
0	0	1	1
0	1	0	1
0	1	1	0
1	0	0	0
1	0	1	0

**Releaser**

	Local 1	Local 2	Local 3	Remote
On (enabled)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Released Control Command**

On

Off

On

Off

**Released for direct Control of Control Functions**

On

Off

On

Off

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB85

RVSS – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

DM1 - Input 2

BU - Output 2

Contactor Control - 2 OE2

BU - Output 3

Contactor Control - 1 QE1

External Fault 1

External Fault - Input

DM1 - Input 1

External Fault - Reset

Not connected

Response

tripping

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Off Command-Reset

Masking

RVSS FAULT





# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB86

### RVSS – Selector Switch Operation Mode Selection – Local 2-Wire SS – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Input 1 and SIMOCODE Input 3.
2. To engage the RVSS the Selector Switch is placed into the RVSS position. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor the Selector Switch is placed into the BYPASS position. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time)
7. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB86

### RVSS – Selector Switch Operation Mode Selection – Local 2-Wire SS – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

#### Operating Instructions

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time)
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event the SIMOCODE Outputs 2 and 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Digital Module Input 1 will indicate RVSS Fault Status only.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB86

RVSS – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

### Parameter Detail

## Control Selection and Operation

**Control Station**

**Operation Mode Selector**

Cyclic Receive - Bt 0.5	I S1	'0'	'0'	'1'	'1'
BU - Input 4	S2	'0'	'1'	'0'	'1'

**Local Control [LC]**

Not connected						
BU - Input 3	On<	On (enabled)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Truth Table 1 3I/1O - Output	Off	Off (enabled)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
BU - Input 1	On>	On (enabled)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Not connected						

**PLC/DCS [DP]**

Not connected						
Cyclic Receive - Bt 0.0	I On<	On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cyclic Receive - Bt 0.1	I Off	Off (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cyclic Receive - Bt 0.2	I On>	On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not connected						

**PC [DPV1]**

Not connected						
Not connected	On<	On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not connected	Off	Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not connected	On>	On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not connected						

**Operator Panel [OP]**

Not connected						
Not connected	On<	On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not connected	Off	Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not connected	On>	On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not connected						

**Released Control Command**

**Preferred for direct Control of Control Functions**

Released Control Command On< On> Off On< On>

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB86

RVSS – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

DM1 - Input 2

BU - Output 2

Contactor Control - 2 OE2

BU - Output 3

Contactor Control - 1 QE1

External Fault 1

External Fault - Input

DM1 - Input 1

External Fault - Reset

Not connected

Response

tripping

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1.2.3

☐ Dll Command-Reset

Making

RVSS FAULT

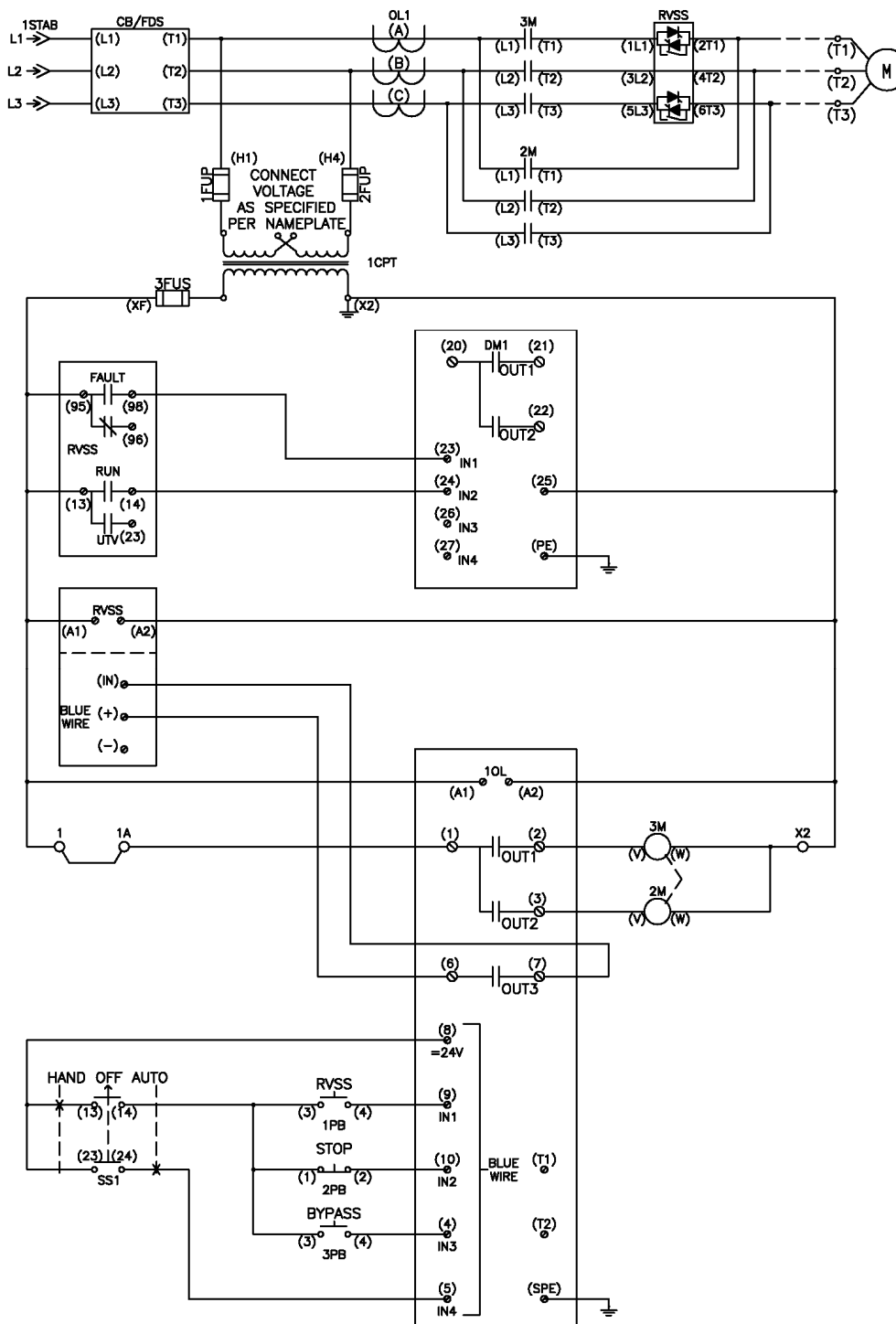
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB87

RVSS – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

#### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB87

### RVSS – Selector Switch Operation Mode Selection – Local 3-Wire SS/PB – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS the RVSS Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor the BYPASS Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON< Control Command is then triggered, causing SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor two methods are available. First, while the Selector Switch is placed into the HAND position the Stop Pushbutton is depressed. Second, the Selector Switch is placed into the OFF position. For either action the OFF Control Command is then triggered, causing SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time)
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event the SIMOCODE Outputs 2 and 3 will open.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB87

### RVSS – Selector Switch Operation Mode Selection – Local 3-Wire SS/PB – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

#### Operating Instructions

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time)
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event the SIMOCODE Outputs 2 and 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Input 3 will indicate RVSS Fault Status only.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB87

RVSS – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

### Parameter Detail

Control Selection and Operation

**Control Station**

Operation Mode Selector

Cyclic Receive - Bit 0.5

BU - Input 4

Local Control [LC]

Not connected

BU - Input 3

BU - Input 2

BU - Input 1

Not connected

PLC/OCS [DP]

Not connected

Cyclic Receive - Bit 0.0

Truth Table 2 3/10 - Output

Cyclic Receive - Bit 0.2

Not connected

PC [DPV1]

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel [OP]

Not connected

Not connected

Not connected

Not connected

Not connected

Truth Table 2 3/10

Truth Table - Input 1

Not connected

Truth Table - Input 2

Cyclic Receive - Bit 0.0

Truth Table - Input 3

Cyclic Receive - Bit 0.2

Truth Table 3/10

I1	I2	I3	O
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

Released Control Command

On<

On

Off

On>

On>>

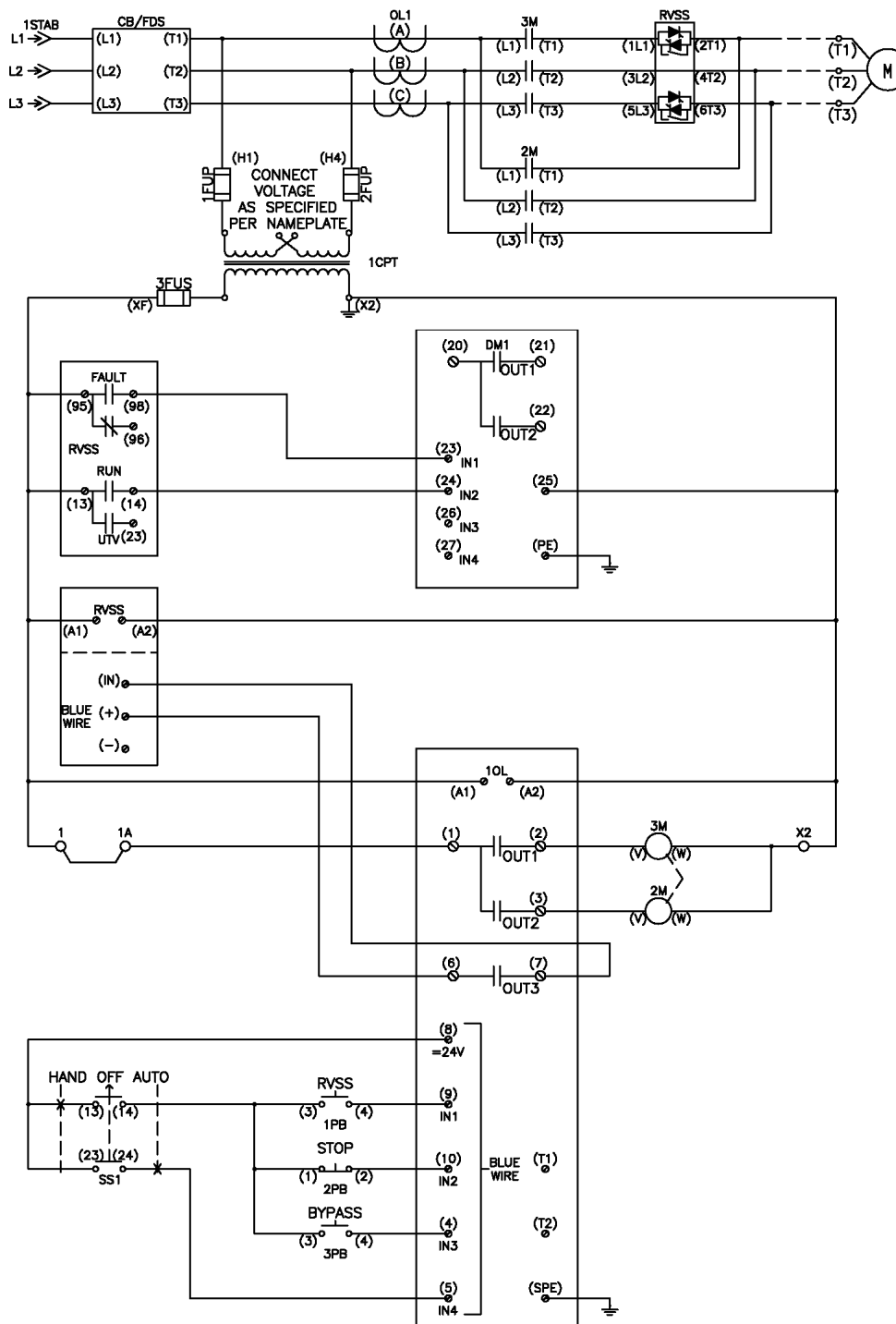


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB88

RVSS – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB88

### RVSS – Selector Switch Operation Mode Selection – Local 3-Wire SS/PB – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS the RVSS Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor the BYPASS Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON< Control Command is then triggered, causing SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor two methods are available. First, while the Selector Switch is placed into the HAND position the Stop Pushbutton is depressed. Second, the Selector Switch is placed into the OFF position. For either action the OFF Control Command is then triggered, causing SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event the SIMOCODE Outputs 2 and 3 will open.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB88

### RVSS – Selector Switch Operation Mode Selection – Local 3-Wire SS/PB – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

#### Operating Instructions

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time)
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event the SIMOCODE Outputs 2 and 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Input 3 will indicate RVSS Fault Status only.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB88

RVSS – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

### Parameter Detail

Control Selection and Operation

**Control Station**

**Operation Mode Selector**

Cyclic Receive - Bit 0.5 ☐ S1

BU - Input 4 ☐ S2

**Local Control [LC]**

Not connected ☐

BU - Input 3 ☐

BU - Input 2 ☐

BU - Input 1 ☐

Not connected ☐

**PLC/DCS [DP]**

Not connected ☐

Cyclic Receive - Bit 0.0 ☐

Cyclic Receive - Bit 0.1 ☐

Cyclic Receive - Bit 0.2 ☐

Not connected ☐

**PC [DPV1]**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Operator Panel [OP]**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

	Local 1	Local 2	Local 3	Remote
<b>Releases</b>				
On (enabled)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Released Control Command ☐

Preferred for direct Control of Control Functions ☐

On ☐

Off ☐

On ☐

Off ☐

On ☐

Off ☐

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB88

RVSS – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

DM1 - Input 2

BU - Output 2

Contactor Control - 2 QE2

BU - Output 3

Contactor Control - 1 QE1

External Fault 1

External Fault - Input

DM1 - Input 1

External Fault - Reset

Not connected

Response

tripping

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Dll Command-Reset

Marking

RVSS FAULT





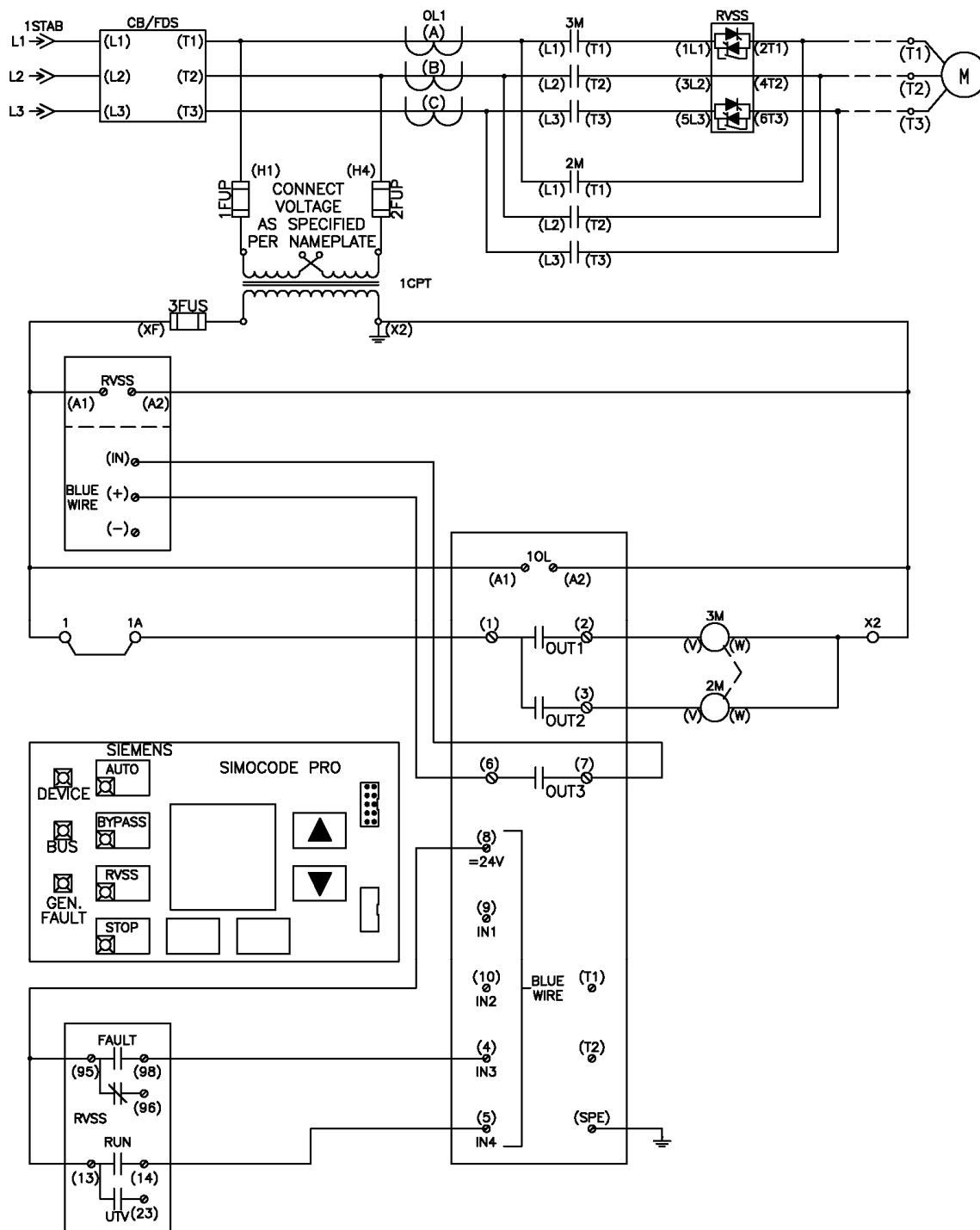


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB89

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OPD – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB89

#### RVSS – Operator Panel Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

##### Operating Instructions

###### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Non-Volatile Element 1 Output is connected to the Operation Mode Selector S2. Operator Panel Button 1 (AUTO) is connected to Non-Volatile Element 1 for an edge rising latch as well as to Counter 1 for latch reset. Counter 1 is connected to Non-Volatile Element 2 to maintain Operation Mode selection during loss of control power.
2. To engage Local Operation Mode the Non-Volatile Element 1 Output is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode the Non-Volatile Element 1 Output is activated while Profibus Cyclic Receive Bit 0.5 is deactivated. When mode is active indication is provided via LED on Operator Panel Button 1.
4. To engage Remote Operation Mode the Non-Volatile Element 1 Output and Profibus Cyclic Receive Bit 0.5 (maintained signal) are activated. This mode does not permit sending parameter data from the PLC/DCS. When mode is active indication is provided via LED on Operator Panel Button 1.

###### Local Control

1. Operator Panel Button 3 (RVSS) is connected to the ON > Control Command, Operator Panel Button 2 (BYPASS) is connected to the ON < Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the RVSS Contactor the OP RVSS Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor the OP BYPASS Pushbutton is depressed. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event the SIMOCODE Outputs 2 and 3 will open.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB89

### RVSS – Operator Panel Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

#### Operating Instructions

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event the SIMOCODE Outputs 2 and 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Input 3 will indicate RVSS Fault Status only.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB89

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 2-Wire 3RW40 w/Input Isolation and Bypass

### Parameter Detail

AUTO Toggle Operation

**Non-Volatile Element 1**

Non-Volatile Element - Type: edge rising with memory

Non-Volatile Element - Input: OP - Button 1

Non-Volatile Element - Reset: Non-Volatile Element 2 - Output

**Counter 1**

Counter - Limit: 2

Counter - Input +: OP - Button 1

Counter - Input -: Not connected

Counter - Reset: Non-Volatile Element 2 - Output

**Non-Volatile Element 2**

Non-Volatile Element - Type: non inverting

Non-Volatile Element - Input: Counter 1 - Output

Non-Volatile Element - Reset: Not connected

RVSS Control and Operation

**Basic Unit**

BU - Output 1: BU - Input 4

BU - Output 2: Contactor Control - 2 QE2

BU - Output 3: Contactor Control - 1 QE1

**External Fault 1**

External Fault - Input: BU - Input 3

External Fault - Reset: Not connected

Response: tripping

Type

☒ normally open (NO) ☐ normally closed (NC)

Activity

☒ always ☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset) ☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3 ☐ DIF Command-Reset

Marking: RVSS FAULT

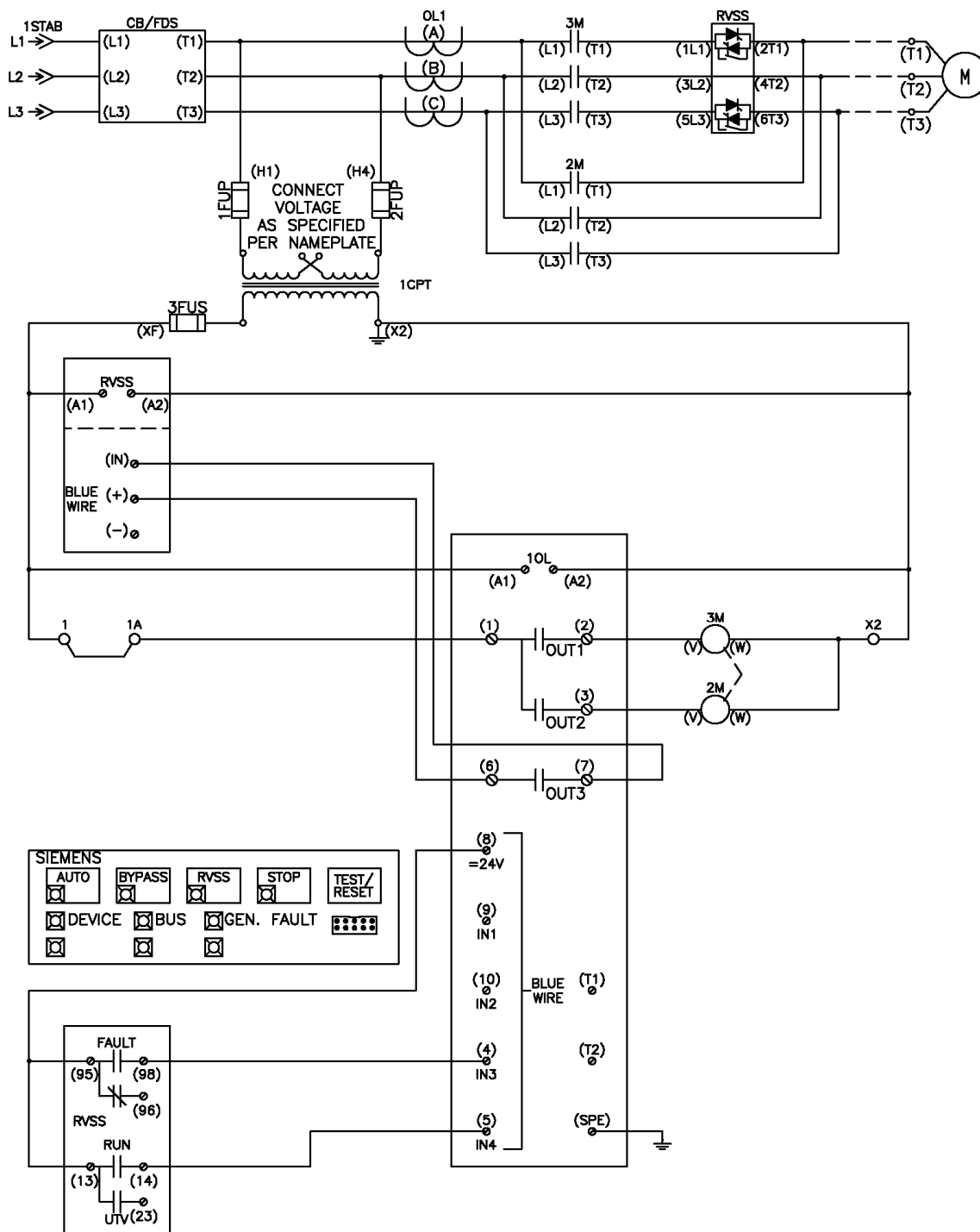
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB90

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OP – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

#### Connection Diagram





# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB90

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Non-Volatile Element 1 Output is connected to the Operation Mode Selector S2. Operator Panel Button 1 (AUTO) is connected to Non-Volatile Element 1 for an edge rising latch as well as to Counter 1 for latch reset. Counter 1 is connected to Non-Volatile Element 2 to maintain Operation Mode selection during loss of control power.
2. To engage Local Operation Mode the Non-Volatile Element 1 Output is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode the Non-Volatile Element 1 Output is activated while Profibus Cyclic Receive Bit 0.5 is deactivated. When mode is active indication is provided via LED on Operator Panel Button 1.
4. To engage Remote Operation Mode the Non-Volatile Element 1 Output and Profibus Cyclic Receive Bit 0.5 (maintained signal) are activated. This mode does not permit sending parameter data from the PLC/DCS. When mode is active indication is provided via LED on Operator Panel Button 1.

