

Motor Starters for Use in the Field, High Degree of Protection

SIRIUS M200D Motor Starters

General data

Overview



SIRIUS M200D AS-i Basic motor starters with manual local operation

The intelligent and highly flexible SIRIUS M200D motor starters for distributed installation start, monitor and protect motors and loads up to 5.5 kW.

The M200D motor starters are available in four versions:

M200D AS-i Basic	M200D AS-i Standard	M200D PROFIBUS	M200D PROFINET
Motor control with AS-i communication		PROFIBUS	PROFINET
Mechanical or electronic switching	✓	✓	✓
Electronic switching with soft starter functionality	--	✓	✓

✓ Function available

-- Function not available

More information

Homepage, see www.siemens.com/motorstarter

Industry Mall, see www.siemens.com/product?M200D

TIA Selection Tool Cloud (TST Cloud), see https://mall.industry.siemens.com/spice/TSTWeb/?kmat=MS_M200D

Basic functionality

The versions of the M200D motor starter are equipped with the following properties and functions:

- Available as direct-on-line and reversing starters in a rugged design
- Electromechanical or electronic switching version
- Low variance - only two device versions up to 5.5 kW thanks to wide range setting
- All versions have the same enclosure size.
- Degree of protection IP65
- Quick and failsafe wiring of system and motor cables using ISO 23570 plug-in connector technology (Q4/2 and Q8/0)
- Robust and widely used M12 connection method for digital inputs and outputs
- Integrated feeder connector monitoring
- Full motor protection through overload protection and a temperature sensor (PTC, TC)
- Short-circuit and overload protection integrated
- Integrated repair switch lockable with three locks (multi-level service)
- Uniform wiring to the SINAMICS G110D, SINAMICS G110M and SINAMICS G120D frequency inverters and to the ET 200pro distributed I/O system
- Extensive diagnostics concept using LEDs
- Optional integrated manual local control with key-operated switch (ordering option)
- Optionally available brake actuation with voltages from 180 V DC (no rectifier needed in motor) or 230/400 V AC (order versions)

Article No. scheme

Product versions		Article number																
Motor starters		3	R	K	1	3	5	-	6	K	S	4	0	-	3	A	A	0
Type	AS-i Basic	1														A		
	AS-i Standard	2														A		
	PROFIBUS/PROFINET	9														D		
Setting range for rated operational current I_A	0.15 ... 2 A									K								
	1.5 ... 9 A									N								
	1.5 ... 12 A									L								
Starter version	Electromechanical starters											4						with integrated contactor
	Electronic starters											7						with thyristors
Product function	Direct-on-line starters															0		
	Reversing starter															1		
	Direct-on-line starters															2		with manual local operation
	Reversing starter															3		with manual local operation
Brake actuation	None																	0
	230/400 V AC																	3
	180 V DC																	5
Example		3	R	K	1	3	5	-	6	K	S	4	0	-	3	A	A	0

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders please use the article numbers quoted in the selection and ordering data.

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Benefits

M200D motor starters provide the following advantages for customers:

- High plant availability through plug-in capability of the main circuit, communication and I/Os – relevant for installing and replacing devices
- Cabinet-free construction and near-motor installation thanks to the high degree of protection IP65
- The motor starters record the actual current flow for the parameterizable electronic motor overload protection. Reliable messages concerning the overshooting or undershooting of setpoint values for comprehensive motor protection. All motor protection functions can be defined by simple parameterization
- Low stock levels and low order costs thanks to a wide setting range for the electronic motor protection of 1:10 (only two device versions up to 5.5 kW)
- The integrated wide range for the current enables a single device to cover numerous standard motors of different sizes.
- Comprehensive offering of accessories, including ready-assembled cables
- The M200D motor starters can be installed with a few manual steps. The integrated plug-in technology enables far lower wiring outlay: Preassembled cables can be plugged directly onto the motor starter module.
- Easy and user-friendly installation because all versions have the same enclosure dimensions.
- Fast and user-friendly commissioning using optional manual local operation
- Increase of process speed through integrated functions such as "Quick Stop" and "Disable Quick Stop", e.g. at points and crossings
- Optional manual local control with momentary-contact and latching operation for easier start up and easier servicing

Application

The high degree of protection IP65 makes the M200D motor starters suitable in particular for use on extensive conveying systems such as are found in mail sorting centers, airports, automotive factories and the packing industry.