##### Local Control

1. Operator Panel Button 3 (RVSS) is connected to the ON > Control Command, Operator Panel Button 2 (BYPASS) is connected to the ON < Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the RVSS Contactor the OP RVSS Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor the OP BYPASS Pushbutton is depressed. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event the SIMOCODE Outputs 2 and 3 will open.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB90

### RVSS – Operator Panel Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

#### Operating Instructions

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 3 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing SIMOCODE Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 2 and Output 3 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event the SIMOCODE Outputs 2 and 3 will open.

##### Reset Control

1. General Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. RVSS Fault conditions may be reset via the RESET button located on the unit enclosure door. SIMOCODE Input 3 will indicate RVSS Fault Status only.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB90

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 3-Wire 3RW40 w/Input Isolation and Bypass

### Parameter Detail

AUTO Toggle Operation

**Non-Volatile Element 1**

Non-Volatile Element - Type: edge rising with memory

Non-Volatile Element - Input: OP - Button 1

Non-Volatile Element - Reset: Non-Volatile Element 2 - Output

**Counter 1**

Counter - Limit: 2

Counter - Input +: OP - Button 1

Counter - Input -: Not connected

Counter - Reset: Non-Volatile Element 2 - Output

**Non-Volatile Element 2**

Non-Volatile Element - Type: non inverting

Non-Volatile Element - Input: Counter 1 - Output

Non-Volatile Element - Reset: Not connected

### RVSS Control and Operation

**Basic Unit**

BU - Output 1: BU - Input 4

BU - Output 2: Contactor Control - 2 QE2

BU - Output 3: Contactor Control - 1 QE1

**External Fault 1**

External Fault - Input: BU - Input 3

External Fault - Reset: Not connected

Response: tripping

Type

☒ normally open (NO) ☐ normally closed (NC)

Activity

☒ always ☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset) ☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3 ☐ Off Command-Reset

Labeling: RVSS FAULT

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## 10. 3RW44 Reduced Voltage Soft Starter with Optional Input Isolation Contactor

The reduced voltage soft starter uses an SCR equipped solid state controller to provide smooth, stepless acceleration by controlling the applied voltage, current, and torque to the motor terminals for single-speed, full-voltage operation. An optional input isolation contactor is integrated into the design to provide complete voltage removal to the motor windings.

**The basic RVSS operation of this starter is as follows:**

1. A local or remote start signal is given to the SIMOCODE Pro.
2. The SIMOCODE Pro Output 1 closes giving the RVSS a signal to begin operation.
3. The RVSS RUN contact closes relaying the SIMOCODE Pro to close Output 3 which energizes the coil of Input Isolation Contactor 3M if equipped.
4. With 3-phase voltage applied the RVSS follows its settings for ramp-up, run, and internal bypass.
5. A local or remote stop signal is given to the SIMOCODE Pro.
6. The SIMOCODE Pro Output 1 opens giving the RVSS a signal to stop operation.
7. The RVSS follows its settings for ramp-down opening the RVSS RUN contact when the designated time has elapsed.
8. With the RVSS RUN contact open the SIMOCODE Pro opens its Output 3 which de-energizes the coil of Input Isolation Contactor 3M if equipped.
9. If a fault occurs at any time the SIMOCODE Pro will end the starter operation.

The RVSS auxiliary contacts are connected to the SIMOCODE Pro inputs to provide starter control as well as operation feedback over Profibus-DP.

- o The RVSS RUN contact provides direct control over the 3M input isolation contactor and starter condition feedback. When active the contact will signal the SIMOCODE Pro to close Output 3 to energize the 3M Isolation Contactor coil. This contact will switch states during ramp-up, internal bypass, and ramp-down.
- o The RVSS FAULT contact provides starter condition feedback. When active the contact will signal the SIMOCODE Pro to trigger an external fault command. This contact will switch states during thyristor thermal overload, phase failure, no load voltage, mains under-voltage, mains over-voltage, or equipment error.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB92

### RVSS – Profibus Bit Operation Mode Selection – Local 2-Wire SS – Remote 2-Wire 3RW44 w/opt. Input Isolation

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command and connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS the Selector Switch is placed into the ON position. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 3 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Signal Conditioner 1 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Profibus Cyclic Receive Bit 0.2 is connected to the Signal Conditioner 1 Input for inversion.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.2 is deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 3 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Reset Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. SIMOCODE Input 3 will indicate RVSS Fault status only.
3. RVSS Hardware Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.





# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB92

RVSS – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS – Remote 2-Wire 3RW44 w/opt. Input Isolation

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

Contactor Control - 1 QE1

BU - Output 2

Truth Table 3 3/10 - Output

BU - Output 3

BU - Input 4

External Fault 1

External Fault - Input

BU - Input 3

External Fault - Reset

Not connected

Response

tripping

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ DI1 Command-Reset

Marking

RVSS FAULT

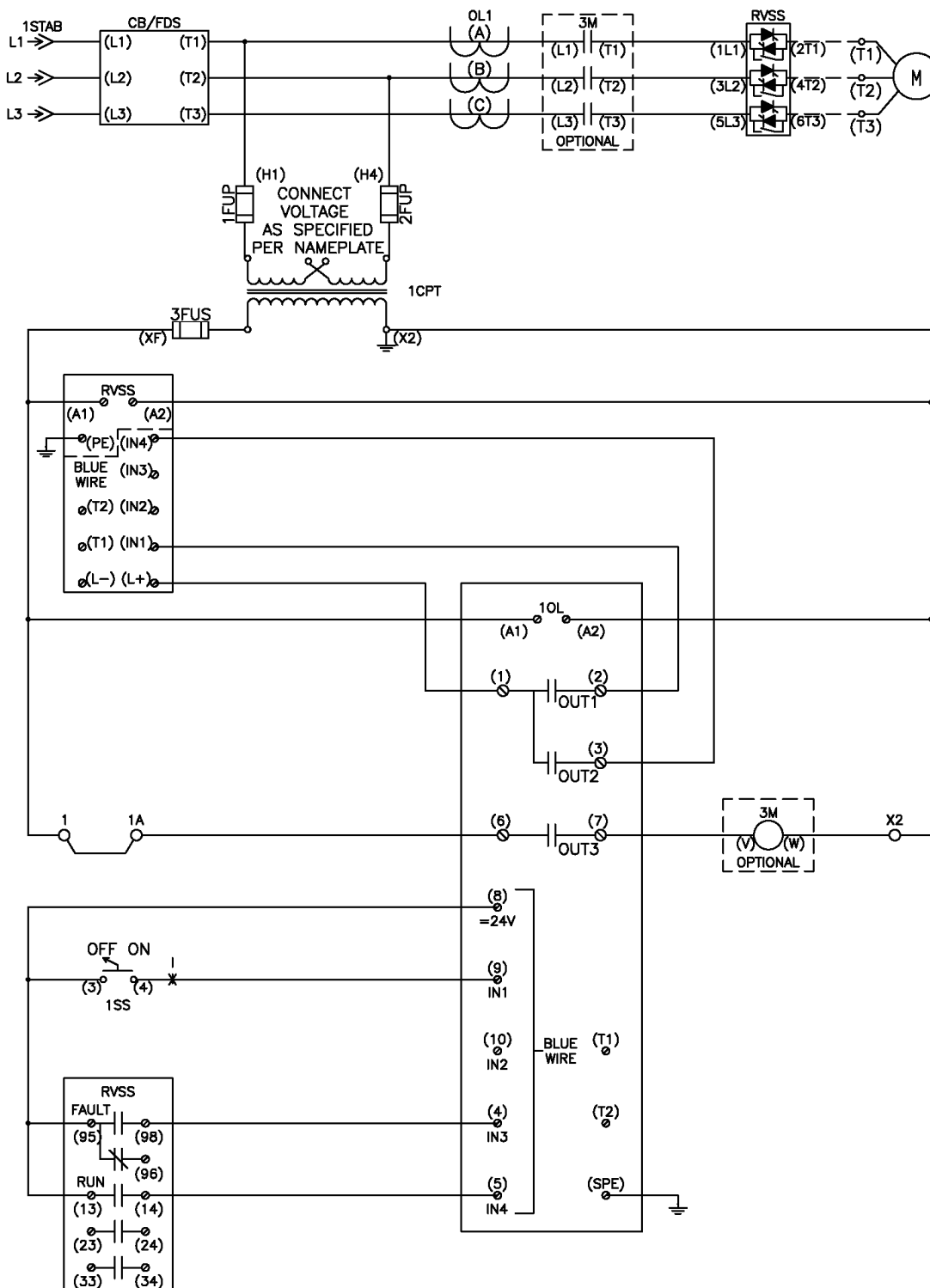


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB93

RVSS – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS – Remote 3-Wire 3RW44 w/opt. Input Isolation

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB93

### RVSS – Profibus Bit Operation Mode Selection – Local 2-Wire SS – Remote 3-Wire 3RW44 w/opt. Input Isolation

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command and connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS the Selector Switch is placed into the ON position. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 3 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 3 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Reset Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. SIMOCODE Input 3 will indicate RVSS Fault status only.
3. RVSS Hardware Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB93

RVSS – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS – Remote 3-Wire 3RW44 w/opt. Input Isolation

### Parameter Detail

Control Selection and Operation

**Control Station**

**Operation Mode Selector**

Cyclic Receive - Bit 0.5

Fixed Level - 1'

**Local Control (LC)**

Not connected

Not connected

BU - Input 1

BU - Input 1

Not connected

**PLC/DCS (DP)**

Not connected

Not connected

Cyclic Receive - Bit 0.1

Cyclic Receive - Bit 0.2

Not connected

**PC (DPV1)**

Not connected

Not connected

Not connected

Not connected

Not connected

**Operator Panel (OP)**

Not connected

Not connected

Not connected

Not connected

Not connected

	Local 1	Local 2	Local 3	Remote
Releases				
On (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Released Control Command

On<<

On<

On

On>

On>>

Preferred for direct Control of Control Functions

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB93

RVSS – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS – Remote 3-Wire 3RW44 w/opt. Input Isolation

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

Contactor Control - 1 QE1

BU - Output 2

Truth Table 3 3I/1O - Output

BU - Output 3

BU - Input 4

External Fault 1

External Fault - Input

BU - Input 3

External Fault - Reset

Not connected

Response

latching

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Dll Command-Reset

Marking

RVSS FAULT



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB94

### RVSS – Profibus Bit Operation Mode Selection – Local 3-Wire PB – Remote 2-Wire 3RW44 w/opt. Input Isolation

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS the Start Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS the Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 3 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Signal Conditioner 1 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Profibus Cyclic Receive Bit 0.2 is connected to the Signal Conditioner 1 Input for inversion.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.2 is deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 3 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Reset Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. SIMOCODE Input 3 will indicate RVSS Fault status only.
3. RVSS Hardware Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB94

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 2-Wire 3RW44 w/opt. Input Isolation

### Parameter Detail

Control Selection and Operation

**Control Station**

**Operation Mode Selector**

Cyclic Receive - Bit 0.5

Fixed Level - '1'

**Local Control (LC)**

Not connected

Not connected

BU - Input 2

BU - Input 1

Not connected

**PLC/DCS (DP)**

Not connected

Not connected

Signal Conditioner 1 - Output

Cyclic Receive - Bit 0.2

Not connected

**PC (DPV1)**

Not connected

Not connected

Not connected

Not connected

Not connected

**Operator Panel (OP)**

Not connected

Not connected

Not connected

Not connected

Not connected

**Signal Conditioner 1**

Signal Conditioner - Type: Inverting

Signal Conditioner - Input: Cyclic Receive - Bit 0.2

Signal Conditioner - Reset: Not connected

	Local 1	Local 2	Local 3	Remote
Releases				
On (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Released Control Command

Preferred for direct Control of Control Functions

On<C

On<C

On<C

On<C

On<C

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB94

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 2-Wire 3RW44 w/opt. Input Isolation

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

Contactor Control - 1 OE1

BU - Output 2

Truth Table 3 3I/1O - Output

BU - Output 3

BU - Input 4

External Fault 1

External Fault - Input

BU - Input 3

External Fault - Reset

Not connected

Response

latching

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Dll Command-Reset

Marking

RVSS FAULT



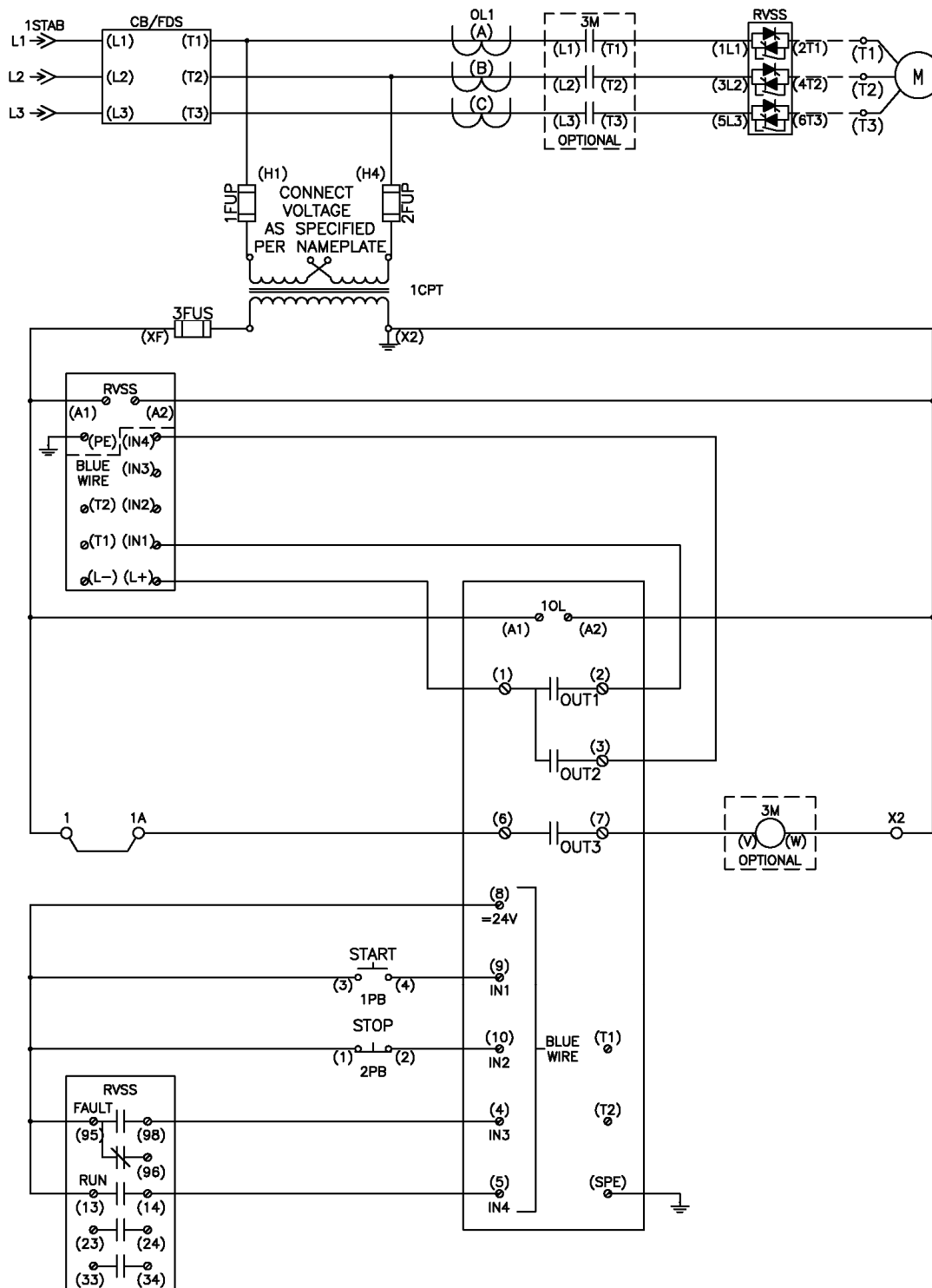
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB95

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 3-Wire 3RW44 w/opt. Input Isolation

#### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB95

### RVSS – Profibus Bit Operation Mode Selection – Local 3-Wire PB – Remote 3-Wire 3RW44 w/opt. Input Isolation

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS the Start Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS the Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 3 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 3 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Reset Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. SIMOCODE Input 3 will indicate RVSS Fault status only.
3. RVSS Hardware Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB95

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 3-Wire 3RW44 w/opt. Input Isolation

### Parameter Detail

Control Selection and Operation

**Control Station**

Operation Mode Selector

Cyclic Receive - Bz 0.5

Fixed Level - '1'

Local Control (LC)

Not connected

Not connected

BU - Input 2

BU - Input 1

Not connected

PLC/DCS (DP)

Not connected

Not connected

Cyclic Receive - Bz 0.1

Cyclic Receive - Bz 0.2

Not connected

PC (DPV1)

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel (OP)

Not connected

Not connected

Not connected

Not connected

Not connected

51

52

Local 1 Local 2 Local 3 Remote

Releases

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

Released Control Command

Preferred for direct Control of Control Functions

On<

On<

Off

On>

On>

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB95

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 3-Wire 3RW44 w/opt. Input Isolation

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

Contactor Control - 1 OE1

BU - Output 2

Truth Table 3 3I/1O - Output

BU - Output 3

BU - Input 4

External Fault 1

External Fault - Input

BU - Input 3

External Fault - Reset

Not connected

Response

latching

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Dll Command-Reset

Marking

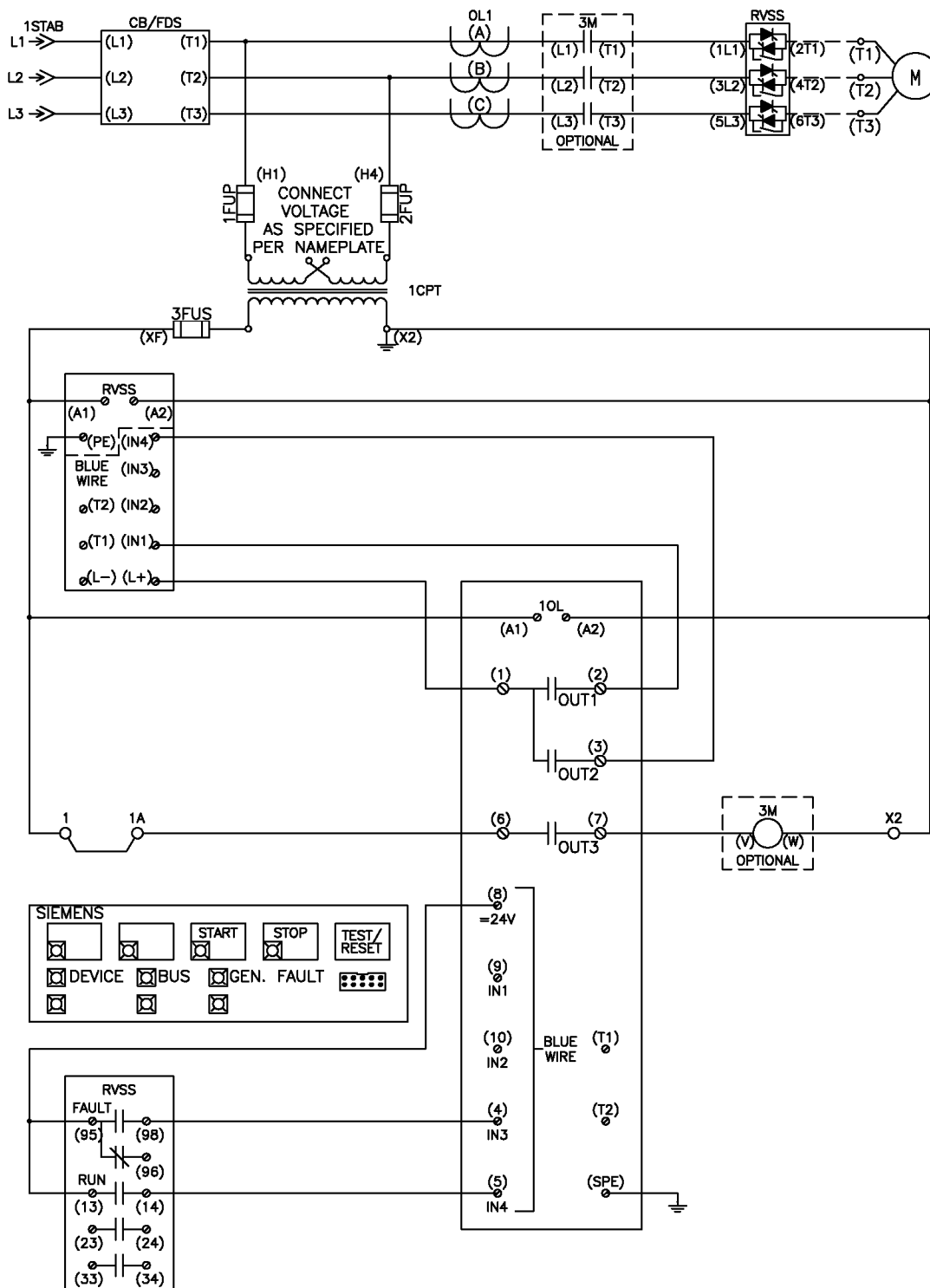
RVSS FAULT

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB96

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP – Remote 2-Wire 3RW44 w/opt. Input Isolation

### Connection Diagram

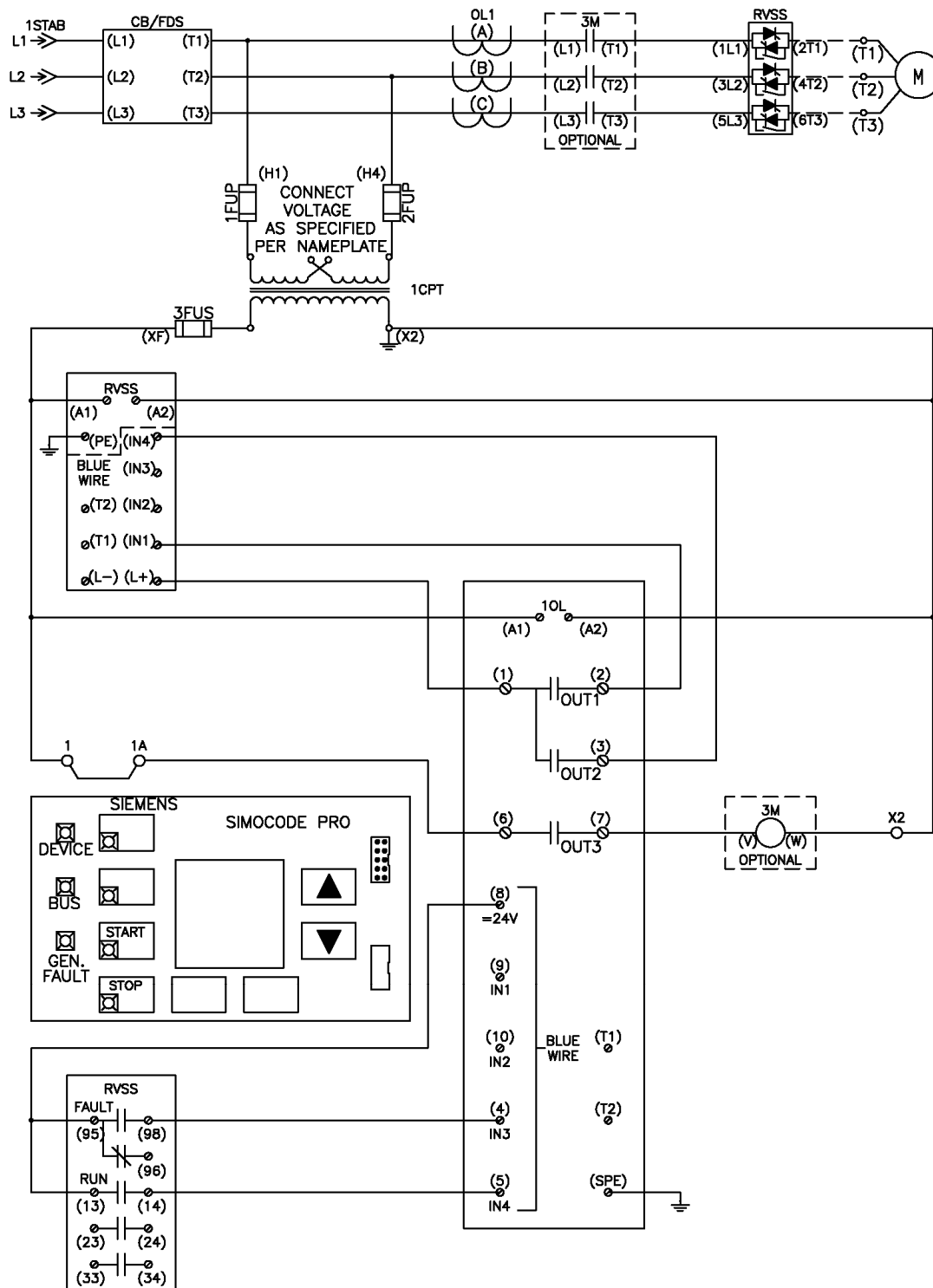


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB96

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire OPD –Remote 2-Wire 3RW44 w/opt. Input Isolation

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB96

### RVSS – Profibus Bit Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 2-Wire 3RW44 w/opt. Input Isolation

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. Operator Panel Button 3 (START) is connected to the ON > Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the RVSS the OP Start Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 3 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Signal Conditioner 1 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Profibus Cyclic Receive Bit 0.2 is connected to the Signal Conditioner 1 Input for inversion.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.2 is deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 3 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Reset Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. SIMOCODE Input 3 will indicate RVSS Fault status only.
3. RVSS Hardware Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB96

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 2-Wire 3RW44 w/opt. Input Isolation

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - Bit 0.5

Fixed Level - '1'

Local Control [LC]

Not connected

Not connected

Not connected

Not connected

Not connected

PLC/DCS [DP]

Not connected

Not connected

Signal Conditioner 1 - Output

Cyclic Receive - Bit 0.2

Not connected

PC [DPV1]

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel [OP]

Not connected

Not connected

OP - Button 4

OP - Button 3

Not connected

Signal Conditioner 1

Signal Conditioner - Type

inverting

Signal Conditioner - Input

Cyclic Receive - Bit 0.2

Signal Conditioner - Reset

Not connected

S1

S2

0'

0'

1'

1'

0'

1'

0'

1'

Local 1

Local 2

Local 3

Remote

Releases

On (enabled)

On (enabled)

On (enabled)

On (enabled)

On (enabled)

On (enabled)

On (enabled)

On (enabled)

Released Control Command

On<L

On<C

On#

On<-

On>-



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB96

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 2-Wire 3RW44 w/opt. Input Isolation

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

Contactor Control - 1 OE1

BU - Output 2

Truth Table 3 3I/1O - Output

BU - Output 3

BU - Input 4

External Fault 1

External Fault - Input

BU - Input 3

External Fault - Reset

Not connected

Response

latching

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Dll Command-Reset

Marking

RVSS FAULT



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB97

### RVSS – Profibus Bit Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 3-Wire 3RW44 w/opt. Input Isolation

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. Operator Panel Button 3 (START) is connected to the ON > Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the RVSS the OP Start Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 3 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 3 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Reset Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. SIMOCODE Input 3 will indicate RVSS Fault status only.
3. RVSS Hardware Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB97

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 3-Wire 3RW44 w/opt. Input Isolation

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

Contactor Control - 1 OE1

BU - Output 2

Truth Table 3 3I/1O - Output

BU - Output 3

BU - Input 4

External Fault 1

External Fault - Input

BU - Input 3

External Fault - Reset

Not connected

Response

tipping

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Dll Command-Reset

Marking

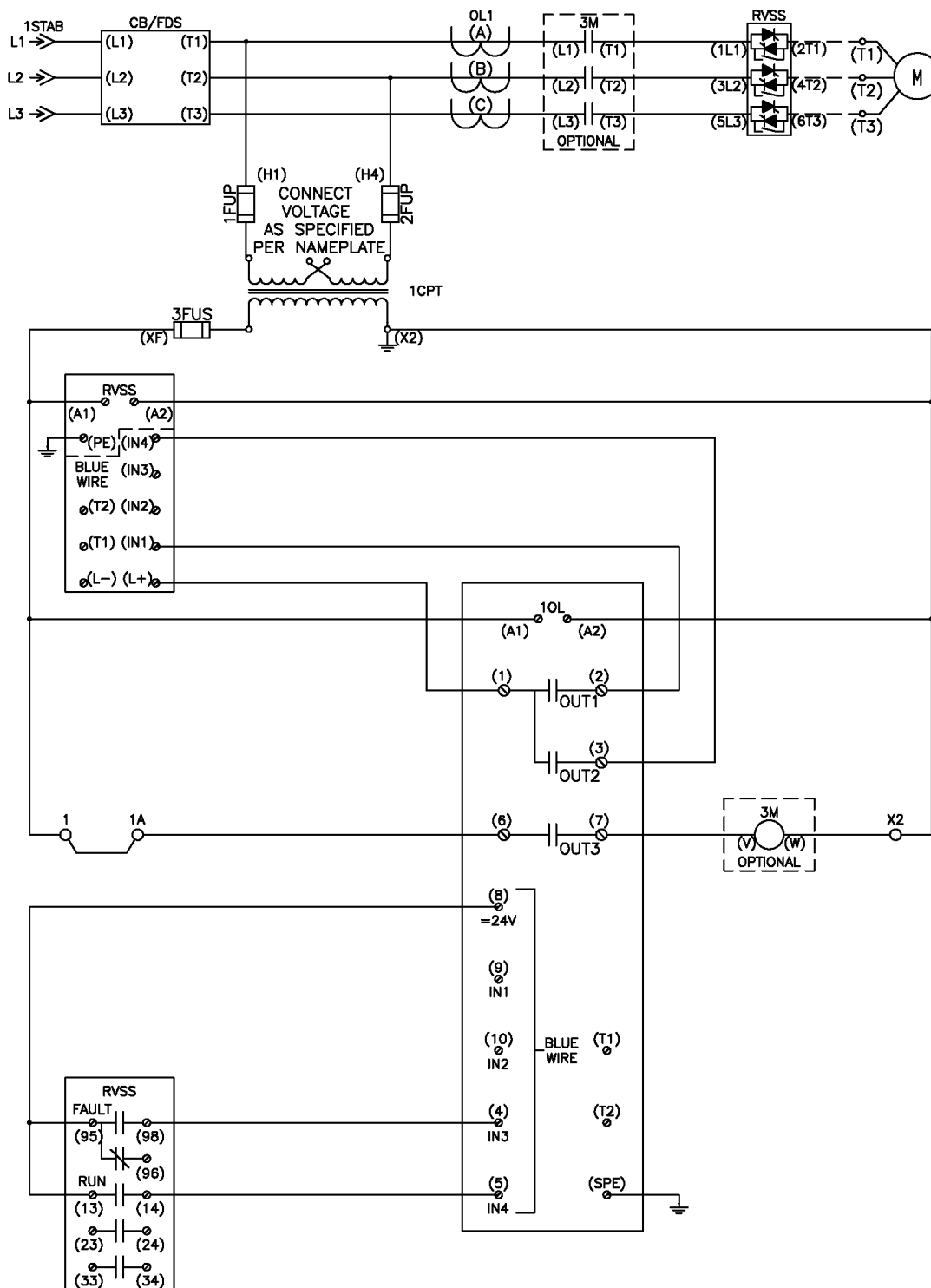
RVSS FAULT

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB98

RVSS – Profibus Bit Operation Mode Selection –  
No Local – Remote 2-Wire 3RW44 w/opt. Input Isolation

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB98

### RVSS – Profibus Bit Operation Mode Selection – No Local – Remote 2-Wire 3RW44 w/opt. Input Isolation

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control (for field commissioning purposes only)

1. SIMOCODE Input 1 is connected to the ON > Control Command and connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS SIMOCODE Input 1 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS SIMOCODE Input 1 is deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 3 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Signal Conditioner 1 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Profibus Cyclic Receive Bit 0.2 is connected to the Signal Conditioner 1 Input for inversion.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.2 is deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 3 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Reset Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. SIMOCODE Input 3 will indicate RVSS Fault status only.
3. RVSS Hardware Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB98

RVSS – Profibus Bit Operation Mode Selection –  
No Local – Remote 2-Wire 3RW44 w/opt. Input Isolation

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - Bit 0.5

Fixed Level - '1'

Local Control [LC]

Not connected

Not connected

BU - Input 1

BU - Input 1

Not connected

PLC/DCS [DP]

Not connected

Not connected

Signal Conditioner 1 - Output

Cyclic Receive - Bit 0.2

Not connected

PC [DPV1]

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel [OP]

Not connected

Not connected

Not connected

Not connected

Not connected

S1

S2

Off

On

Off

On

Off

On

Off

On

Off

On

Releases

On (enabled)

On (enabled)

On (enabled)

On (enabled)

On (enabled)

On (enabled)

On (enabled)

On (enabled)

Local 1

Local 2

Local 3

Remote

Released Control Command

On<C

On<C

On<C

On<C

On<C

Preferred for direct Control of Control Functions

On<C

On<C

On<C

On<C

On<C

Signal Conditioner 1

Signal Conditioner - Type

Inverting

Signal Conditioner - Input

Cyclic Receive - Bit 0.2

Signal Conditioner - Reset

Not connected



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB98

RVSS – Profibus Bit Operation Mode Selection –  
No Local – Remote 2-Wire 3RW44 w/opt. Input Isolation

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

BU - Output 2

BU - Output 3

Contactor Control - 1 OE1

Truth Table 3 3I/1O - Output

BU - Input 4

External Fault 1

External Fault - Input

External Fault - Reset

Response

BU - Input 3

Not connected

latching

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Dll Command-Reset

Marking

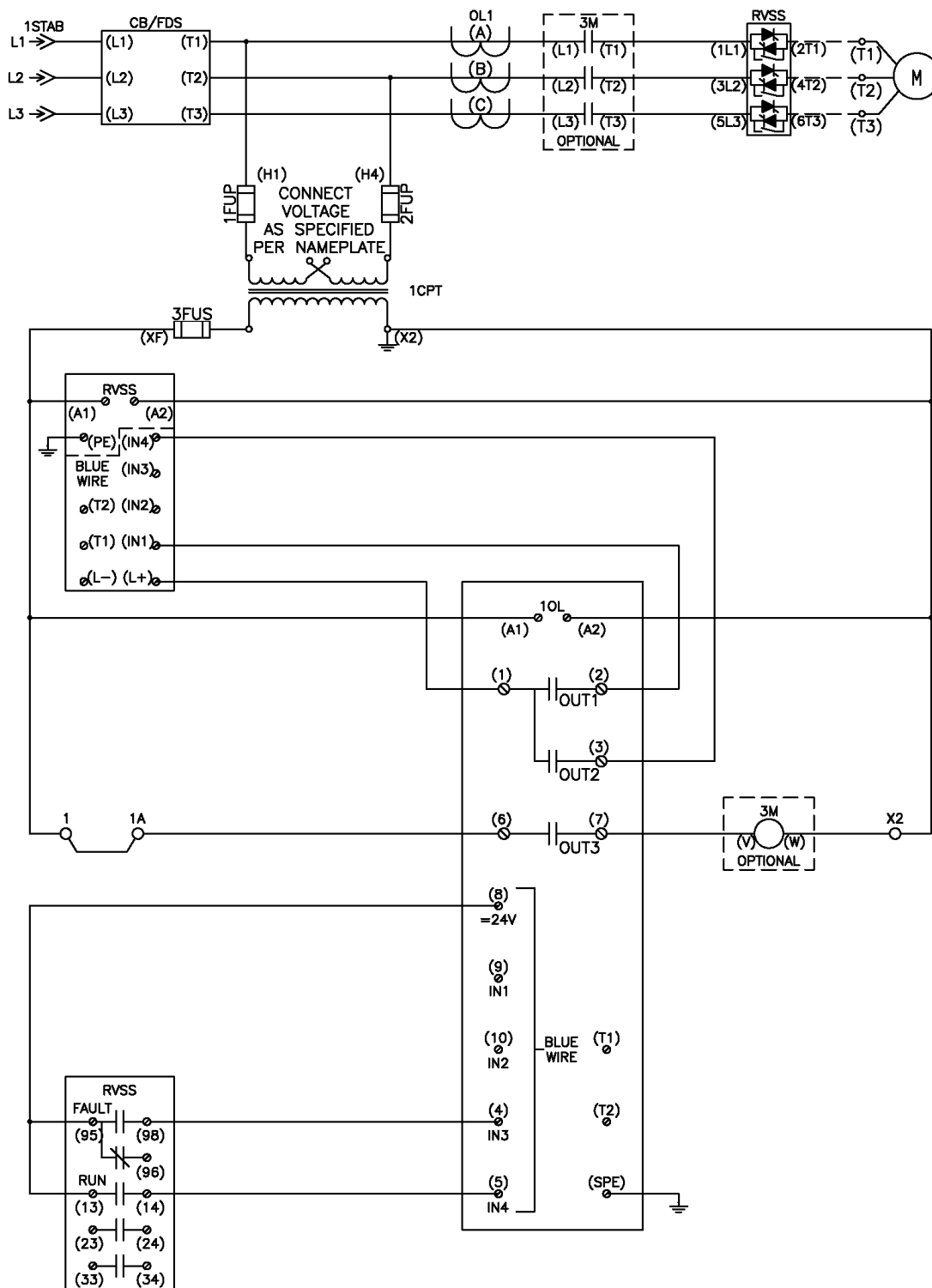
RVSS FAULT

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB99

RVSS – Profibus Bit Operation Mode Selection –  
No Local – Remote 3-Wire 3RW44 w/opt. Input Isolation

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB99

### RVSS – Profibus Bit Operation Mode Selection – No Local – Remote 3-Wire 3RW44 w/opt. Input Isolation

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control (for field commissioning purposes only)

1. SIMOCODE Input 1 is connected to the ON > Control Command and connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS SIMOCODE Input 1 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS SIMOCODE Input 1 is deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 3 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 3 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Reset Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. SIMOCODE Input 3 will indicate RVSS Fault status only.
3. RVSS Hardware Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB99

RVSS – Profibus Bit Operation Mode Selection –  
No Local – Remote 3-Wire 3RW44 w/opt. Input Isolation

### Parameter Detail

Control Selection and Operation

**Control Station**

Operation Mode Selector

Cyclic Receive - Bit 0.5

Fixed Level - '1'

Local Control (LC)

Not connected

Not connected

BU - Input 1

BU - Input 1

Not connected

PLC/DCS (DP)

Not connected

Not connected

Cyclic Receive - Bit 0.1

Cyclic Receive - Bit 0.2

Not connected

PC (DPV1)

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel (OP)

Not connected

Not connected

Not connected

Not connected

Not connected

	Local 1	Local 2	Local 3	Remote
Releases				
On (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Released Control Command

On <<

On <

On

On >

On >>

Preferred for direct Control of Control Functions

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB99

RVSS – Profibus Bit Operation Mode Selection –  
No Local – Remote 3-Wire 3RW44 w/opt. Input Isolation

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

Contactor Control - 1 OE1

BU - Output 2

Truth Table 3 3/10 - Output

BU - Output 3

BU - Input 4

External Fault 1

External Fault - Input

BU - Input 3

External Fault - Reset

Not connected

Response

latching

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Dll Command-Reset

Marking

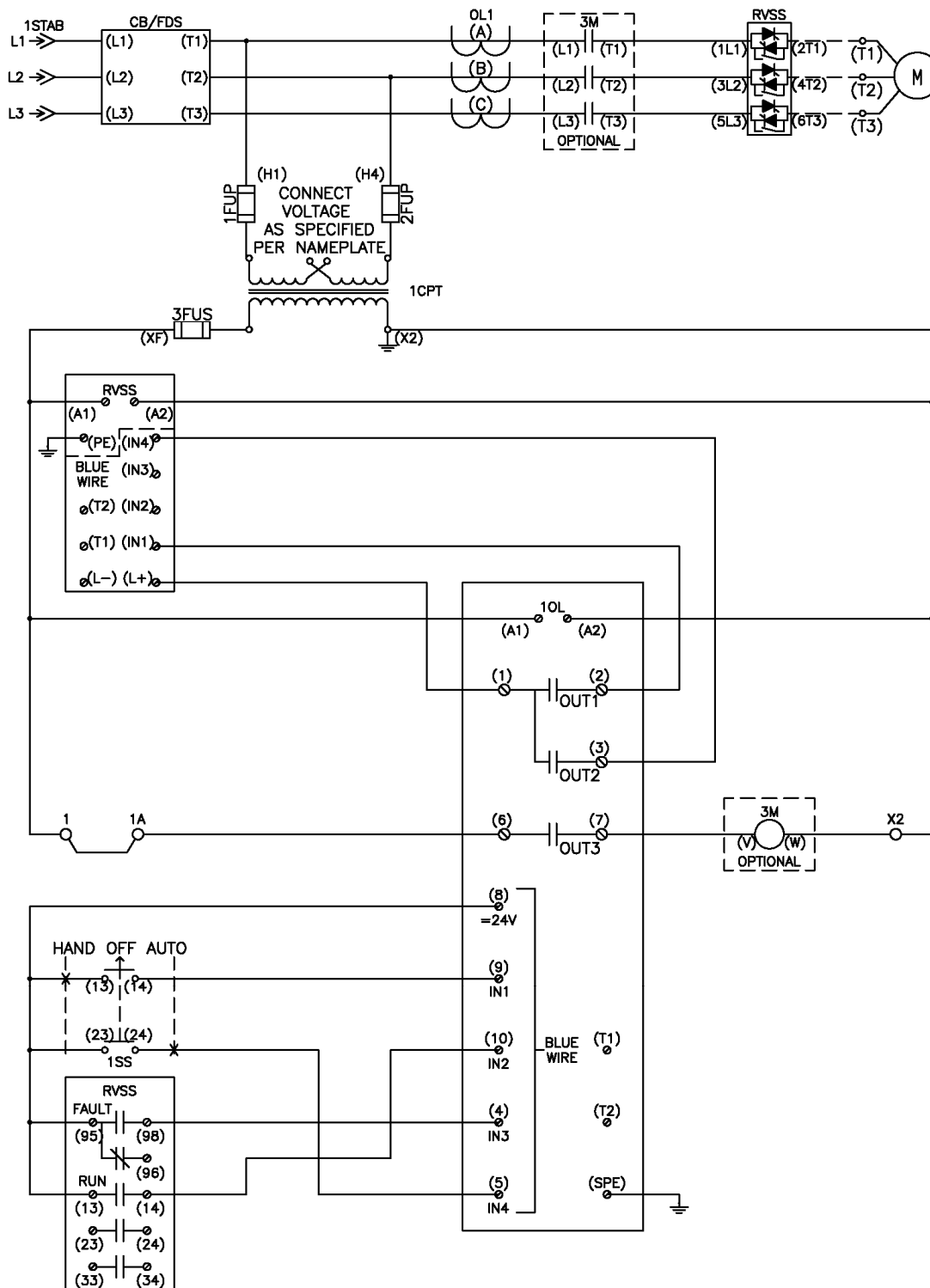
RVSS FAULT

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB100

RVSS – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 2-Wire 3RW44 w/opt. Input Isolation

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB100

### RVSS – Selector Switch Operation Mode Selection – Local 2-Wire SS – Remote 2-Wire 3RW44 w/opt. Input Isolation

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command and connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS the Selector Switch is placed into the HAND position. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 2 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 2 is deactivated, causing SIMOCODE Output 3 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Signal Conditioner 1 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Profibus Cyclic Receive Bit 0.2 is connected to the Signal Conditioner 1 Input for inversion.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 2 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.2 is deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 2 is deactivated, causing SIMOCODE Output 3 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Reset Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. SIMOCODE Input 3 will indicate RVSS Fault status only.
3. RVSS Hardware Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB100

RVSS – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 2-Wire 3RW44 w/opt. Input Isolation

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - Bit 0.5

BU - Input 4

Local Control [LC]

Not connected

Not connected

BU - Input 1

BU - Input 1

Not connected

PLC/DCS [DP]

Not connected

Not connected

Signal Conditioner 1 - Output

Cyclic Receive - Bit 0.2

Not connected

PC [DPV1]

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel [OP]

Not connected

Not connected

Not connected

Not connected

Not connected

S1

S2

Local 1

Local 2

Local 3

Remote

Releases

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

Released Control Command

On<

On<

Off

On>

On>>

Signal Conditioner 1

Signal Conditioner - Type

inverting

Signal Conditioner - Input

Cyclic Receive - Bit 0.2

Signal Conditioner - Reset

Not connected



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB100

RVSS – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 2-Wire 3RW44 w/opt. Input Isolation

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

Contactor Control - 1 OE1

BU - Output 2

Truth Table 3 3I/1O - Output

BU - Output 3

BU - Input 2

External Fault 1

External Fault - Input

BU - Input 3

External Fault - Reset

Not connected

Response

latching

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Dll Command-Reset

Marking

RVSS FAULT

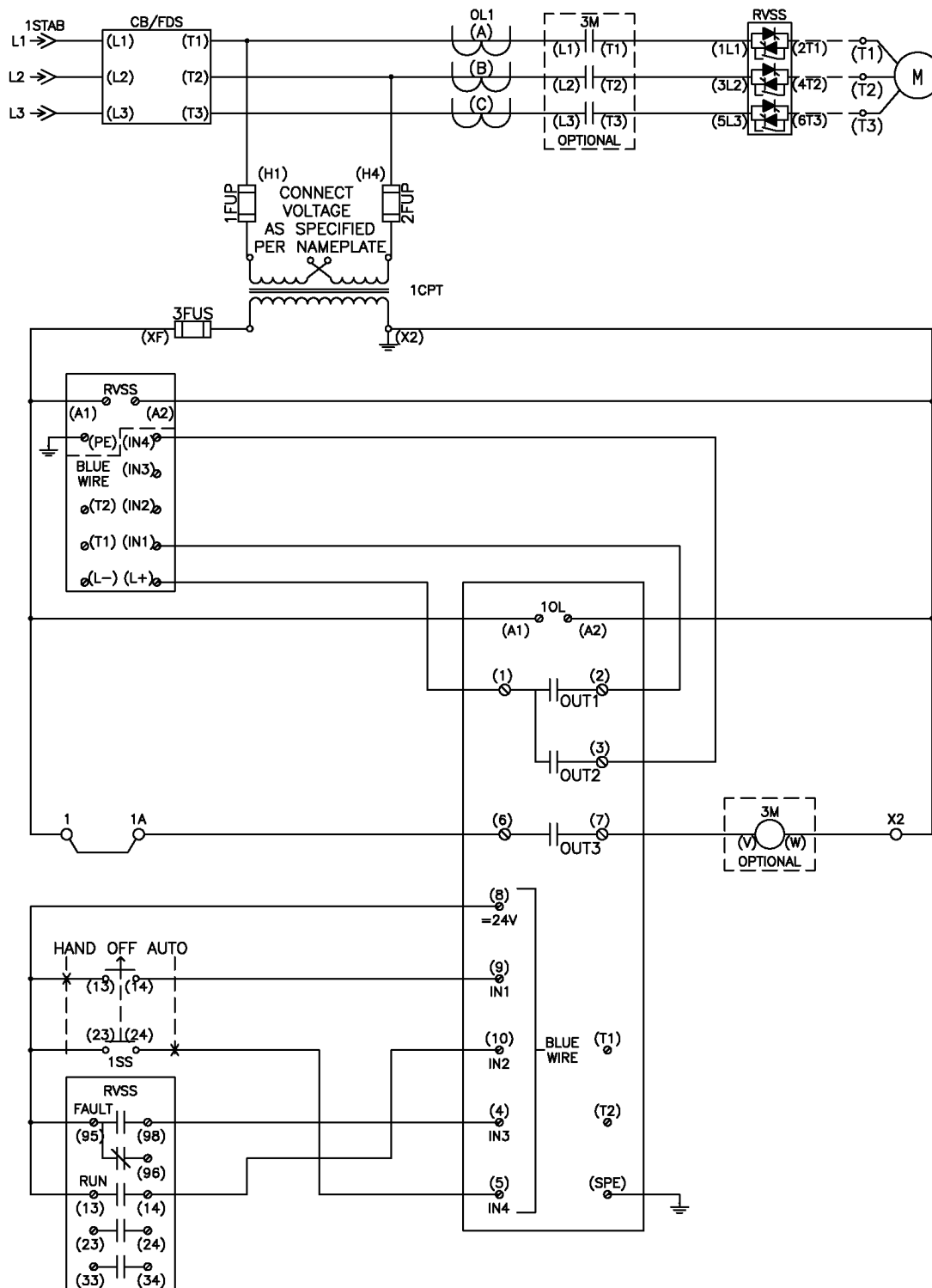
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB101

RVSS – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 3-Wire 3RW44 w/opt. Input Isolation

#### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB101

### RVSS – Selector Switch Operation Mode Selection – Local 2-Wire SS – Remote 3-Wire 3RW44 w/opt. Input Isolation

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command and connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS the Selector Switch is placed into the HAND position. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 2 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 2 is deactivated, causing SIMOCODE Output 3 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 2 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 2 is deactivated, causing SIMOCODE Output 3 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Reset Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. SIMOCODE Input 3 will indicate RVSS Fault status only.
3. RVSS Hardware Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB101

RVSS – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 3-Wire 3RW44 w/opt. Input Isolation

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

Contactor Control - 1 OE1

BU - Output 2

Truth Table 3 3I/1O - Output

BU - Output 3

BU - Input 2

External Fault 1

External Fault - Input

BU - Input 3

External Fault - Reset

Not connected

Response

latching

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Dll Command-Reset

Marking

RVSS FAULT

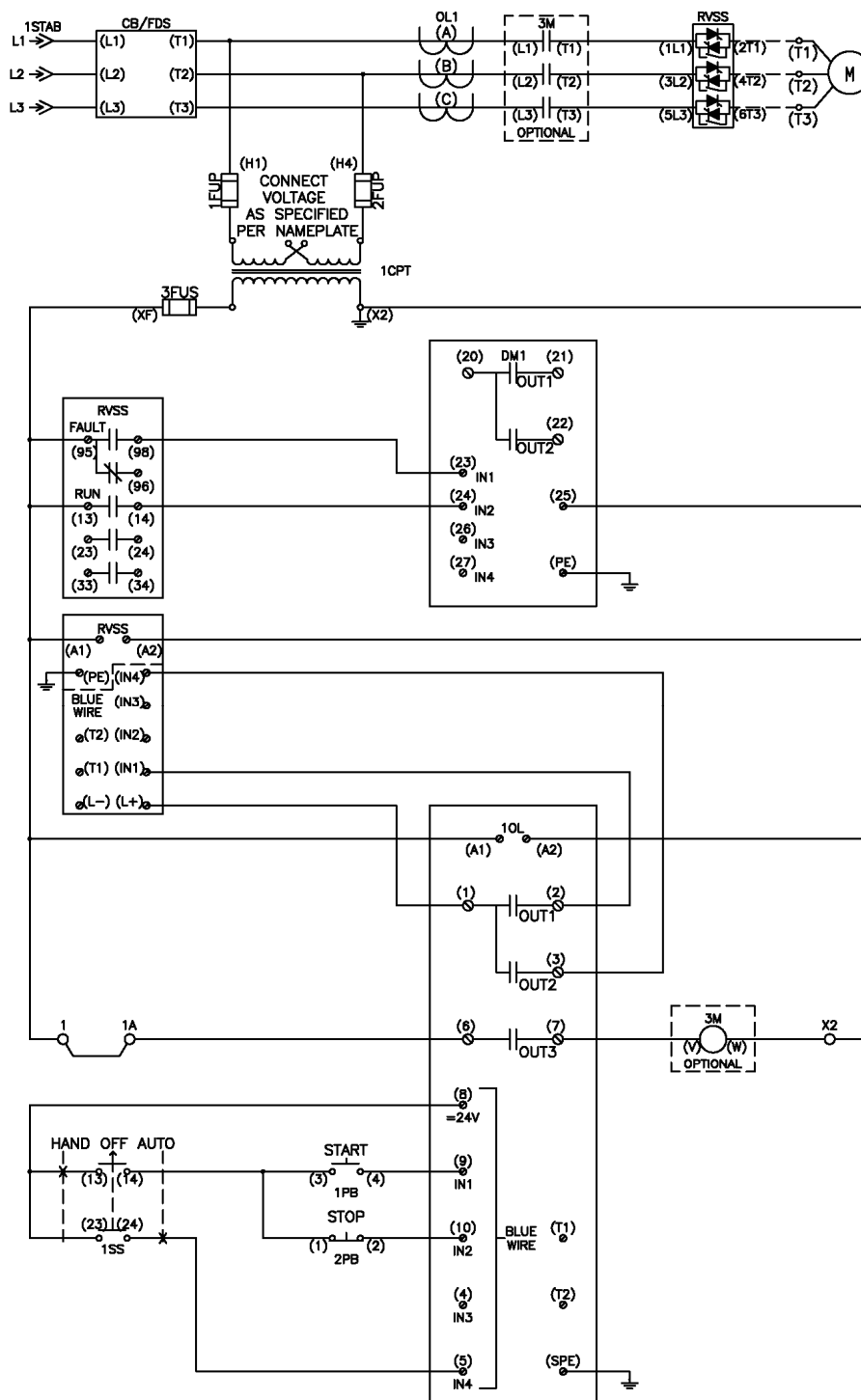
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB102

RVSS – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 2-Wire 3RW44 w/opt. Input Isolation

#### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB102

#### RVSS – Selector Switch Operation Mode Selection – Local 3-Wire SS/PB – Remote 2-Wire 3RW44 w/opt. Input Isolation

##### Operating Instructions

###### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

###### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command and SIMOCODE Input 2 is connected the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS the Selector Switch is placed into the HAND position and the Start Pushbutton depressed while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Digital Module Input 2 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS two methods are available. First, while the Selector Switch is placed into the HAND position the Stop Pushbutton is depressed. Second, the Selector Switch is placed into the OFF position. For either action The OFF Control Command is then triggered, causing SIMOCODE Output 1 open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input deactivated, causing SIMOCODE Output 3 to open. (RVSS Ramp-down time must be less than or equal the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

###### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Signal Conditioner 1 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Profibus Cyclic Receive Bit 0.2 is connected to the Signal Conditioner 1 Input for inversion.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.2 is deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing SIMOCODE Output 3 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

###### Reset Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. SIMOCODE Digital Module Input 1 will indicate RVSS Fault status only.
3. RVSS Hardware Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB102

RVSS – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 2-Wire 3RW44 w/opt. Input Isolation

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - Bit 0.5

BU - Input 4

Local Control [LC]

Not connected

Not connected

BU - Input 2

BU - Input 1

Not connected

PLC/DCS [DP]

Not connected

Not connected

Signal Conditioner 1 - Output

Cyclic Receive - Bit 0.2

Not connected

PC [DPV1]

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel [OP]

Not connected

Not connected

Not connected

Not connected

Not connected

S1

S2

On

Off

On

Off

On

Off

On

Off

On

Off

On

Off

Released

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

Local 1

Local 2

Local 3

Remote

Released Control Command

On<

On<

Off

On>

On>>

Signal Conditioner 1

Signal Conditioner - Type

inverting

Signal Conditioner - Input

Cyclic Receive - Bit 0.2

Signal Conditioner - Reset

Not connected



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB102

RVSS – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 2-Wire 3RW44 w/opt. Input Isolation

### Parameter Detail

RVSS Control and Operation

The screenshot displays the 'RVSS Control and Operation' configuration window. It is organized into several sections:

- Basic Unit:** Contains three dropdown menus for BU - Output 1 (set to 'Contactor Control - 1 QE1'), BU - Output 2 (set to 'Truth Table 3 3I/1O - Output'), and BU - Output 3 (set to 'DM1 - Input 2').
- External Fault 1:** Includes dropdowns for 'External Fault - Input' (set to 'DM1 - Input 1') and 'External Fault - Reset' (set to 'Not connected'). A 'Response' dropdown is set to 'tripping'.
- Type:** Features two radio buttons: 'normally open (NO)' (selected) and 'normally closed (NC)'.
- Activity:** Features two radio buttons: 'always' (selected) and 'only if motor runs'.
- External Fault - Reset also by:** A group box containing four checkboxes: 'Test/Reset Button, RS232 (Panel Reset)' (checked), 'Remote Reset, Reset 1,2,3' (checked), 'Auto-Reset' (unchecked), and 'DB Command-Reset' (unchecked).
- Masking:** A text field containing the value 'RVSS FAULT'.

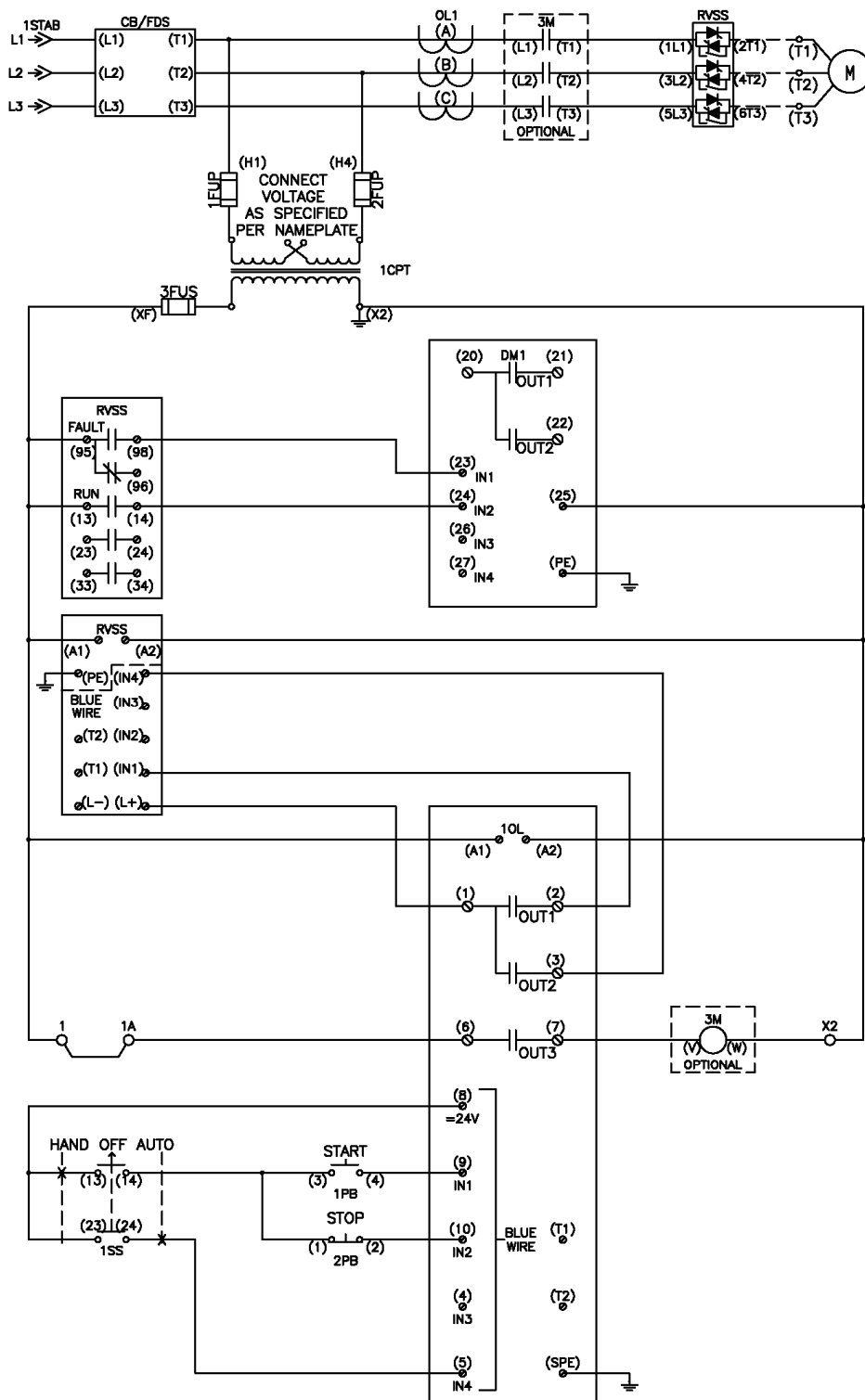
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB103

RVSS – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 3-Wire 3RW44 w/opt. Input Isolation

#### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB103

### RVSS – Selector Switch Operation Mode Selection – Local 3-Wire SS/PB – Remote 3-Wire 3RW44 w/opt. Input Isolations

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS the Selector Switch is placed into the HAND position and the Start Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS two methods are available. First, while the Selector Switch is placed into the HAND position the Stop Pushbutton is depressed. Second, the Selector Switch is placed into the OFF position. For either action The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing SIMOCODE z Output 3 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing SIMOCODE Output 3 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Reset Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. SIMOCODE Digital Module Input 1 will indicate RVSS Fault status only.
3. RVSS Hardware Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB103

RVSS – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 3-Wire 3RW44 w/opt. Input Isolations

### Parameter Detail

Control Selection and Operation

**Control Station**

**Operation Mode Selector**

Cyclic Receive - Bit 0.5 ☐

BU - Input 4 ☐

**Local Control (LC)**

Not connected ☐

Not connected ☐

BU - Input 2 ☐

BU - Input 1 ☐

Not connected ☐

**PLC/DCS (DP)**

Not connected ☐

Not connected ☐

Cyclic Receive - Bit 0.1 ☐

Cyclic Receive - Bit 0.2 ☐

Not connected ☐

**PC (DPV1)**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Operator Panel (OP)**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Releases**

	Local 1	Local 2	Local 3	Remote
On (enabled)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Released Control Command**

**Preferred for direct Control of Control Functions**

On ☐

On ☐

Off ☐

On ☐

On ☐

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB103

RVSS – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 3-Wire 3RW44 w/opt. Input Isolations

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

Contactor Control - 1 QE1

BU - Output 2

Truth Table 3 3I/1O - Output

BU - Output 3

DM1 - Input 2

External Fault 1

External Fault - Input

DM1 - Input 1

External Fault - Reset

Not connected

Response

tripping

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Oil Command-Reset

Marking

RVSS FAULT

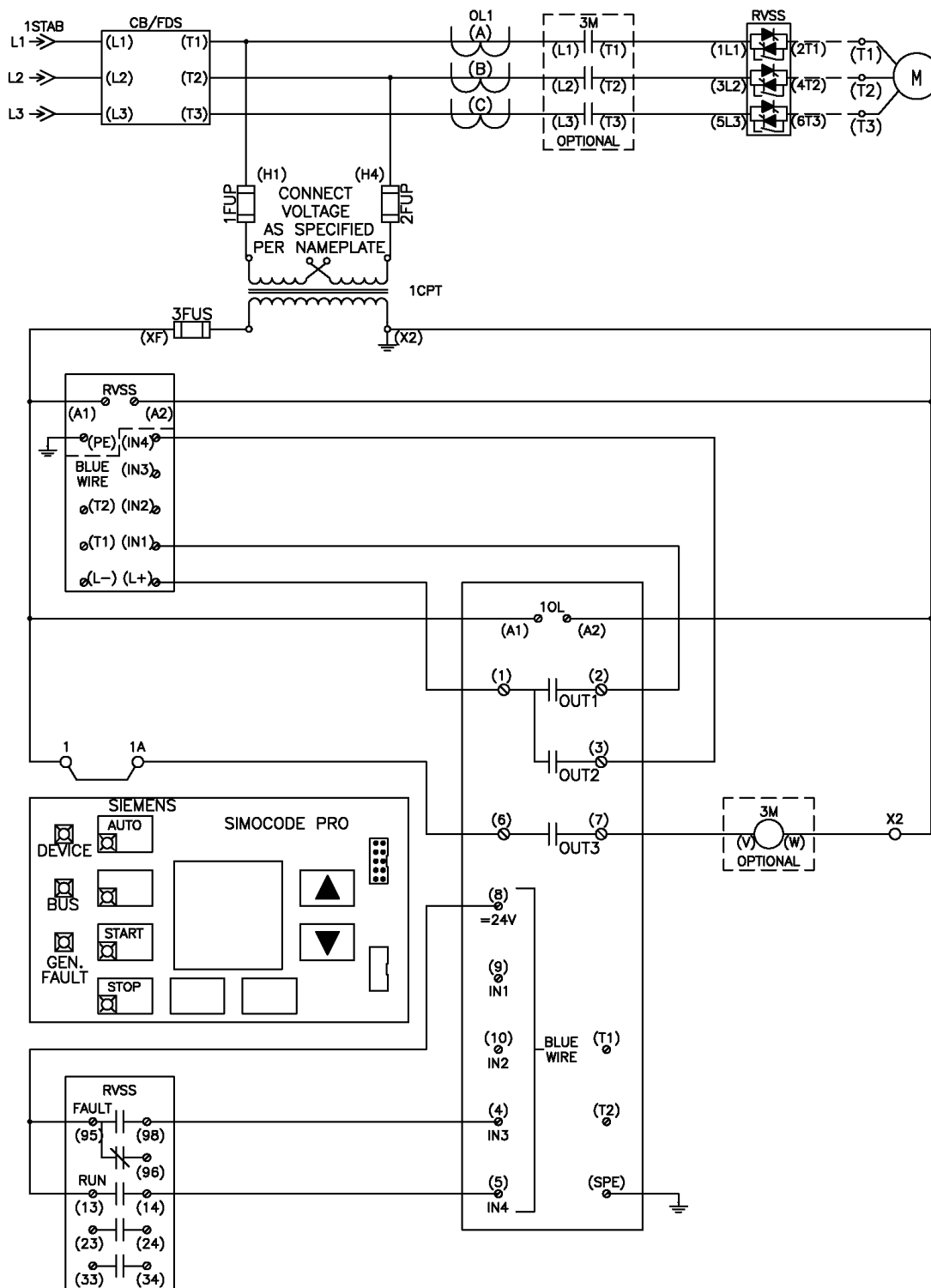


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB104

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OPD – Remote 2-Wire 3RW44 w/opt. Input Isolation

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB104

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 2-Wire 3RW44 w/opt. Input Isolation

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Non-Volatile Element 1 Output is connected to the Operation Mode Selector S2. Operator Panel Button 1 (AUTO) is connected to Non-Volatile Element 1 for an edge rising latch as well as to Counter 1 for latch reset. Counter 1 is connected to Non-Volatile Element 2 to maintain Operation Mode selection during loss of control power.
2. To engage Local Operation Mode the Non-Volatile Element 1 Output is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode the Non-Volatile Element 1 Output is activated while Profibus Cyclic Receive Bit 0.5 is deactivated. When mode is active indication is provided via LED on Operator Panel Button 1.
4. To engage Remote Operation Mode the Non-Volatile Element 1 Output and Profibus Cyclic Receive Bit 0.5 (maintained signal) are activated. This mode does not permit sending parameter data from the PLC/DCS. When mode is active indication is provided via LED on Operator Panel Button 1.

##### Local Control

1. Operator Panel Button 3 (START) is connected to the ON > Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the RVSS the OP Start Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 3 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB104

### RVSS – Operator Panel Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 2-Wire 3RW44 w/opt. Input Isolation

#### Operating Instructions

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Signal Conditioner 1 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Profibus Cyclic Receive Bit 0.2 is connected to the Signal Conditioner 1 Input for inversion.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 4 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.2 is deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 3 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

##### Reset Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped
2. SIMOCODE Input 3 will indicate RVSS Fault status only.
3. RVSS Hardware Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB104

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 2-Wire 3RW44 w/opt. Input Isolation

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - Bit 0.5

Non-Volatile Element 1 - Output

Local Control [LC]

Not connected

Not connected

Not connected

Not connected

PLC/DCS [DP]

Not connected

Not connected

Signal Conditioner 1 - Output

Cyclic Receive - Bit 0.2

Not connected

PC [DPV1]

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel [OP]

Not connected

Not connected

OP - Button 4

OP - Button 3

Not connected

Signal Conditioner 1

Signal Conditioner - Type: 

inverting

Signal Conditioner - Input: 

Cyclic Receive - Bit 0.2

Signal Conditioner - Reset: 

Not connected

S1

S2

Off

On

Off

On

Off

On

Off

On

Off

On

Local 1

Local 2

Local 3

Remote

Releases

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

Released Control Command

On<<

On<

Off

On>

On>>

Preferred for direct Control of Control Functions

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB104

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 2-Wire 3RW44 w/opt. Input Isolation

### Parameter Detail

AUTO Toggle Operation

**Non-Volatile Element 1**

Non-Volatile Element - Type: edge rising with memory

Non-Volatile Element - Input: OP - Button 1

Non-Volatile Element - Reset: Non-Volatile Element 2 - Output

**Counter 1**

Counter - Limit: 2

Counter - Input +: OP - Button 1

Counter - Input -: Not connected

Counter - Reset: Non-Volatile Element 2 - Output

**Non-Volatile Element 2**

Non-Volatile Element - Type: non inverting

Non-Volatile Element - Input: Counter 1 - Output

Non-Volatile Element - Reset: Not connected

### RVSS Control and Operation

**Basic Unit**

BU - Output 1: Contactor Control - 1 QE1

BU - Output 2: Truth Table 3 3I/1O - Output

BU - Output 3: BU - Input 4

**External Fault 1**

External Fault - Input: BU - Input 3

External Fault - Reset: Not connected

Response: tripping

Type:

☒ normally open (NO) ☐ normally closed (NC)

Activity:

☒ always ☐ only if motor runs

External Fault - Reset also by:

☒ Test/Reset Button, RS232 (Panel Reset) ☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3 ☐ Off Command-Reset

Labeling: RVSS FAULT





# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB105

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 3-Wire 3RW44 w/opt. Input Isolation

### Operating Instructions

#### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Non-Volatile Element 1 Output is connected to the Operation Mode Selector S2. Operator Panel Button 1 (AUTO) is connected to Non-Volatile Element 1 for an edge rising latch as well as to Counter 1 for latch reset. Counter 1 is connected to Non-Volatile Element 2 to maintain Operation Mode selection during loss of control power.
2. To engage Local Operation Mode the Non-Volatile Element 1 Output is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode the Non-Volatile Element 1 Output is activated while Profibus Cyclic Receive Bit 0.5 is deactivated. When mode is active indication is provided via LED on Operator Panel Button 1.
4. To engage Remote Operation Mode the Non-Volatile Element 1 Output and Profibus Cyclic Receive Bit 0.5 (maintained signal) are activated. This mode does not permit sending parameter data from the PLC/DCS. When mode is active indication is provided via LED on Operator Panel Button 1.

#### Local Control

1. Operator Panel Button 3 (START) is connected to the ON > Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the RVSS the OP Start Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 3 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time.
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB105

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 3-Wire 3RW44 w/opt. Input Isolation

### Operating Instructions

#### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the optional 3M Isolation Contactor the RVSS closes the associated internal RUN contact. SIMOCODE Input 4 is then activated, causing SIMOCODE Output 3 to close.
4. To disengage the RVSS the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 to open.
5. To disengage the optional 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. SIMOCODE Input 4 is deactivated, causing SIMOCODE Output 3 to open. (RVSS Ramp-down time must be less than or equal to the SIMOCODE Execution Time).
6. In the event of an Overload or any other General Fault event SIMOCODE Output 1 will open.

#### Remote Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. SIMOCODE Input 3 will indicate RVSS Fault status only.
3. RVSS Hardware Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB105

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 3-Wire 3RW44 w/opt. Input Isolation

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - Bit 0.5

Non-Volatile Element 1 - Output

Local Control [LC]

Not connected

Not connected

Not connected

Not connected

PLC/OCS [DP]

Not connected

Not connected

Cyclic Receive - Bit 0.1

Cyclic Receive - Bit 0.2

Not connected

PC [DPV1]

Not connected

Not connected

Not connected

Not connected

Operator Panel [OP]

Not connected

Not connected

OP - Button 4

OP - Button 3

Not connected

51

52

Off

On

Off

On

Off

On

Off

On

Local 1

Local 2

Local 3

Remote

Released

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

Released Control Command

On<<

On<

Off

On>

On>>



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB105

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 3-Wire 3RW44 w/opt. Input Isolation

### Parameter Detail

AUTO Toggle Operation

Non-Volatile Element 1

Non-Volatile Element - Type

edge rising with memory

Non-Volatile Element - Input

OP - Button 1

Non-Volatile Element - Reset

Non-Volatile Element 2 - Output

Counter 1

Counter - Limit

2

Counter - Input +

OP - Button 1

Counter - Input -

Not connected

Counter - Reset

Non-Volatile Element 2 - Output

Non-Volatile Element 2

Non-Volatile Element - Type

non inverting

Non-Volatile Element - Input

Counter 1 - Output

Non-Volatile Element - Reset

Not connected

### RVSS Control and Operation

Basic Unit

BU - Output 1

Contactor Control - 1 OE1

BU - Output 2

Truth Table 3 3I/1O - Output

BU - Output 3

BU - Input 4

External Fault 1

External Fault - Input

BU - Input 3

External Fault - Reset

Not connected

Response

latching

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ DIT Command-Reset

Marking

RVSS FAULT

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## 11. 3RW44 Reduced Voltage Soft Starter with Input Isolation and Bypass Contactors

The reduced voltage soft starter uses an SCR equipped solid state controller to provide smooth, stepless acceleration by controlling the applied voltage, current, and torque to the motor terminals for single-speed, full-voltage operation. An input isolation contactor is integrated into the design to provide complete voltage removal to the motor windings. A bypass contactor is integrated into the design to provide selectable direct across the line, single-speed, single-direction, full-voltage operation.

### **The basic RVSS operation of this starter is as follows:**

1. A local or remote RVSS start signal is given to the SIMOCODE Pro.
2. The SIMOCODE Pro Output 1 closes giving the RVSS a signal to begin operation.
3. The RVSS RUN contact closes relaying the SIMOCODE Pro to close Digital Module Output 1 which energizes the coil of Input Isolation Contactor 3M.
4. With the Input Isolation Contactor 3M closed the RVSS follows its settings for ramp-up, run, and internal bypass.
5. A local or remote stop signal is given to the SIMOCODE Pro.
6. The SIMOCODE Pro Output 1 opens giving the RVSS a signal to stop operation.
7. The RVSS follows its settings for ramp-down opening the RVSS RUN contact when the designated time has elapsed.
8. With the RVSS RUN contact open the SIMOCODE Pro opens its Digital Module Output 1 which deenergizes the coil of Input Isolation Contactor 3M.
9. If a fault occurs at any time the SIMOCODE Pro will end the starter operation.

### **The basic BYPASS operation of this starter is as follows:**

1. A local or remote BYPASS start signal is given to the SIMOCODE Pro.
2. The SIMOCODE Pro Digital Module Output 2 closes which energizes the coil of Bypass Contactor 2M.
3. A local or remote stop signal is given to the SIMOCODE Pro.
4. The SIMOCODE Pro Digital Module Output 2 opens which de-energizes the coil of Bypass Contactor 2M.
5. If a fault occurs at any time the SIMOCODE Pro will end the starter operation.

The RVSS auxiliary contacts are connected to the SIMOCODE Pro inputs to provide starter control as well as operation feedback over Profibus-DP.

- o The RVSS RUN contact provides direct control over the 3M input isolation contactor and starter condition feedback. When active the contact will signal the SIMOCODE Pro to close Digital Module Output 1 to energize the 3M contactor coil. This contact will switch states during ramp-up, internal bypass, and rampdown.
- o The RVSS FAULT contact provides starter condition feedback. When active the contact will signal the SIMOCODE Pro to trigger an external fault command. This contact will switch states during thyristor thermal overload, phase failure, no load voltage, mains under-voltage, mains over-voltage, or equipment error.

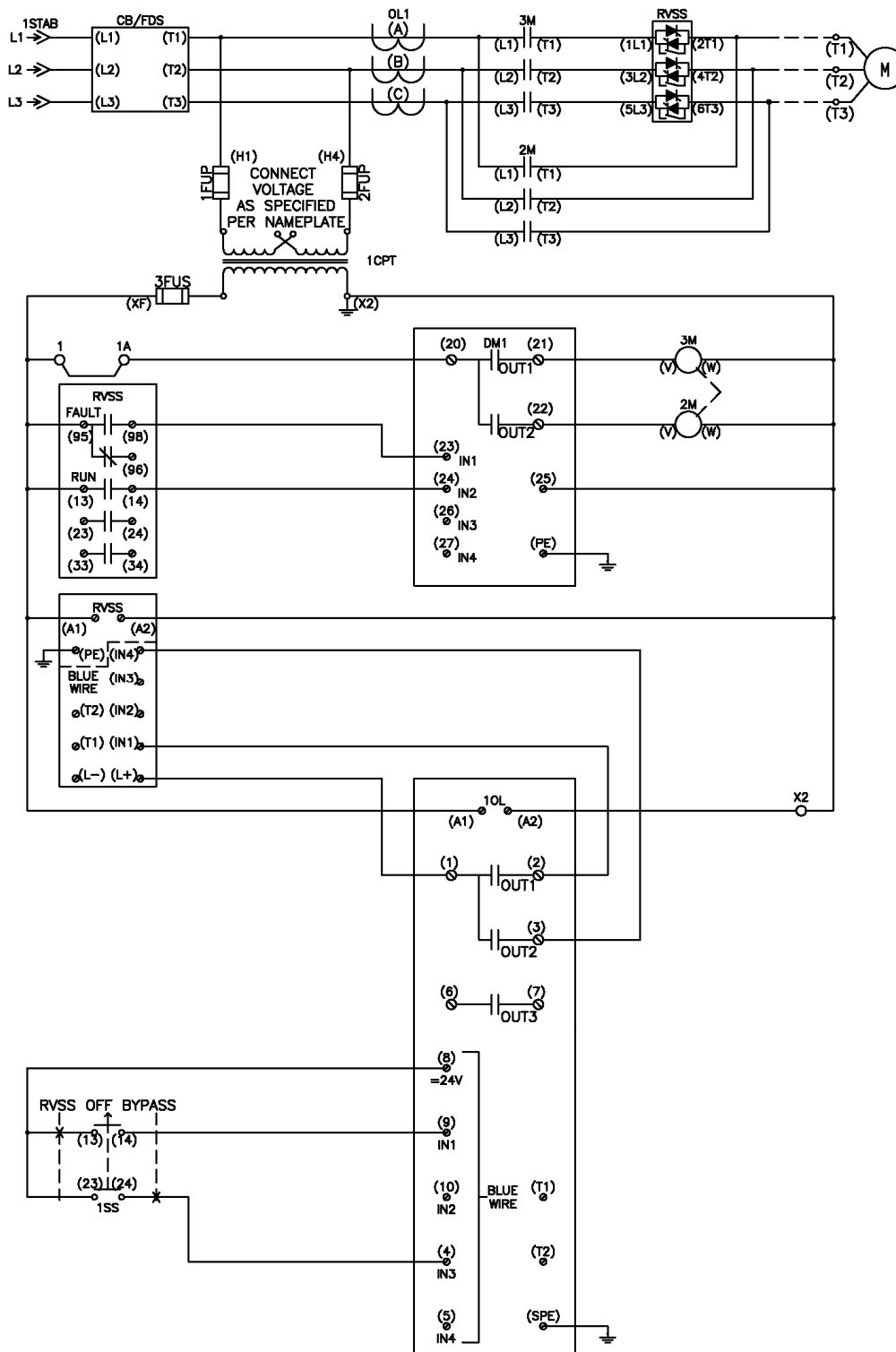
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB107

RVSS – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

#### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB107

### RVSS – Profibus Bit Operation Mode Selection – Local 2-Wire SS – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Input 1 and SIMOCODE Input 3.
2. To engage the RVSS the Selector Switch is placed into the RVSS position. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor the Selector Switch is placed into the BYPASS position. The ON < Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time)
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Output 1 and SIMOCODE Digital Module Output 2 will open.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB107

### RVSS – Profibus Bit Operation Mode Selection – Local 2-Wire SS – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

#### Operating Instructions

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Output 1 and SIMOCODE Digital Module Output 2 will open.

##### Reset Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. SIMOCODE Digital Module Input 1 will indicate RVSS Fault Status only.
3. RVSS Hardware Fault conditions may be reset via Truth Table 3 Output. The inputs connected to Truth Table 3 are the TEST/RESET button located on the SIMOCODE Pro Basic Unit face, the Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or the TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB107

RVSS – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

### Parameter Detail

RVSS Control and Operation

**Basic Unit**

BU - Output 1: Contactor Control - 1 QE1

BU - Output 2: Truth Table 3 3I/1O - Output

BU - Output 3: Not connected

**Digital Module 1**

DM - Output 1: DM1 - Input 2

DM - Output 2: Contactor Control - 2 QE2

**External Fault 1**

External Fault - Input: DM1 - Input 1

External Fault - Reset: Not connected

Response: latching

Type

☒ normally open (NO) ☐ normally closed (NC)

Activity

☒ always ☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset) ☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3 ☐ Diff Command-Reset

Marking: RVSS FAULT

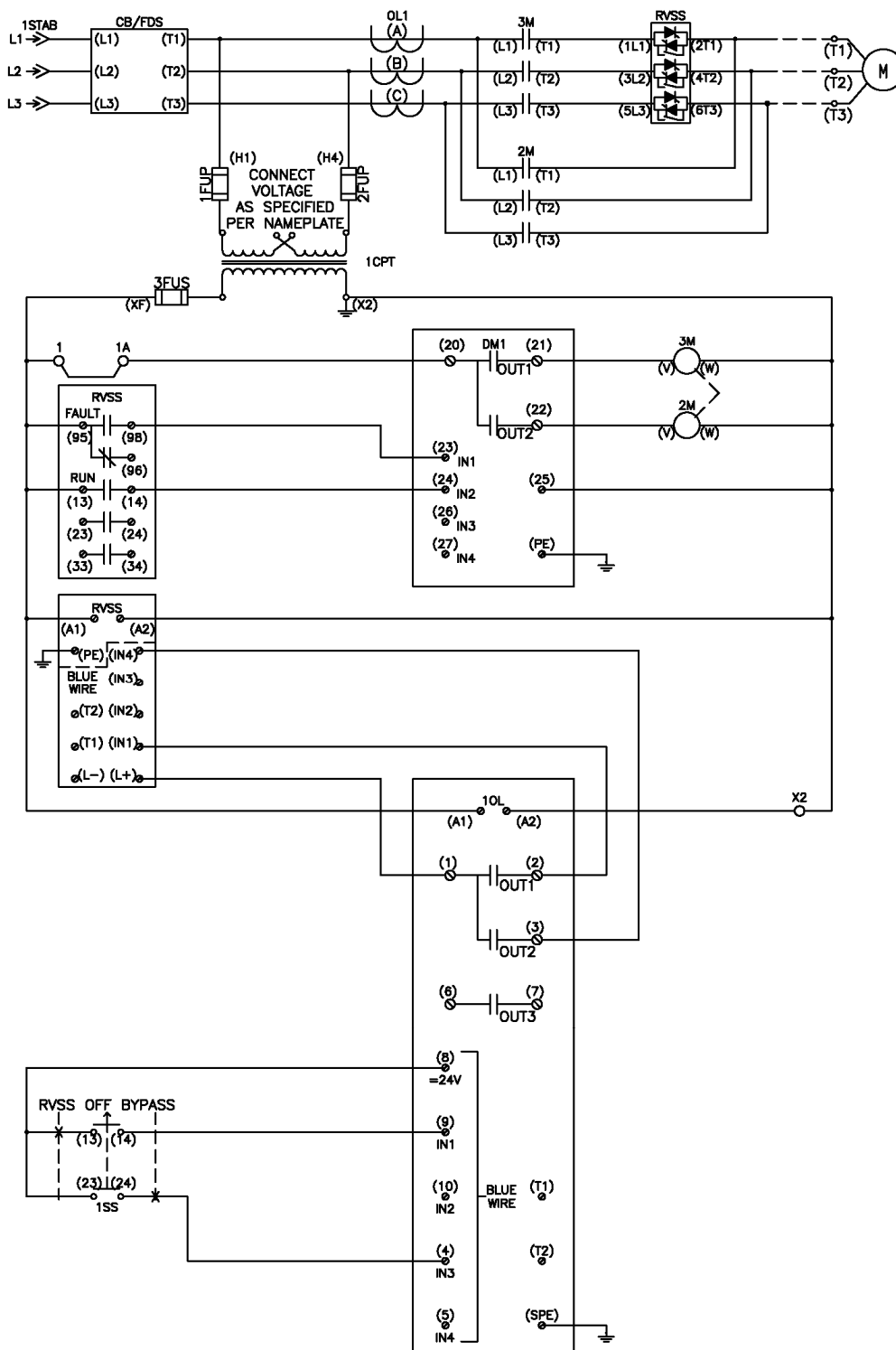
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB108

RVSS – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

#### Connection Diagram





# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB108

### RVSS – Profibus Bit Operation Mode Selection – Local 2-Wire SS – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Input 1 and SIMOCODE Input 3.
2. To engage the RVSS the Selector Switch is placed into the RVSS position. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor the Selector Switch is placed into the BYPASS position. The ON < Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Output 1 and SIMOCODE Digital Module Output 2 will open.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB108

### RVSS – Profibus Bit Operation Mode Selection – Local 2-Wire SS – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

#### Operating Instructions

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Output 1 and SIMOCODE Digital Module Output 2 will open.

##### Reset Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. SIMOCODE Digital Module Input 1 will indicate RVSS Fault Status only.
3. RVSS Hardware Fault conditions may be reset via Truth Table 3 Output. The inputs connected to Truth Table 3 are the TEST/RESET button located on the SIMOCODE Pro Basic Unit face, the Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or the TEST/RESET SIMOCODE Pro Operator Panel if so equipped.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB108

RVSS – Profibus Bit Operation Mode Selection –  
Local 2-Wire SS – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

Contactor Control - 1 QE1

BU - Output 2

Truth Table 3 3I/1O - Output

BU - Output 3

Not connected

Digital Module 1

DM - Output 1

DM1 - Input 2

DM - Output 2

Contactor Control - 2 QE2

External Fault 1

External Fault - Input

DM1 - Input 1

External Fault - Reset

Not connected

Response

latching

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Dll Command-Reset

Marking

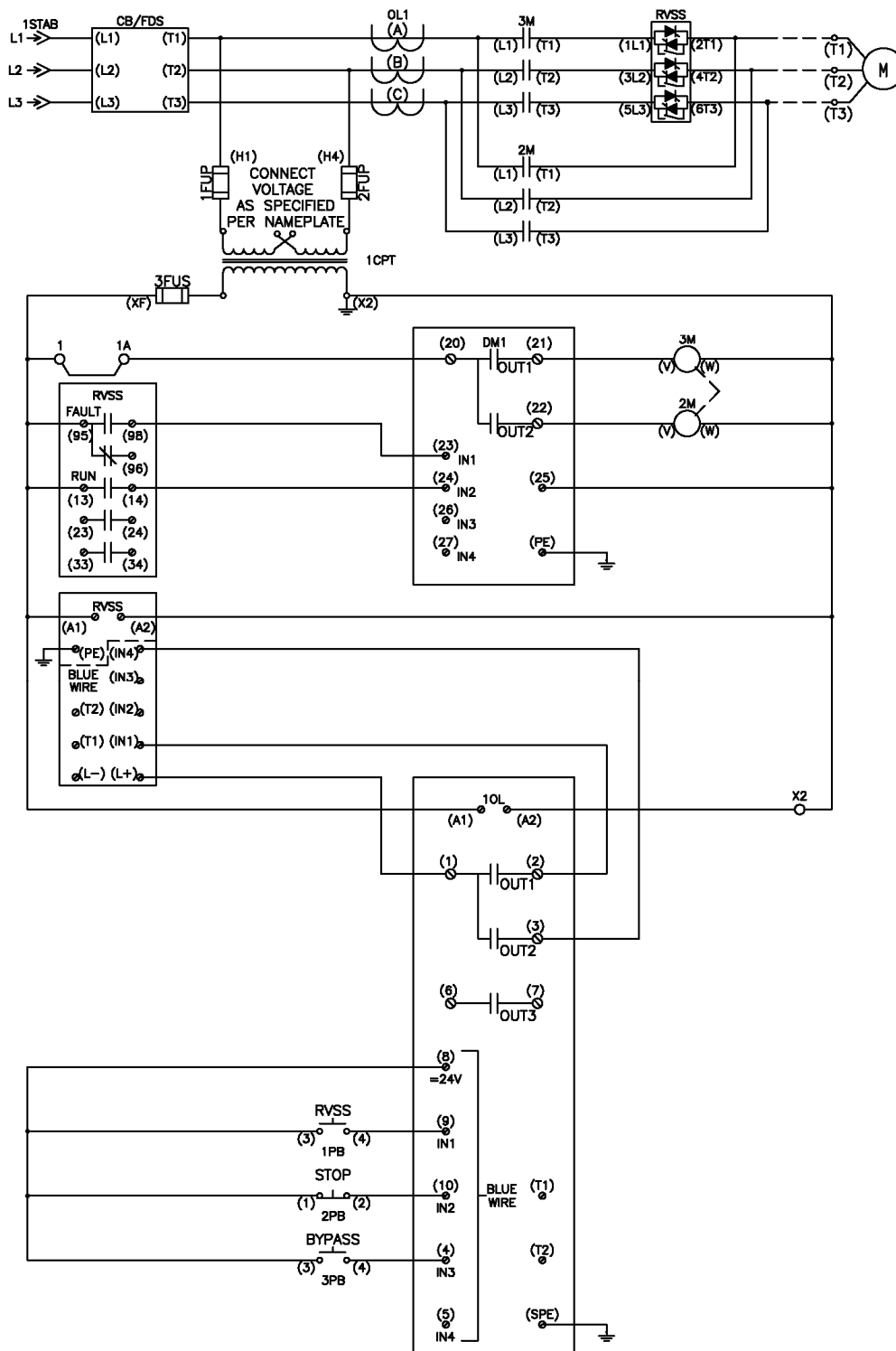
RVSS FAULT

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB109

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB109

### RVSS – Profibus Bit Operation Mode Selection – Local 3-Wire PB – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS the RVSS Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor the BYPASS Pushbutton is depressed while the Stop Pushbutton is in its normally close state. The ON< Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Output 1 and SIMOCODE Digital Module Output 2 will open.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB109

### RVSS – Profibus Bit Operation Mode Selection – Local 3-Wire PB – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

#### Operating Instructions

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Output 1 and SIMOCODE Digital Module Output 2 will open.

##### Reset Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. SIMOCODE Digital Module Input 1 will indicate RVSS Fault Status only.
3. RVSS Hardware Fault conditions may be reset via Truth Table 3 Output. The inputs connected to Truth Table 3 are the TEST/RESET button located on the SIMOCODE Pro Basic Unit face, the Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or the TEST/RESET SIMOCODE Pro Operator Panel if so equipped.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB109

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - Bit 0.5

Fixed Level - 1

Local Control (LC)

Not connected

BU - Input 3

BU - Input 2

BU - Input 1

Not connected

PLC/DCS (DP)

Not connected

Cyclic Receive - Bit 0.0

Truth Table 2 3/10 - Output

Cyclic Receive - Bit 0.2

Not connected

PC (DPV1)

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel (OP)

Not connected

Not connected

Not connected

Not connected

Not connected

51

52

0

0

1

1

0

1

0

1

Local 1

Local 2

Local 3

Remote

Releases

On (enabled)

Off (enabled)

On (enabled)

Off (enabled)

Released Control Command

On

Off

On

Off

Preferred for direct Control of Control Functions

On

Off

On

Off

Truth Table 2 3/10

Truth Table - Input 1

Not connected

Truth Table - Input 2

Cyclic Receive - Bit 0.0

Truth Table - Input 3

Cyclic Receive - Bit 0.2

Truth Table 3/10

I1	I2	I3	Q
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB109

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

### Parameter Detail

RVSS Control and Operation

**Basic Unit**

BU - Output 1: Contactor Control - 1 QE1

BU - Output 2: Truth Table 3 3I/10 - Output

BU - Output 3: Not connected

**Digital Module 1**

DM - Output 1: DM1 - Input 2

DM - Output 2: Contactor Control - 2 QE2

**External Fault 1**

External Fault - Input: DM1 - Input 1

External Fault - Reset: Not connected

Response: tripping

Type

☒ normally open (NO) ☐ normally closed (NC)

Activity

☒ always ☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset) ☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3 ☐ Dll Command-Reset

Marking: RVSS FAULT

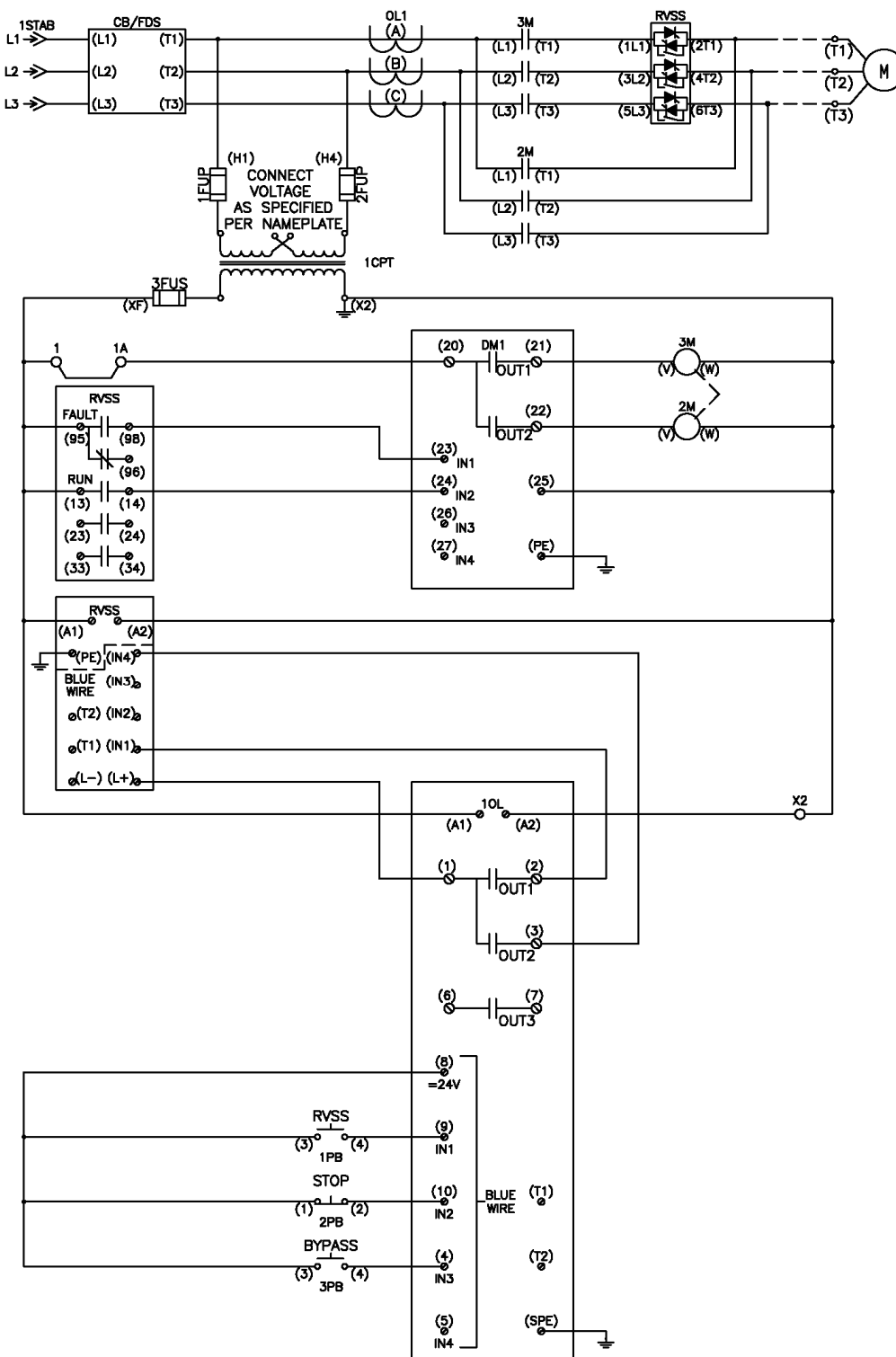
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB110

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB110

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS the RVSS Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor the BYPASS Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON< Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Output 1 and SIMOCODE Digital Module Output 2 will open.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB110

### RVSS – Profibus Bit Operation Mode Selection – Local 3-Wire PB – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

#### Operating Instructions

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time)
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Output 1 and SIMOCODE Digital Module Output 2 will open.

##### Reset Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. SIMOCODE Digital Module Input 1 will indicate RVSS Fault Status only.
3. RVSS Hardware Fault conditions may be reset via Truth Table 3 Output. The inputs connected to Truth Table 3 are the TEST/RESET button located on the SIMOCODE Pro Basic Unit face, the Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or the TEST/RESET SIMOCODE Pro Operator Panel if so equipped. so equipped.

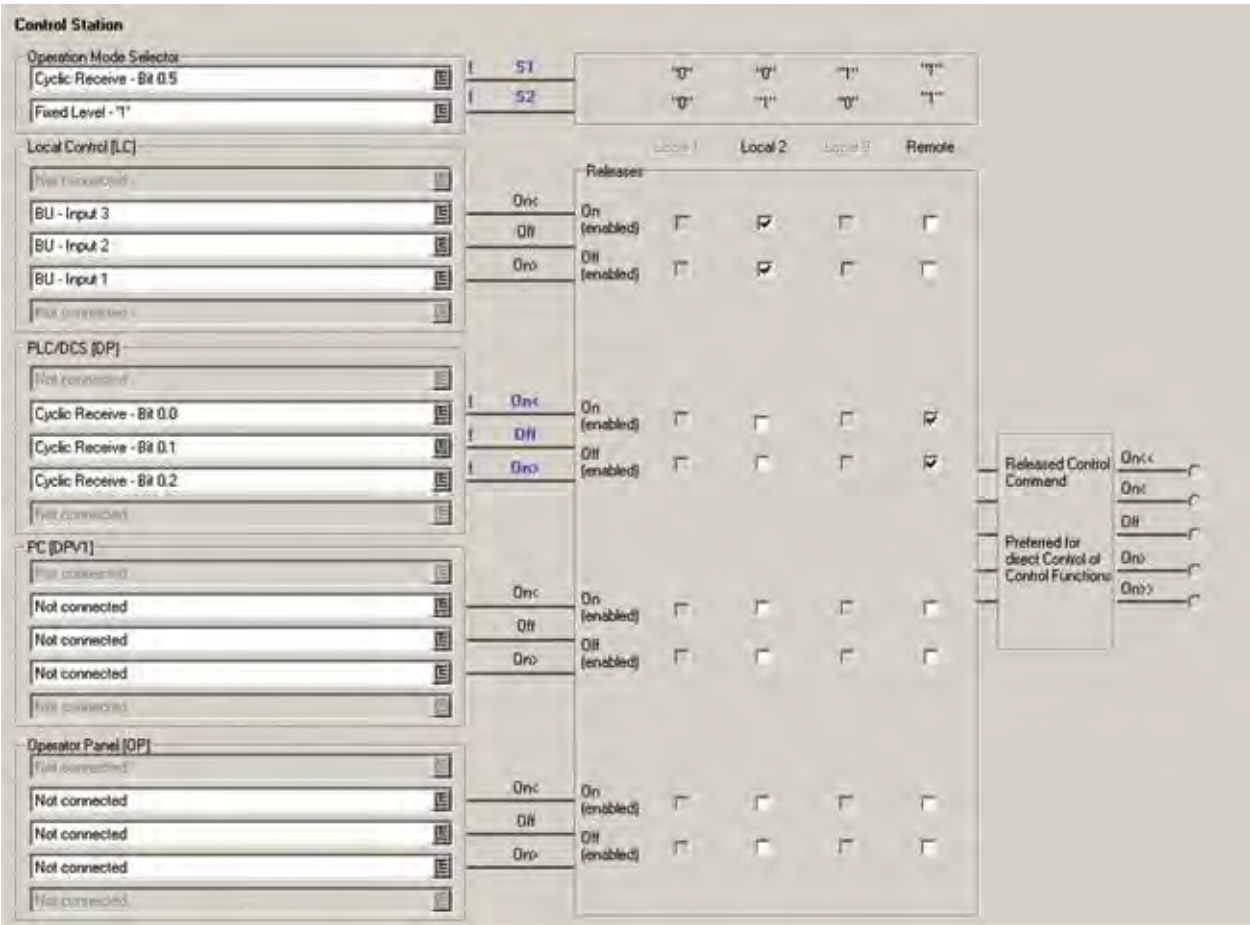
# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB110

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

### Parameter Detail

Control Selection and Operation



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB110

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire PB – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

Contactor Control - 1 QE1

BU - Output 2

Truth Table 3 3I/10 - Output

BU - Output 3

Not connected

Digital Module 1

DM - Output 1

DM1 - Input 2

DM - Output 2

Contactor Control - 2 QE2

External Fault 1

External Fault - Input

DM1 - Input 1

External Fault - Reset

Not connected

Response

latching

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Dll Command-Reset

Marking

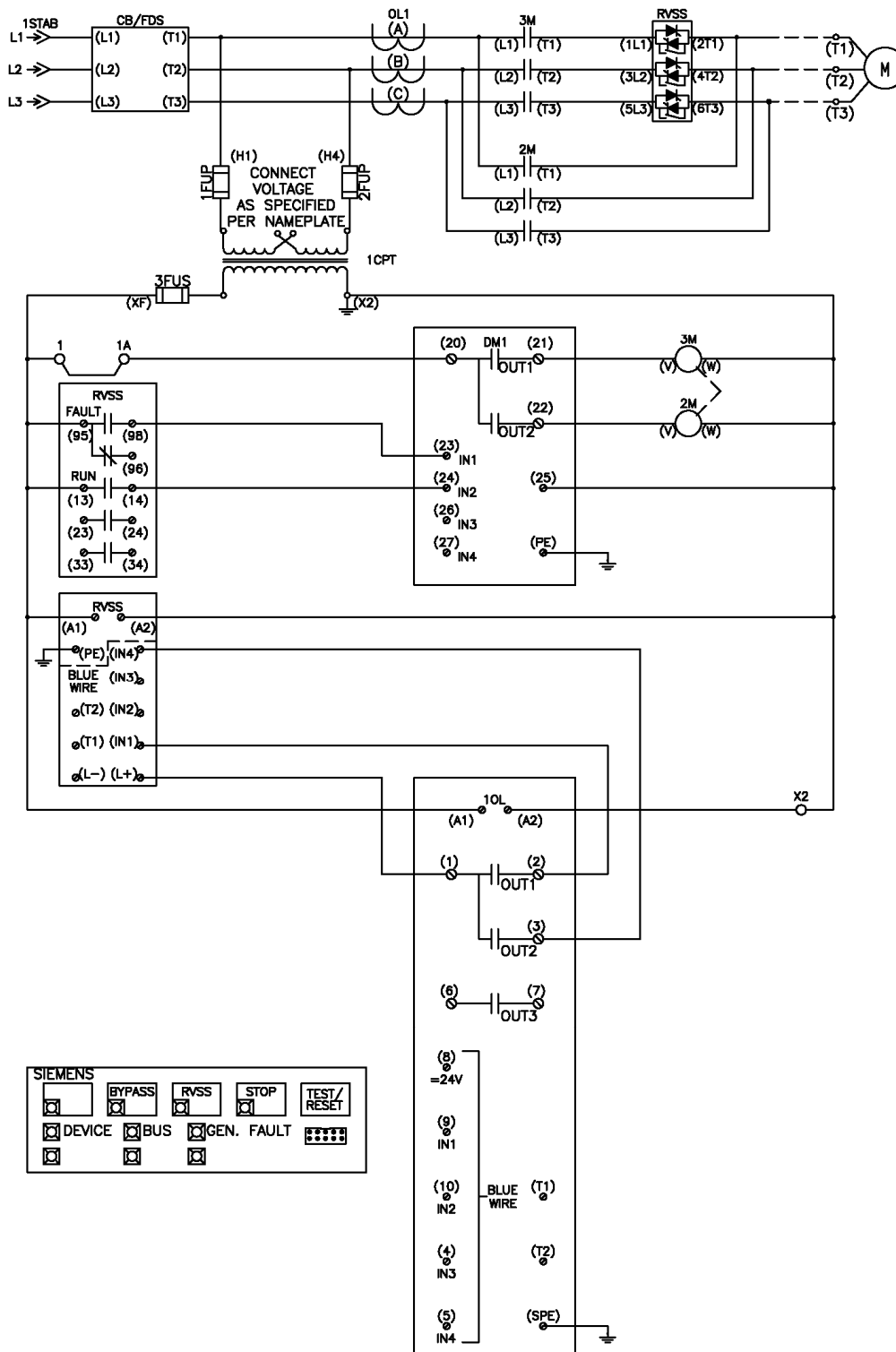
RVSS FAULT

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB111

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

### Connection Diagram

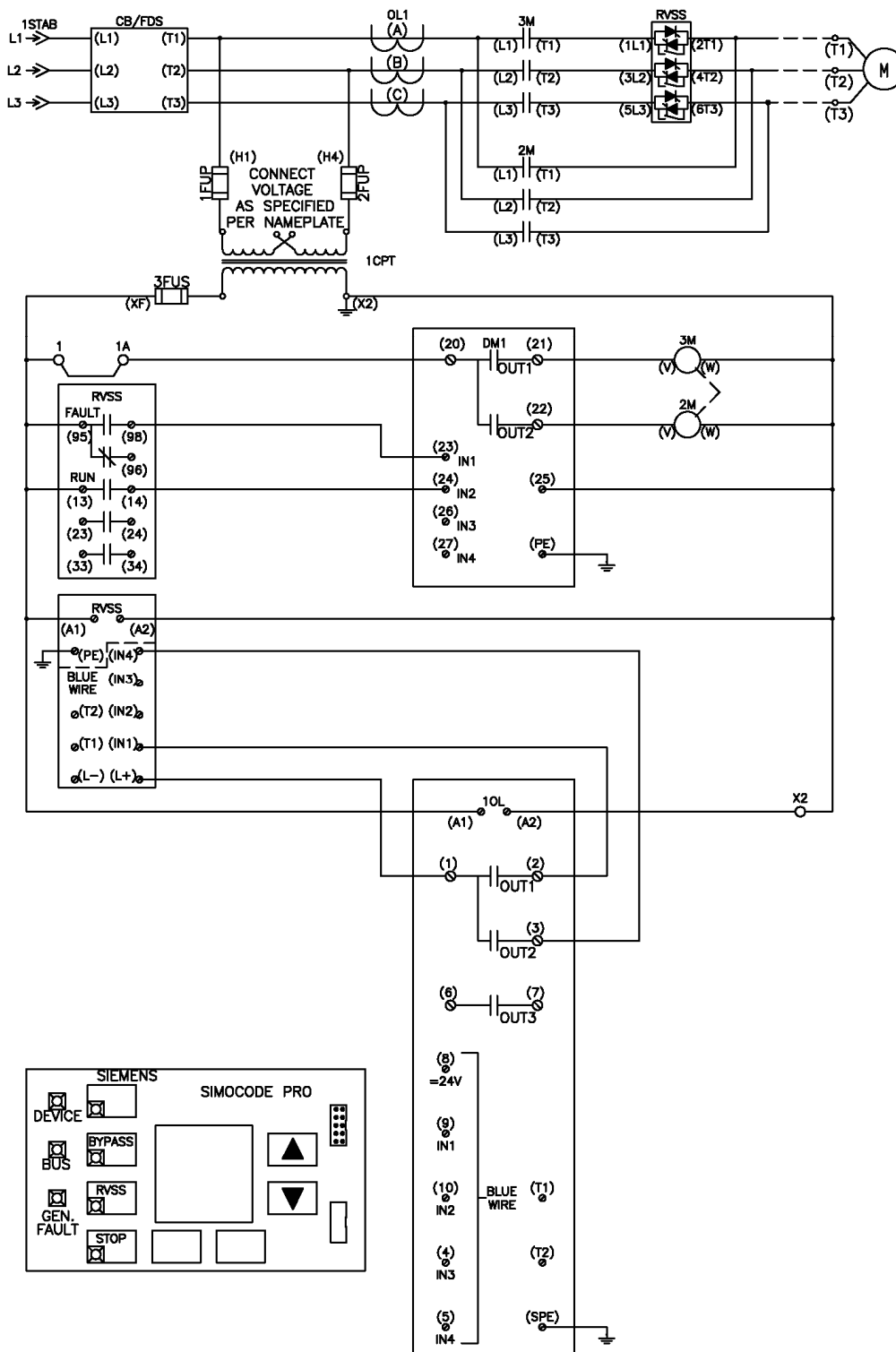


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB111

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire OPD – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

### Connection Diagram





# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB111

### RVSS – Profibus Bit Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. Operator Panel Button 3 (RVSS) is connected to the ON > Control Command, Operator Panel Button 2 (BYPASS) is connected to the ON < Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the RVSS the OP RVSS Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor the OP BYPASS Pushbutton is depressed. The ON< Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Output 1 and SIMOCODE Digital Module Output 2 will open.

# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB111

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

#### Operating Instructions

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time)
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Output 1 and SIMOCODE Digital Module Output 2 will open.

##### Reset Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. SIMOCODE Digital Module Input 1 will indicate RVSS Fault Status only.
3. RVSS Hardware Fault conditions may be reset via Truth Table 3 Output. The inputs connected to Truth Table 3 are the TEST/RESET button located on the SIMOCODE Pro Basic Unit face, the Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or the TEST/RESET SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB111

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

### Parameter Detail

Control Selection and Operation

**Control Station**

**Operation Mode Selector:**

Cyclic Receive - Bit 0.5 ☐

Fixed Level - '1' ☐

**Local Control (LC):**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**PLC/DCS (DP):**

Not connected ☐

Cyclic Receive - Bit 0.0 ☐

Truth Table 2 3/10 - Output ☐

Cyclic Receive - Bit 0.2 ☐

Not connected ☐

**PC (DPV1):**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Operator Panel (OP):**

Not connected ☐

OP - Button 2 ☐

OP - Button 4 ☐

OP - Button 3 ☐

Not connected ☐

**Releases:**

	Local 1	Local 2	Local 3	Remote
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Released Control Command:**

On << ☐

On < ☐

Off ☐

On > ☐

On >> ☐

**Truth Table 2 3/10**

Truth Table - Input 1: Not connected ☐

Truth Table - Input 2: Cyclic Receive - Bit 0.0 ☐

Truth Table - Input 3: Cyclic Receive - Bit 0.2 ☐

I1	I2	I3	O
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB111

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

### Parameter Detail

RVSS Control and Operation

**Basic Unit**

BU - Output 1	Contactor Control - 1 QE1
BU - Output 2	Truth Table 3 3I/1O - Output
BU - Output 3	Not connected

**Digital Module 1**

DM - Output 1	DM1 - Input 2
DM - Output 2	Contactor Control - 2 QE2

**External Fault 1**

External Fault - Input	DM1 - Input 1
External Fault - Reset	Not connected
Response	latching

Type

☒ normally open (NO) ☐ normally closed (NC)

Activity

☒ always ☐ only if motor runs

External Fault - Reset also by

<input checked="" type="checkbox"/> Test/Reset Button, RS232 (Panel Reset)	<input type="checkbox"/> Auto-Reset
<input checked="" type="checkbox"/> Remote Reset, Reset 1,2,3	<input type="checkbox"/> Dll Command-Reset

Marking

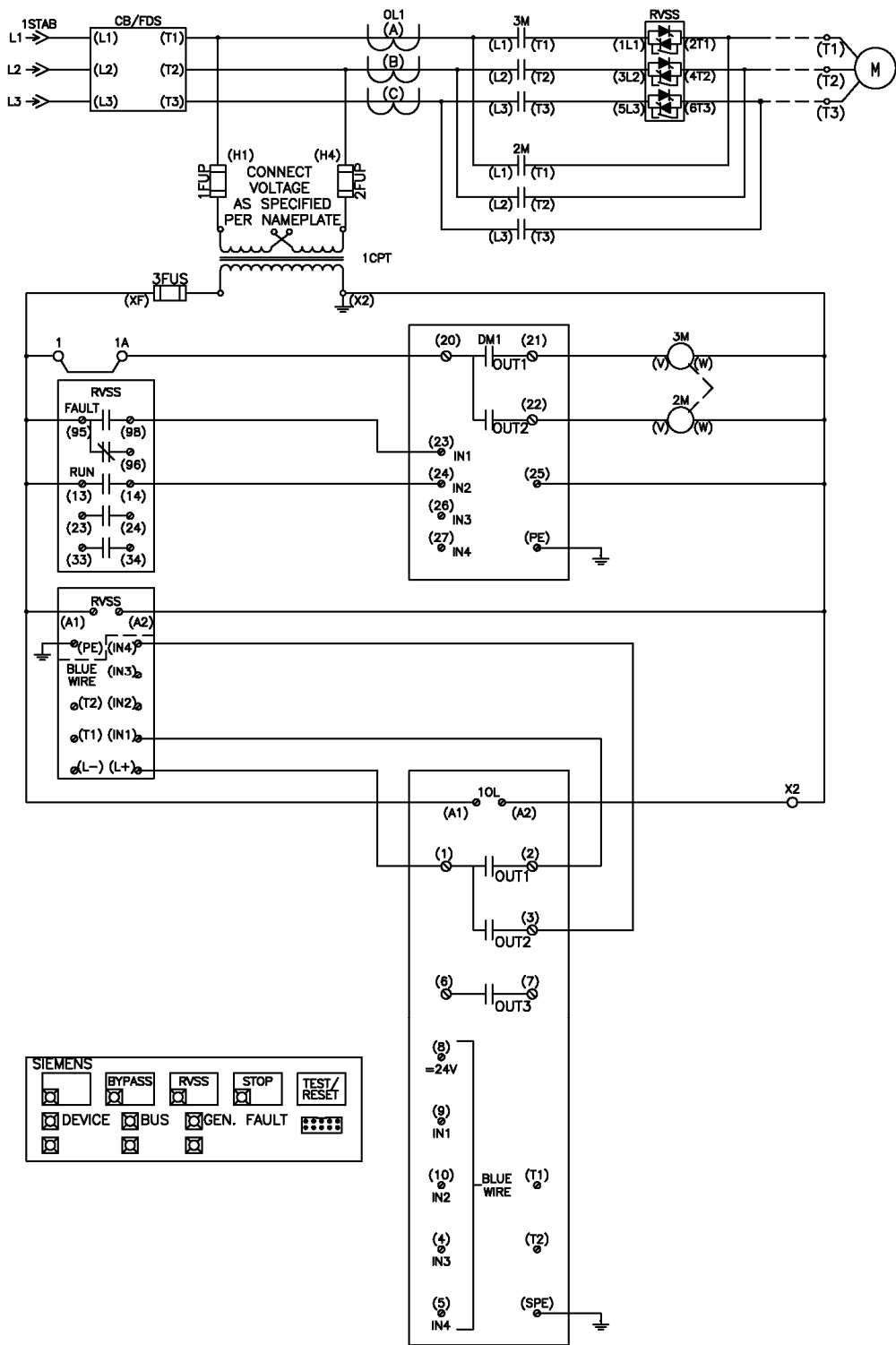
RVSS FAULT

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB112

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

### Connection Diagram





# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB112

### RVSS – Profibus Bit Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control

1. Operator Panel Button 3 (RVSS) is connected to the ON > Control Command, Operator Panel Button 2 (BYPASS) is connected to the ON < Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the RVSS the OP RVSS Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor the OP BYPASS Pushbutton is depressed. The ON< Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time)
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Output 1 and SIMOCODE Digital Module Output 2 will open.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB112

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

### Operating Instructions

#### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Output 1 and SIMOCODE Digital Module Output 2 will open.

#### Reset Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. SIMOCODE Digital Module Input 1 will indicate RVSS Fault Status only.
3. RVSS Hardware Fault conditions may be reset via Truth Table 3 Output. The inputs connected to Truth Table 3 are the TEST/RESET button located on the SIMOCODE Pro Basic Unit face, the Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or the TEST/RESET SIMOCODE Pro Operator Panel if so equipped.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB112

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

### Parameter Detail

Control Selection and Operation

**Control Station**

**Operation Mode Selector**

Cyclic Receive - Bit 0.5 ☐

Fixed Level - '1' ☐

**Local Control (LC)**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**PLC/DCS (DP)**

Not connected ☐

Cyclic Receive - Bit 0.0 ☐

Cyclic Receive - Bit 0.1 ☐

Cyclic Receive - Bit 0.2 ☐

Not connected ☐

**PC (DPV1)**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Operator Panel (OP)**

Not connected ☐

OP - Button 2 ☐

OP - Button 4 ☐

OP - Button 3 ☐

Not connected ☐

**Relays**

	Local 1	Local 2	Local 3	Remote
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Released Control Command**

**Preferred for direct Control of Control Functions**

On << ☐

On < ☐

Off ☐

On > ☐

On >> ☐

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB112

RVSS – Profibus Bit Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

Contactor Control - 1 QE1

BU - Output 2

Truth Table 3 3I/1O - Output

BU - Output 3

Not connected

Digital Module 1

DM - Output 1

DM1 - Input 2

DM - Output 2

Contactor Control - 2 QE2

External Fault 1

External Fault - Input

DM1 - Input 1

External Fault - Reset

Not connected

Response

latching

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Dll Command-Reset

Marking

RVSS FAULT



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB113

### RVSS – Profibus Bit Operation Mode Selection – No Local – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control (for field commissioning purposes only)

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Input 1 and SIMOCODE Input 3.
2. To engage the RVSS SIMOCODE Input 1 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor SIMOCODE Input 3 is activated. The ON < Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor SIMOCODE Input 1 and SIMOCODE Input 3 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Output 1 and SIMOCODE Digital Module Output 2 will open.

# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB113

#### RVSS – Profibus Bit Operation Mode Selection – No Local – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

##### Operating Instructions

###### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Output 1 and SIMOCODE Digital Module Output 2 will open.

###### Reset Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. SIMOCODE Digital Module Input 1 will indicate RVSS Fault Status only.
3. RVSS Hardware Fault conditions may be reset via Truth Table 3 Output. The inputs connected to Truth Table 3 are the TEST/RESET button located on the SIMOCODE Pro Basic Unit face, the Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or the TEST/RESET SIMOCODE Pro Operator Panel if so equipped.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB113

RVSS – Profibus Bit Operation Mode Selection –  
No Local – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

### Parameter Detail

RVSS Control and Operation

**Basic Unit**

BU - Output 1: Contactor Control - 1 QE1

BU - Output 2: Truth Table 3 3I/1O - Output

BU - Output 3: Not connected

**Digital Module 1**

DM - Output 1: DM1 - Input 2

DM - Output 2: Contactor Control - 2 QE2

**External Fault 1**

External Fault - Input: DM1 - Input 1

External Fault - Reset: Not connected

Response: tripping

Type:

☒ normally open (NO) ☐ normally closed (NC)

Activity:

☒ always ☐ only if motor runs

External Fault - Reset also by:

☒ Test/Reset Button, RS232 (Panel Reset) ☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3 ☐ Off Command-Reset

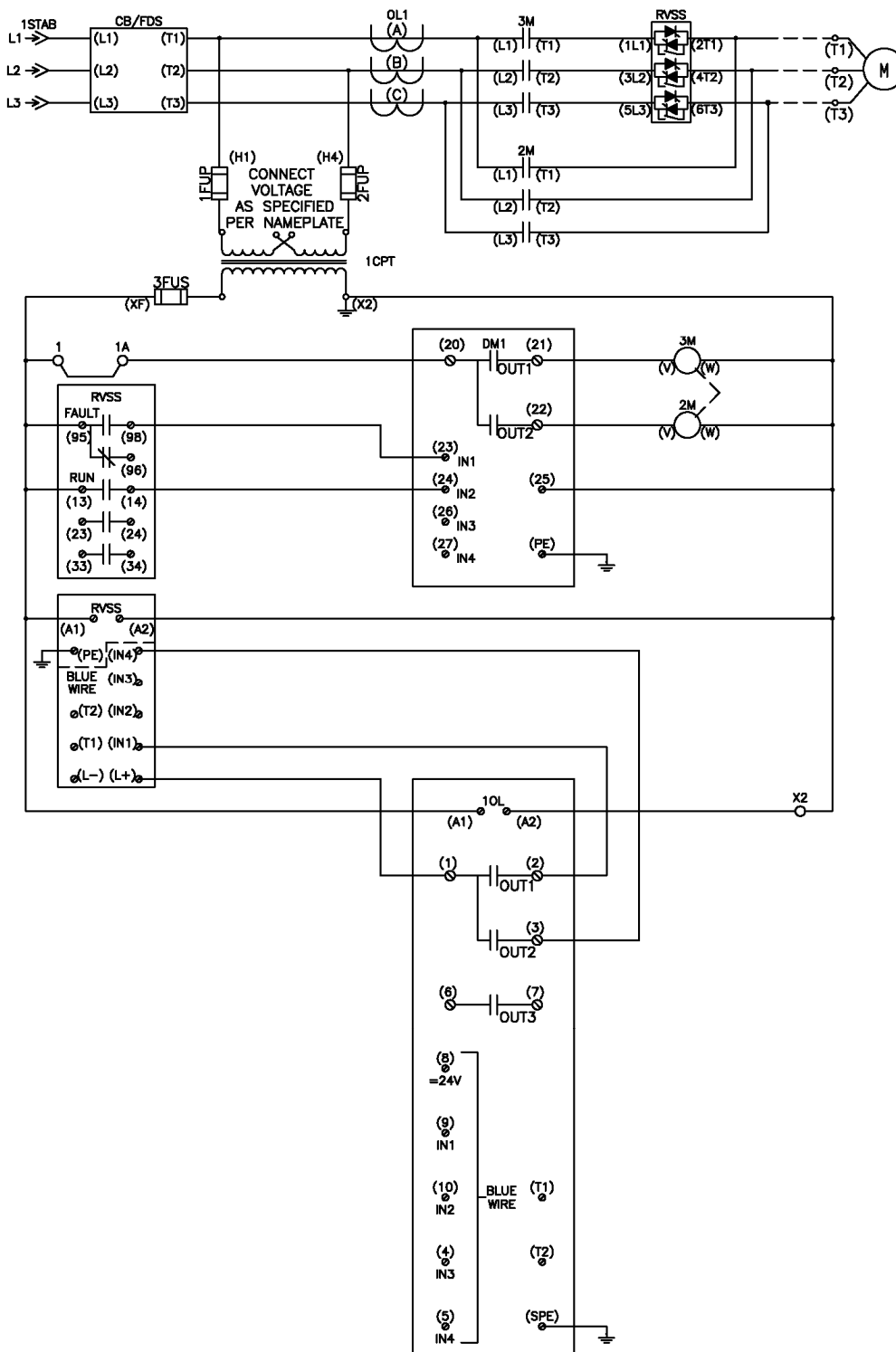
Marking: RVSS FAULT

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB114

RVSS – Profibus Bit Operation Mode Selection – No Local –  
Remote 3-Wire 3RW44 w/Input Isolation and Bypass

### Connection Diagram





# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB114

### RVSS – Profibus Bit Operation Mode Selection – No Local – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Fixed Level 1 is connected to the Operation Mode Selector S2.
2. To engage Remote Operation Mode the Profibus Cyclic Receive Bit 0.5 is activated. This mode does not permit sending parameter data from the PLC/DCS.
3. To engage Local Operation Mode the Profibus Cyclic Receive Bit 0.5 is deactivated.

##### Local Control (for field commissioning purposes only)

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Input 1 and SIMOCODE Input 3.
2. To engage the RVSS SIMOCODE Input 1 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor SIMOCODE Input 3 is activated. The ON < Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor SIMOCODE Input 1 and SIMOCODE Input 3 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Output 1 and SIMOCODE Digital Module Output 2 will open.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB114

### RVSS – Profibus Bit Operation Mode Selection – No Local – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

#### Operating Instructions

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time)
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Output 1 and SIMOCODE Digital Module Output 2 will open.

##### Reset Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. SIMOCODE Digital Module Input 1 will indicate RVSS Fault Status only.
3. RVSS Hardware Fault conditions may be reset via Truth Table 3 Output. The inputs connected to Truth Table 3 are the TEST/RESET button located on the SIMOCODE Pro Basic Unit face, the Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or the TEST/RESET SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB114

RVSS – Profibus Bit Operation Mode Selection – No Local – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

### Parameter Detail

Control Selection and Operation

Control Station

Operation Mode Selector

Cyclic Receive - B# 0.5

Fixed Level - '1'

Local Control (LC)

Not connected

BU - Input 3

Truth Table 1 3/10 - Output

BU - Input 1

Not connected

PLC/DCS (DP)

Not connected

Cyclic Receive - B# 0.0

Cyclic Receive - B# 0.1

Cyclic Receive - B# 0.2

Not connected

PC (DPV1)

Not connected

Not connected

Not connected

Not connected

Not connected

Operator Panel (OP)

Not connected

Not connected

Not connected

Not connected

Not connected

S1

'0'

'0'

'1'

'1'

S2

'0'

'1'

'0'

'1'

Local 1

Local 2

Remote

On<

On (enabled)

Off

Off (enabled)

On<

On (enabled)

Off

Off (enabled)

On<

On (enabled)

Off

Off (enabled)

On<

On (enabled)

Off

Off (enabled)

On<

On (enabled)

Off

Off (enabled)

Released Control Command

On<<

On<

Off

On>

On>>

Preferred for direct Control of Control Functions

Truth Table 1 3/10

Truth Table - Input 1

Not connected

Truth Table - Input 2

BU - Input 1

Truth Table - Input 3

BU - Input 3

Truth Table 3/10

I1	I2	I3	Q
0	0	0	0
0	0	1	1
0	1	0	1
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB114

RVSS – Profibus Bit Operation Mode Selection – No Local – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

Contactor Control - 1 QE1

BU - Output 2

Truth Table 3 3I/1O - Output

BU - Output 3

Not connected

Digital Module 1

DM - Output 1

DM1 - Input 2

DM - Output 2

Contactor Control - 2 QE2

External Fault 1

External Fault - Input

DM1 - Input 1

External Fault - Reset

Not connected

Response

latching

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Dll Command-Reset

Marking

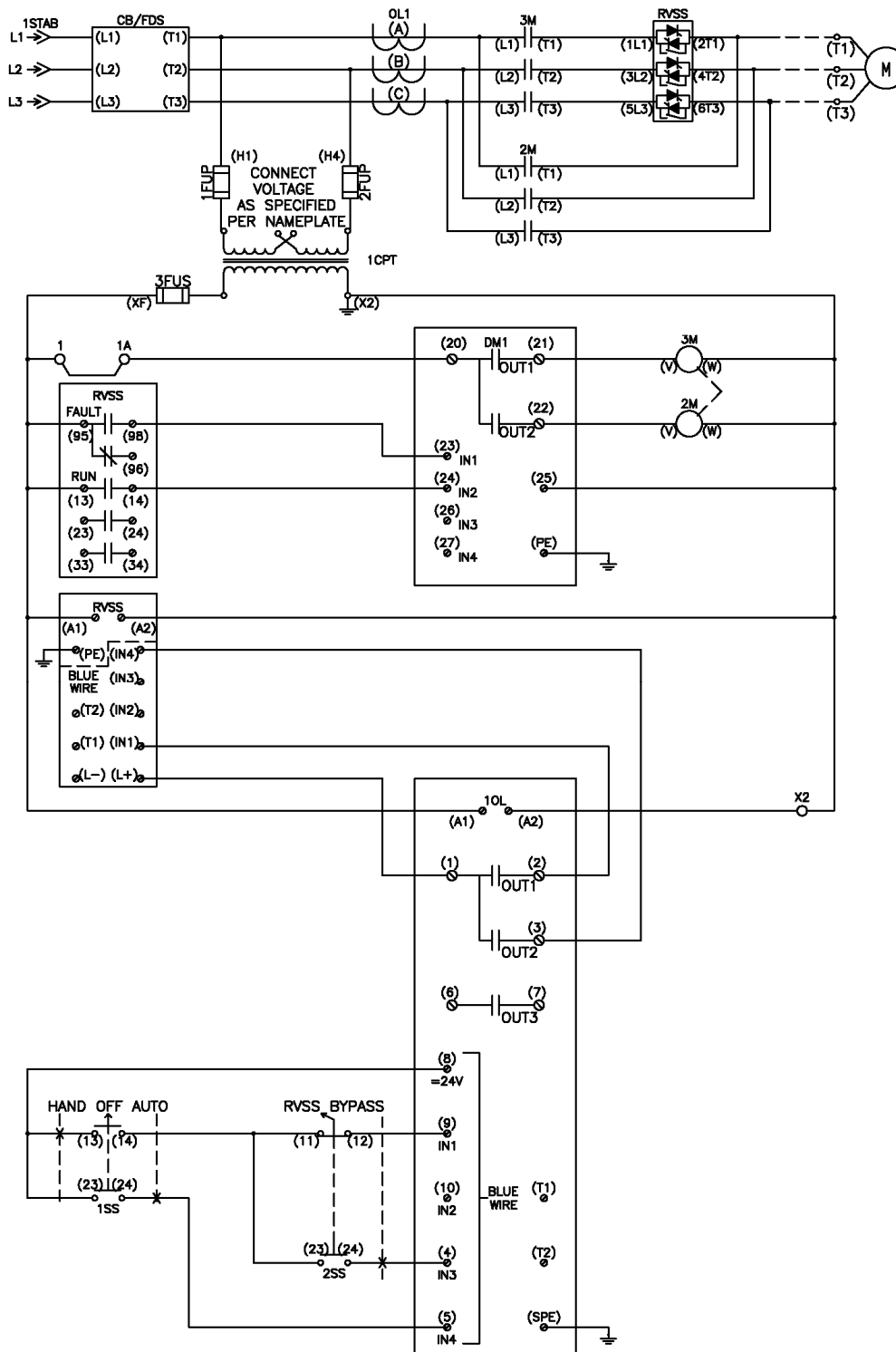
RVSS FAULT

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB115

RVSS – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB115

### RVSS – Selector Switch Operation Mode Selection – Local 2-Wire SS – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Input 1 and SIMOCODE Input 3.
2. To engage the RVSS the Selector Switch is placed into the RVSS position. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor the Selector Switch is placed into the BYPASS position. The ON < Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Outputs 2 and 3 will open.

# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB115

#### RVSS – Selector Switch Operation Mode Selection – Local 2-Wire SS – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

##### Operating Instructions

###### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time)
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Output 1 and SIMOCODE Digital Module Output 2 will open.

###### Reset Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. SIMOCODE Digital Module Input 1 will indicate RVSS Fault Status only.
3. RVSS Hardware Fault conditions may be reset via Truth Table 3 Output. The inputs connected to Truth Table 3 are the TEST/RESET button located on the SIMOCODE Pro Basic Unit face, the Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or the TEST/RESET SIMOCODE Pro Operator Panel if so equipped.







# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB115

RVSS – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

### Parameter Detail

RVSS Control and Operation

**Basic Unit**

BU - Output 1	Contactor Control - 1 QE1
BU - Output 2	Truth Table 3 3I/10 - Output
BU - Output 3	Not connected

**Digital Module 1**

DM - Output 1	DM1 - Input 2
DM - Output 2	Contactor Control - 2 QE2

**External Fault 1**

External Fault - Input	DM1 - Input 1
External Fault - Reset	Not connected
Response	latching

Type

☒ normally open (NO) ☐ normally closed (NC)

Activity

☒ always ☐ only if motor runs

External Fault - Reset also by

<input checked="" type="checkbox"/> Test/Reset Button, RS232 (Panel Reset)	<input type="checkbox"/> Auto-Reset
<input checked="" type="checkbox"/> Remote Reset, Reset 1,2,3	<input type="checkbox"/> Diff Command-Reset

Marking

RVSS FAULT

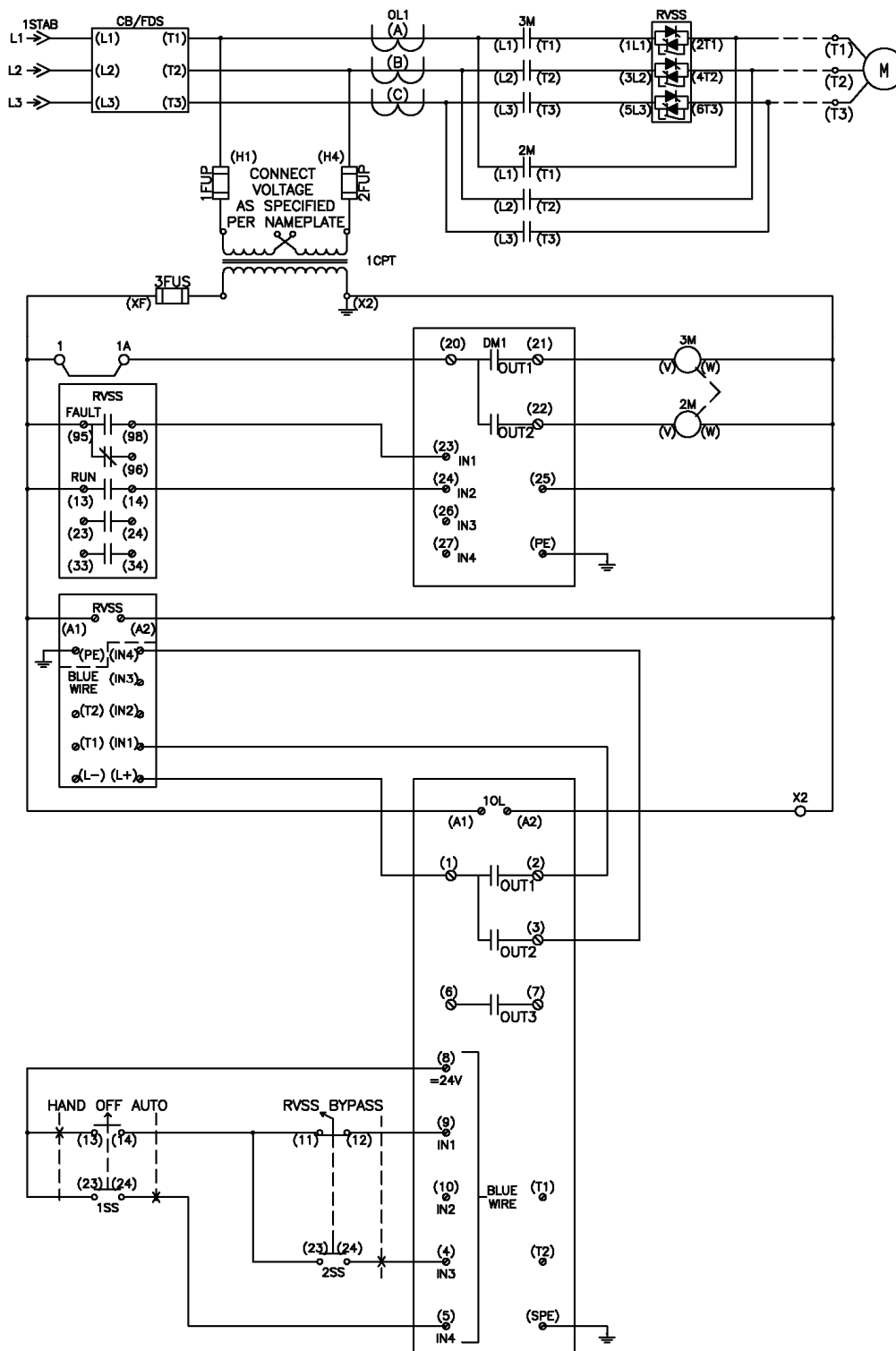
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB116

RVSS – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

#### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB116

### RVSS – Selector Switch Operation Mode Selection – Local 2-Wire SS – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and Truth Table 1 Output is connected to the OFF Control Command in Operation Mode Local Control (LC). Connected to Truth Table 1 are SIMOCODE Input 1 and SIMOCODE Input 3.
2. To engage the RVSS the Selector Switch is placed into the RVSS position. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor the Selector Switch is placed into the BYPASS position. The ON < Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Selector Switch is placed into the OFF position. The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching contactors it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Outputs 1 and 2 will open.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB116

### RVSS – Selector Switch Operation Mode Selection – Local 2-Wire SS – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

#### Operating Instructions

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Output 1 and SIMOCODE Digital Module Output 2 will open.

##### Reset Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. SIMOCODE Digital Module Input 1 will indicate RVSS Fault Status only.
3. RVSS Hardware Fault conditions may be reset via Truth Table 3 Output. The inputs connected to Truth Table 3 are the TEST/RESET button located on the SIMOCODE Pro Basic Unit face, the Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or the TEST/RESET SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB116

RVSS – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

### Parameter Detail

Control Selection and Operation

**Control Station**

**Operation Mode Selector**

Cyclic Receive - Bit 0.5 ☐

BU - Input 4 ☐

**Local Control (LC)**

Not connected ☐

BU - Input 3 ☐

Truth Table 1 3/10 - Output ☐

BU - Input 1 ☐

Not connected ☐

**PLC/OES (DP)**

Not connected ☐

Cyclic Receive - Bit 0.0 ☐

Cyclic Receive - Bit 0.1 ☐

Cyclic Receive - Bit 0.2 ☐

Not connected ☐

**PC (DPV1)**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Operator Panel (OP)**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Truth Table 1 3/10**

Truth Table - Input 1 ☐ Not connected

Truth Table - Input 2 ☐ BU - Input 1

Truth Table - Input 3 ☐ BU - Input 3

**Truth Table 3/10**

I1	I2	I3	O
0	0	0	0
0	0	1	1
0	1	0	1
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

**Released Control Command**

On<< ☐

On< ☐

On ☐

On> ☐

On>> ☐

**Preferred for direct Control of Control Functions**

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB116

RVSS – Selector Switch Operation Mode Selection –  
Local 2-Wire SS – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

Contactor Control - 1 QE1

BU - Output 2

Truth Table 3 3I/10 - Output

BU - Output 3

Not connected

Digital Module 1

DM - Output 1

DM1 - Input 2

DM - Output 2

Contactor Control - 2 QE2

External Fault 1

External Fault - Input

DM1 - Input 1

External Fault - Reset

Not connected

Response

tripping

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Dll Command-Reset

Marking

RVSS FAULT



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB117

### RVSS – Selector Switch Operation Mode Selection – Local 3-Wire SS/PB – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS the RVSS Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor the BYPASS Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON< Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor two methods are available. First, while the Selector Switch is placed into the HAND position the Stop Pushbutton is depressed. Second, the Selector Switch is placed into the OFF position. For either action The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Output 1 and SIMOCODE Digital Module Output 2 will open.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB117

### RVSS – Selector Switch Operation Mode Selection – Local 3-Wire SS/PB – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

#### Operating Instructions

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Output 1 and SIMOCODE Digital Module Output 2 will open.

##### Reset Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. SIMOCODE Digital Module Input 1 will indicate RVSS Fault Status only.
3. RVSS Hardware Fault conditions may be reset via Truth Table 3 Output. The inputs connected to Truth Table 3 are the TEST/RESET button located on the SIMOCODE Pro Basic Unit face, the Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or the TEST/RESET SIMOCODE Pro Operator Panel if so equipped.



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB117

RVSS – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

Contactor Control - 1 QE1

BU - Output 2

Truth Table 3 3/10 - Output

BU - Output 3

Not connected

Digital Module 1

DM - Output 1

DM1 - Input 2

DM - Output 2

Contactor Control - 2 QE2

External Fault 1

External Fault - Input

DM1 - Input 1

External Fault - Reset

Not connected

Response

tripping

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Off Command-Reset

Marking

RVSS FAULT

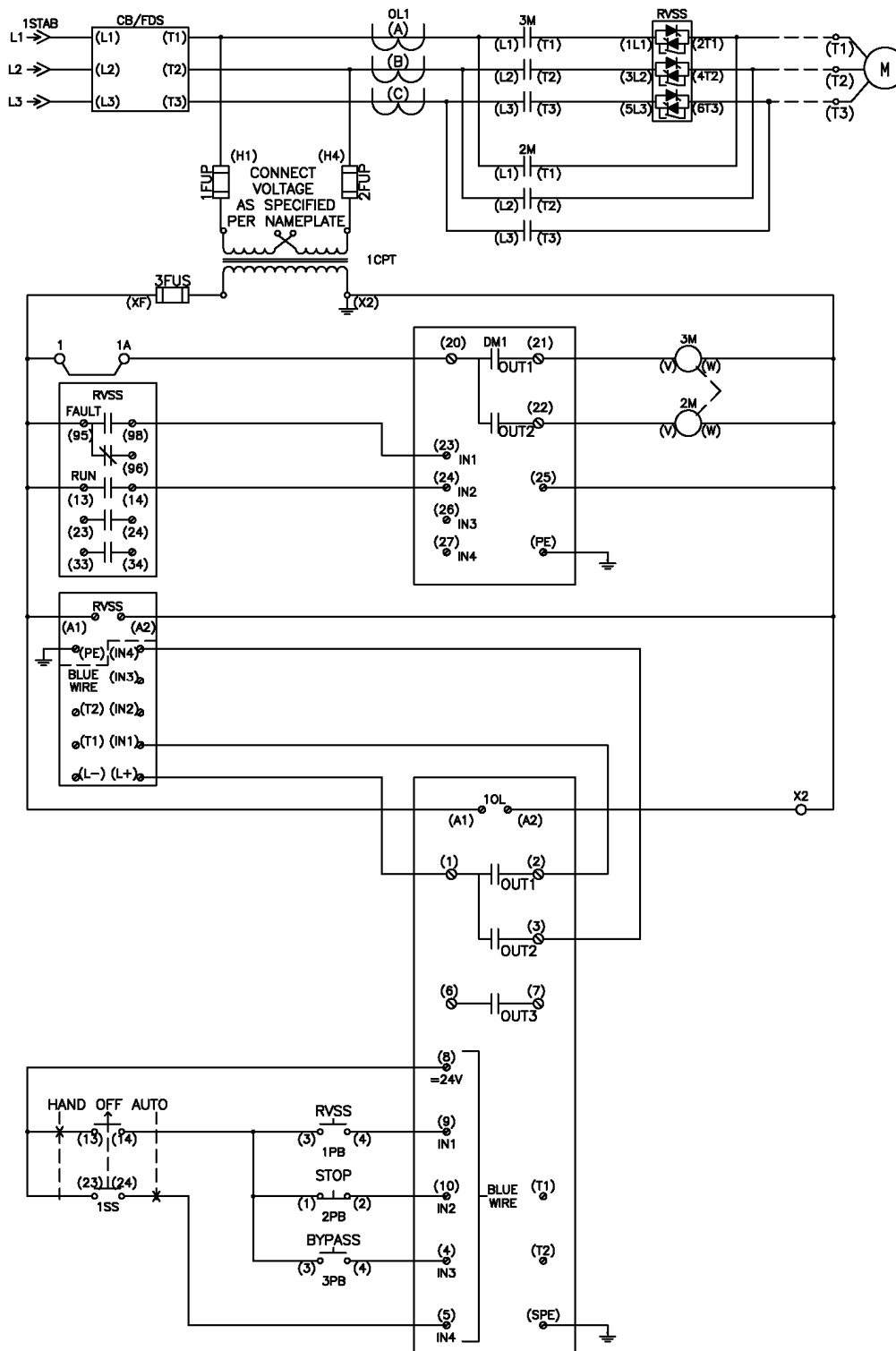
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB118

RVSS – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

#### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB118

### RVSS – Selector Switch Operation Mode Selection – Local 3-Wire SS/PB – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. SIMOCODE Input 4 is connected to the Operation Mode Selector S2.
2. To engage Local Operation Mode SIMOCODE Input 4 is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode SIMOCODE Input 4 is activated while Profibus Cyclic Receive Bit 0.5 is deactivated.
4. To engage Remote Operation Mode SIMOCODE Input 4 and Profibus Cyclic Receive Bit 0.5 are activated. This mode does not permit sending parameter data from the PLC/DCS.

##### Local Control

1. SIMOCODE Input 1 is connected to the ON > Control Command, SIMOCODE Input 3 is connected to the ON < Control Command and SIMOCODE Input 2 is connected to the OFF Control Command in Operation Mode Local Control (LC).
2. To engage the RVSS the RVSS Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor the BYPASS Pushbutton is depressed while the Stop Pushbutton is in its normally closed state. The ON< Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor two methods are available. First, while the Selector Switch is placed into the HAND position the Stop Pushbutton is depressed. Second, the Selector Switch is placed into the OFF position. For either action The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time)
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Output 1 and SIMOCODE Digital Module Output 2 will open.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB118

### RVSS – Selector Switch Operation Mode Selection – Local 3-Wire SS/PB – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

#### Operating Instructions

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Output 1 and SIMOCODE Digital Module Output 2 will open.

##### Reset Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. SIMOCODE Digital Module Input 1 will indicate RVSS Fault Status only.
3. RVSS Hardware Fault conditions may be reset via Truth Table 3 Output. The inputs connected to Truth Table 3 are the TEST/RESET button located on the SIMOCODE Pro Basic Unit face, the Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or the TEST/RESET SIMOCODE Pro Operator Panel if so equipped.





# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB118

RVSS – Selector Switch Operation Mode Selection –  
Local 3-Wire SS/PB – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

### Parameter Detail

RVSS Control and Operation

Basic Unit

BU - Output 1

Contactor Control - 1 QE1

BU - Output 2

Truth Table 3 3I/10 - Output

BU - Output 3

Not connected

Digital Module 1

DM - Output 1

DM1 - Input 2

DM - Output 2

Contactor Control - 2 QE2

External Fault 1

External Fault - Input

DM1 - Input 1

External Fault - Reset

Not connected

Response

latching

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Dll Command-Reset

Marking

RVSS FAULT

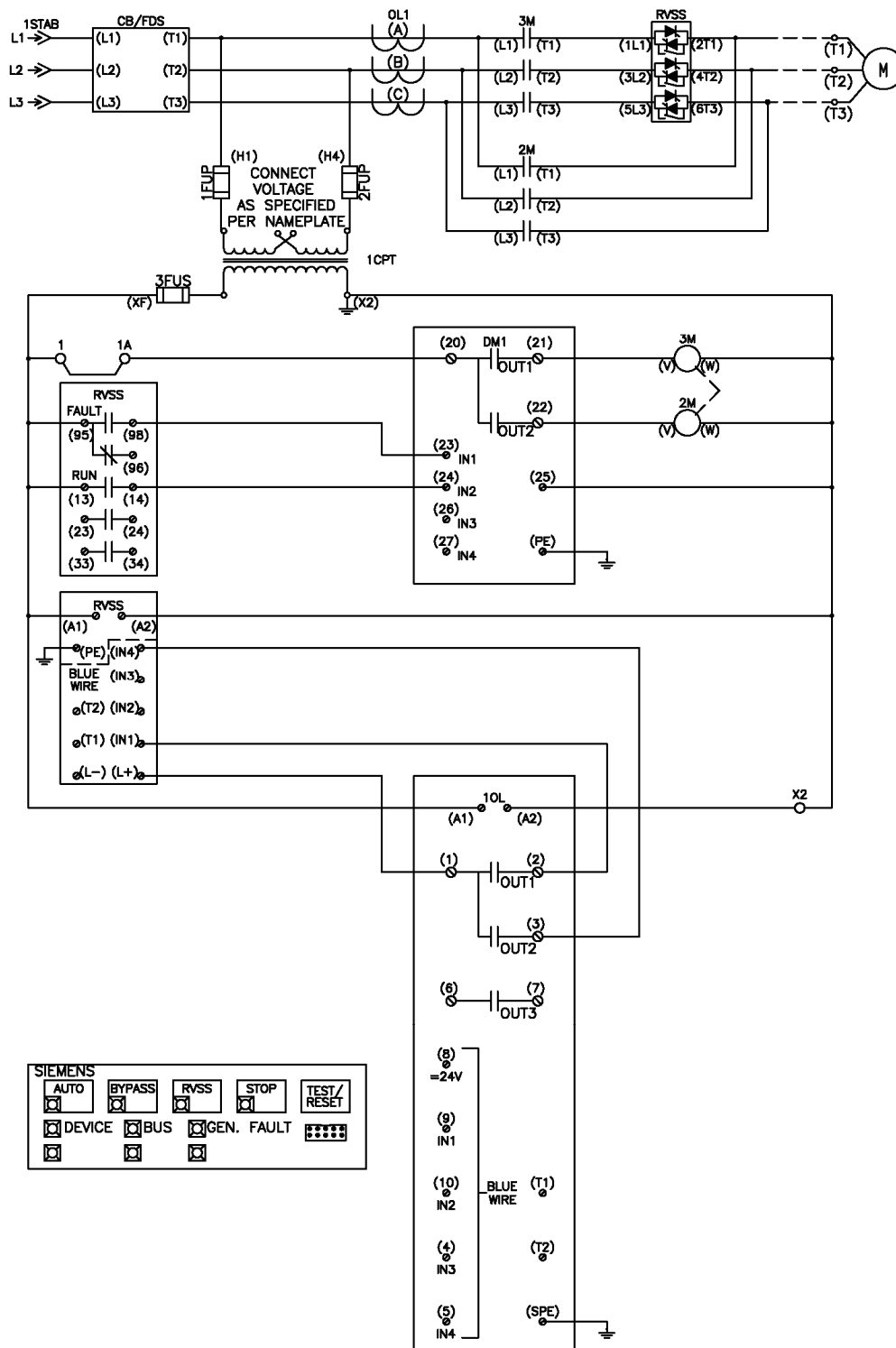


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB119

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OP – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

### Connection Diagram

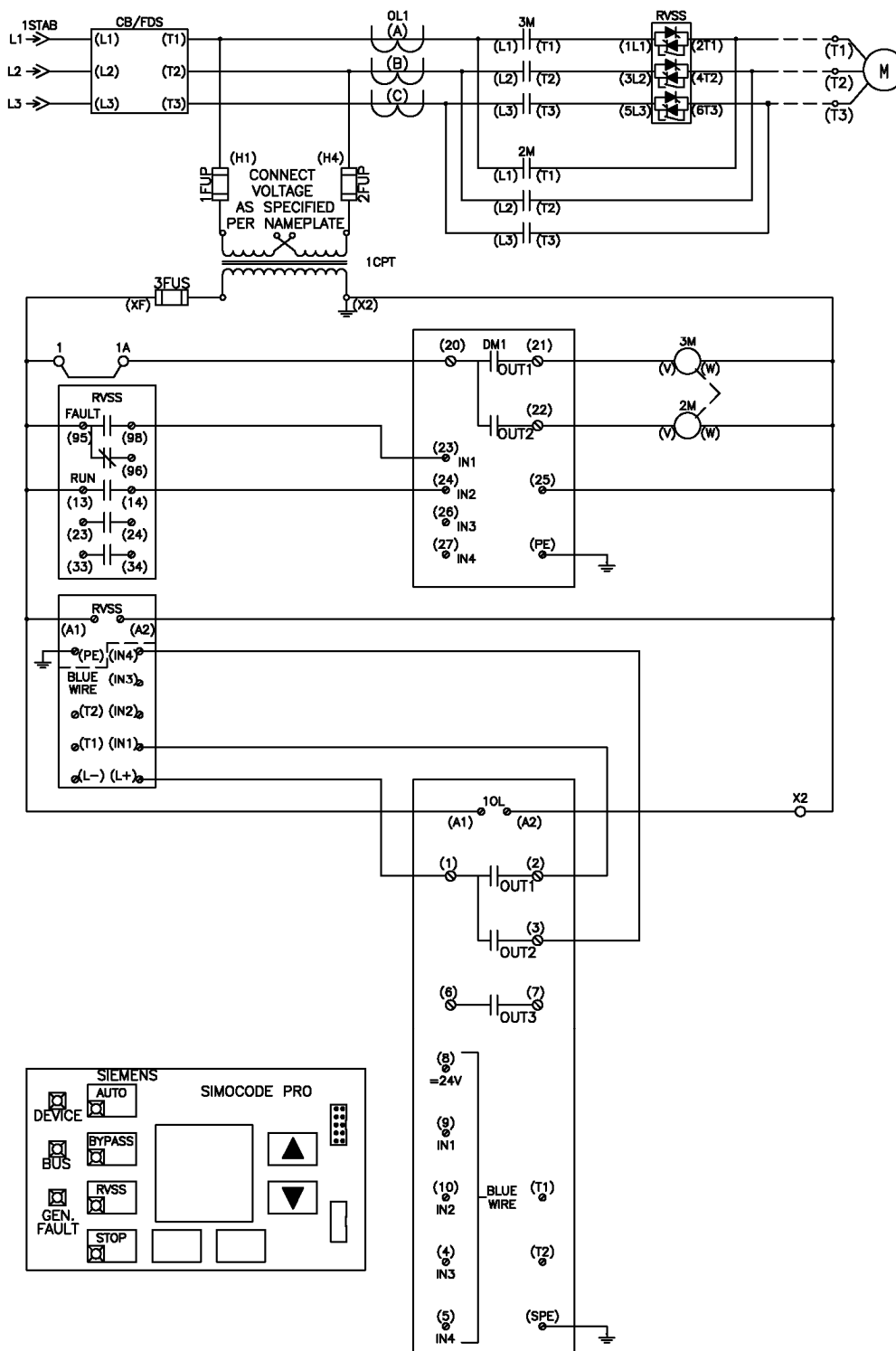


# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB119

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OPD – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

### Connection Diagram



# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB119

### RVSS – Operator Panel Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Non-Volatile Element 1 Output is connected to the Operation Mode Selector S2. Operator Panel Button 1 (AUTO) is connected to Non-Volatile Element 1 for an edge rising latch as well as to Counter 1 for latch reset. Counter 1 is connected to Non-Volatile Element 2 to maintain Operation Mode selection during loss of control power.
2. To engage Local Operation Mode the Non-Volatile Element 1 Output is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode the Non-Volatile Element 1 Output is activated while Profibus Cyclic Receive Bit 0.5 is deactivated. When mode is active indication is provided via LED on Operator Panel Button 1.
4. To engage Remote Operation Mode the Non-Volatile Element 1 Output and Profibus Cyclic Receive Bit 0.5 (maintained signal) are activated. This mode does not permit sending parameter data from the PLC/DCS. When mode is active indication is provided via LED on Operator Panel Button 1.

##### Local Control

1. Operator Panel Button 3 (RVSS) is connected to the ON > Control Command, Operator Panel Button 2 (BYPASS) is connected to the ON < Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the RVSS Contactor the OP RVSS Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor the OP BYPASS Pushbutton is depressed. The ON < Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time)
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Output 1 and SIMOCODE Digital Module Output 2 will open.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB119

### RVSS – Operator Panel Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

#### Operating Instructions

##### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Truth Table 2 Output is connected to the OFF Control Command in Operation Mode PLC/DCS (DP). Connected to Truth Table 2 are Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0.
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.2 and Profibus Cyclic Receive Bit 0.0 are deactivated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Output 1 and SIMOCODE Digital Module Output 2 will open.

##### Reset Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. SIMOCODE Digital Module Input 1 will indicate RVSS Fault Status only.
3. RVSS Hardware Fault conditions may be reset via Truth Table 3 Output. The inputs connected to Truth Table 3 are the TEST/RESET button located on the SIMOCODE Pro Basic Unit face, the Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or the TEST/RESET SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB119

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

### Parameter Detail

Control Selection and Operation

**Control Station**

**Operation Mode Selector**

Cyclic Receive - Bit 0.5 ☐

Non-Volatile Element 1 - Output ☐

**Local Control [LC]**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**PLC/OCS [DP]**

Not connected ☐

Cyclic Receive - Bit 0.0 ☐

Truth Table 2 3I/1O - Output ☐

Cyclic Receive - Bit 0.2 ☐

Not connected ☐

**PC [DPV1]**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Operator Panel [OP]**

Not connected ☐

OP - Button 2 ☐

OP - Button 4 ☐

OP - Button 3 ☐

Not connected ☐

**Released Control Command**

On<< ☐

On< ☐

Off ☐

On> ☐

On>> ☐

**Preferred for direct Control of Control Functions**

**Truth Table 2 3I/1O**

Truth Table - Input 1 ☐

Truth Table - Input 2 ☐

Truth Table - Input 3 ☐

**Truth Table 3I/1O**

I1	I2	I3	O
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB119

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 2-Wire 3RW44 w/Input Isolation and Bypass

### Parameter Detail

AUTO Toggle Operation

Non-Volatile Element 1

Non-Volatile Element - Type

edge rising with memory

Non-Volatile Element - Input

OP - Button 1

Non-Volatile Element - Reset

Non-Volatile Element 2 - Output

Counter 1

Counter - Limit

2

Counter - Input +

OP - Button 1

Counter - Input -

Not connected

Counter - Reset

Non-Volatile Element 2 - Output

Non-Volatile Element 2

Non-Volatile Element - Type

non inverting

Non-Volatile Element - Input

Counter 1 - Output

Non-Volatile Element - Reset

Not connected

### RVSS Control and Operation

Basic Unit

BU - Output 1

Contactor Control - 1 QE1

BU - Output 2

Truth Table 3.3/10 - Output

BU - Output 3

Not connected

Digital Module 1

DM - Output 1

DM1 - Input 2

DM - Output 2

Contactor Control - 2 QE2

External Fault 1

External Fault - Input

DM1 - Input 1

External Fault - Reset

Not connected

Response

latching

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Off Command-Reset

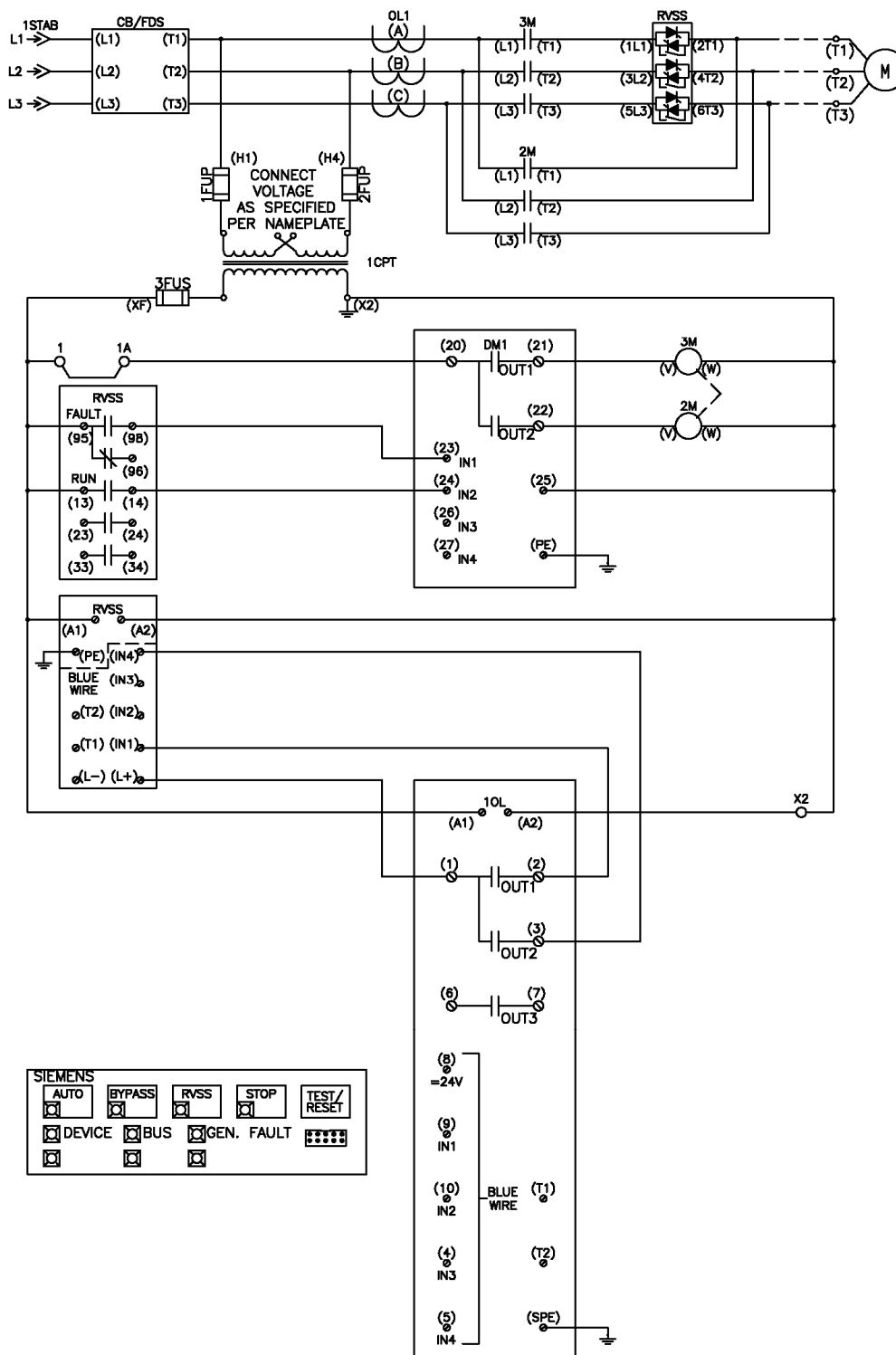
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB120

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OP – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

#### Connection Diagram



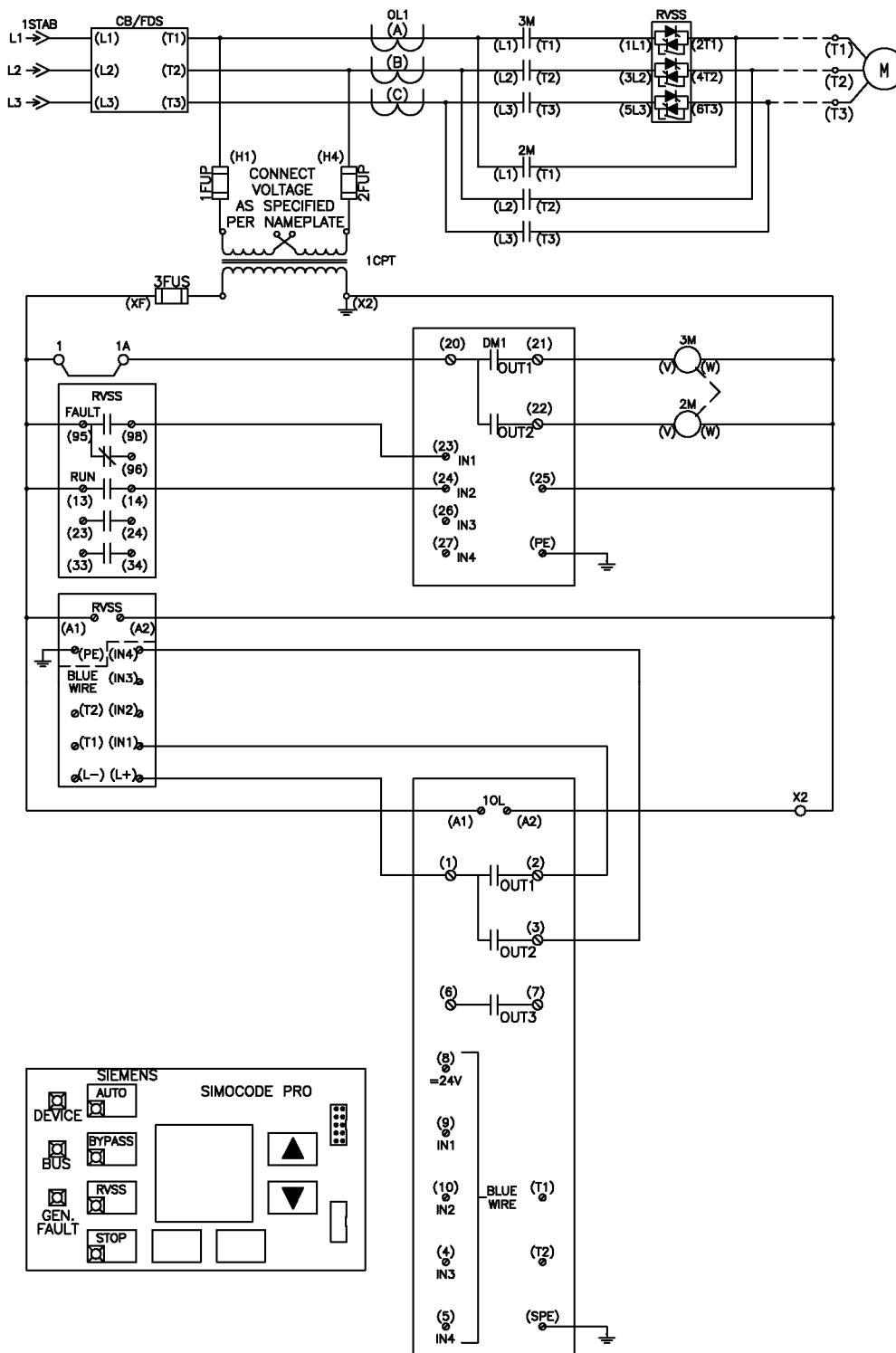
# tiastar Smart MCC SIMOCODE Pro Control

## Reference Manual

### PB120

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OPD – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

#### Connection Diagram





# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB120

### RVSS – Operator Panel Operation Mode Selection – Local 3-Wire OP (OPD) – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

#### Operating Instructions

##### Control Selection

1. Profibus Cyclic Receive Bit 0.5 is connected to the Operation Mode Selector S1. Non-Volatile Element 1 Output is connected to the Operation Mode Selector S2. Operator Panel Button 1 (AUTO) is connected to Non-Volatile Element 1 for an edge rising latch as well as to Counter 1 for latch reset. Counter 1 is connected to Non-Volatile Element 2 to maintain Operation Mode selection during loss of control power.
2. To engage Local Operation Mode the Non-Volatile Element 1 Output is deactivated. The state of Profibus Cyclic Receive Bit 0.5 is not relevant to this operation.
3. To engage Remote Parameterization Operation Mode the Non-Volatile Element 1 Output is activated while Profibus Cyclic Receive Bit 0.5 is deactivated. When mode is active indication is provided via LED on Operator Panel Button 1.
4. To engage Remote Operation Mode the Non-Volatile Element 1 Output and Profibus Cyclic Receive Bit 0.5 (maintained | signal) are activated. This mode does not permit sending parameter data from the PLC/DCS. When mode is active indication is provided via LED on Operator Panel Button 1.

##### Local Control

1. Operator Panel Button 3 (RVSS) is connected to the ON > Control Command, Operator Panel Button 2 (BYPASS) is connected to the ON < Control Command and Operator Panel Button 4 (STOP) is connected to the OFF Control Command in Operation Mode Operator Panel (OP).
2. To engage the RVSS Contactor the OP RVSS Pushbutton is depressed. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor the OP BYPASS Pushbutton is depressed. The ON < Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the OP Stop Pushbutton is depressed. The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time)
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Output 1 and SIMOCODE Digital Module Output 2 will open.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB120

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

### Operating Instructions

#### Remote Control

1. Profibus Cyclic Receive Bit 0.2 is connected to the ON > Control Command, Profibus Cyclic Receive Bit 0.0 is connected to the ON < Control Command and Profibus Cyclic Receive Bit 0.1 is connected to the OFF Control Command in Operation Mode PLC/DCS (DP).
2. To engage the RVSS the Profibus Cyclic Receive Bit 0.2 is activated. The ON > Control Command is then triggered, causing SIMOCODE Output 1 to close, which activates an internal RVSS RUN signal.
3. To engage the 3M Isolation Contactor the RVSS closes the associated internal RUN contact. The SIMOCODE Digital Module Input 2 is then activated, causing the SIMOCODE Digital Module Output 1 to close.
4. To engage the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.0 is activated. The ON < Control Command is then triggered, causing the SIMOCODE Digital Module Output 2 to close.
5. To disengage the RVSS with the 3M Isolation Contactor or the 2M Bypass Contactor the Profibus Cyclic Receive Bit 0.1 is activated. The OFF Control Command is then triggered, causing SIMOCODE Output 1 and Digital Module Output 2 to open.
6. To disengage the 3M Isolation Contactor the loss of RVSS RUN signal opens the associated internal RUN contact once the specified Ramp-down time expires. The SIMOCODE Digital Module Input 2 is deactivated, causing the SIMOCODE Digital Module Output 1 to open. (RVSS ramp-down time must be less than or equal to the SIMOCODE Execution Time).
7. When switching between RVSS and BYPASS it is required to issue an OFF Control Command before engaging the Control Command for the opposite operation.
8. In the event of an Overload or any other General Fault event SIMOCODE Output 1 and SIMOCODE Digital Module Output 2 will open.

#### Reset Control

1. SIMOCODE General Fault conditions and SIMOCODE RVSS Fault conditions may be reset via TEST/RESET button located on the SIMOCODE Pro Basic Unit face, via Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or via TEST/RESET button located on the SIMOCODE Pro Operator Panel if so equipped.
2. SIMOCODE Digital Module Input 1 will indicate RVSS Fault Status only.
3. RVSS Hardware Fault conditions may be reset via Truth Table 3 Output. The inputs connected to Truth Table 3 are the TEST/RESET button located on the SIMOCODE Pro Basic Unit face, the Profibus Cyclic Receive Bit 0.6 from the PLC/DCS system, or the TEST/RESET SIMOCODE Pro Operator Panel if so equipped.

# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB120

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

### Parameter Detail

Control Selection and Operation

**Control Station**

**Operation Mode Selector**

Cyclic Receive - Bit 0.5 ☐

Non-Volatile Element 1 - Output ☐

**Local Control (LC)**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**PLC/OCS (DP)**

Not connected ☐

Cyclic Receive - Bit 0.0 ☐

Cyclic Receive - Bit 0.1 ☐

Cyclic Receive - Bit 0.2 ☐

Not connected ☐

**PC (DPV1)**

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

Not connected ☐

**Operator Panel (OP)**

Not connected ☐

OP - Button 2 ☐

OP - Button 4 ☐

OP - Button 3 ☐

Not connected ☐

	Local 1	Local 2	Local 3	Remote
<b>Releases</b>				
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On (enabled)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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# tiastar Smart MCC SIMOCODE Pro Control Reference Manual

## PB120

RVSS – Operator Panel Operation Mode Selection –  
Local 3-Wire OP (OPD) – Remote 3-Wire 3RW44 w/Input Isolation and Bypass

### Parameter Detail

AUTO Toggle Operation

Non-Volatile Element 1

Non-Volatile Element - Type

edge rising with memory

Non-Volatile Element - Input

OP - Button 1

Non-Volatile Element - Reset

Non-Volatile Element 2 - Output

Counter 1

Counter - Limit

2

Counter - Input +

OP - Button 1

Counter - Input -

Not connected

Counter - Reset

Non-Volatile Element 2 - Output

Non-Volatile Element 2

Non-Volatile Element - Type

non inverting

Non-Volatile Element - Input

Counter 1 - Output

Non-Volatile Element - Reset

Not connected

### RVSS Control and Operation

Basic Unit

BU - Output 1

Contactor Control - 1 QE1

BU - Output 2

Truth Table 3 3R/10 - Output

BU - Output 3

Not connected

Digital Module 1

DM - Output 1

DM1 - Input 2

DM - Output 2

Contactor Control - 2 QE2

External Fault 1

External Fault - Input

DM1 - Input 1

External Fault - Reset

Not connected

Response

latching

Type

☒ normally open (NO)

☐ normally closed (NC)

Activity

☒ always

☐ only if motor runs

External Fault - Reset also by

☒ Test/Reset Button, RS232 (Panel Reset)

☐ Auto-Reset

☒ Remote Reset, Reset 1,2,3

☐ Off Command-Reset



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