For simple drive tasks, particularly in conveyor applications, the new SINAMICS G110D frequency inverter series with a performance range from 0.75 kW to 7.5 kW and degree of protection IP65 is the ideal partner for the M200D motor starters.

SINAMICS G110D allow for stepless speed control of three-phase asynchronous motors and comply with the requirements for materials handling applications with frequency control (for further information, see [Catalog D 31.2](#)).

For simple drive tasks in conveyor applications in which a frequency inverter integrated into the motor is required, the SINAMICS G110M frequency inverter with a performance range from 0.37 kW to 4 kW and degree of protection IP65/66 is the ideal partner. The SINAMICS G110M is available individually as a frequency inverter for self-assembly and pre-mounted on SIMOGEAR geared motors, and with its conveyor-specific functions it satisfies the requirements of conveyor technology applications (for further information, see [Catalog D 31.2](#)).

Use of SIRIUS M200D motor starters in conjunction with IE3/IE4 motors

Note:

For the use of SIRIUS M200D motor starters in conjunction with highly energy-efficient IE3/IE4 motors, please observe the information on dimensioning and configuring; see [Application Manual "Controls with IE3/IE4 Motors"](#) <https://support.industry.siemens.com/cs/ww/en/view/94770820>.

For more information, see [page 1/7](#).

Motor Starters for Use in the Field, High Degree of Protection

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M200D Motor Starters for AS-Interface

General data

Overview

For motor control using AS-Interface there are the following M200D motor starter versions: SIRIUS M200D AS-i Basic and SIRIUS M200D AS-i Standard (basic functionality, [see page 9/41 "SIRIUS M200D Motor Starters" → "General data" → "Overview"](#)).

SIRIUS M200D AS-i Basic

Functionality

- Easy and fast on-site start up through parameterization of local setting knobs (DIP switches) and rotary coding switches for adjusting the rated operational current. The rotary coding switch has an OFF position for deactivating the overload protection with the help of the thermal motor model when using a temperature sensor.

Communications

- AS-i communication with A/B addressing according to Spec V2.1
- The AS-i bus is connected cost-effectively using an M12 connection on the device. Of the four digital inputs, two are contained in the process image and can therefore be used in the PLC program. The other two inputs are locally effective and permanently assigned with functions.
- The LEDs can provide comprehensive diagnostics of the device on the spot. In addition to diagnostics using the PAE process image, the device can create up to 15 different diagnostic signals per slave. The message with the highest priority can be read out through the AS-i communication. This is yet another new development which distinguishes the M200D AS-i Basic motor starter from the rest of the market and adds innovative technology, maximum availability and transparency to the system.

SIRIUS M200D AS-i Standard

The intelligent and highly flexible M200D AS-i standard motor starter in A/B technology starts and protects motors and loads up to 5.5 kW. They are available in direct-on-line or reversing starter versions, in a mechanical version and also an electronic version (the latter with soft start function).

The M200D AS-i Standard motor starter is the most functional member of the SIRIUS motor starter family in the high degree of protection IP65 for AS-i communication. Consistency with other products of the SIRIUS M200D motor starter range and with the frequency converter and ET 200pro I/O system is assured.

Functionality

- AS-i communication with A/B addressing according to Spec 3.0
- Electronic version also with soft start function
- AS-i slave profile 7AE/7A5 with process image 6E/4A
- Full TIA integration: All digital inputs and outputs exist in the cyclic process image and are visible through AS-i, providing maximum flexibility and best adaptability to the application.
- Additionally expanded diagnostics using data record through AS-i bus
- Complete plant monitoring using statistics data record and current value monitoring by means of data records
- Parameterization through AS-i bus with the help of data records or an expanded process image from the user program
- Control of the motor starter using a command data record from the user program
- Flexible assignment of the digital inputs and outputs with all available assignable input actions
- Parameterization using Motor Starter ES at the local interface (ordering option for start up software)
- Diagnostics with the help of Motor Starter ES (ordering option for start up software)

Mounting and installation

The M200D motor starters can be installed with a few manual steps. The integrated plug-in technology enables far lower wiring outlay. Connecting cables can be plugged directly onto the motor starter module. Swapping of the connecting wires and malfunctions within the plant are prevented by preassembled cables. The AS-i bus is connected cost-effectively using an M12 connection on the device. All versions feature identical enclosure sizes, which simplifies system design and conversion.

Parameterization and configuration

The particularly robust M200D AS-i Standard motor starter is characterized by numerous functions which can be flexibly parameterized. It enables highly flexible parameterization through the AS-i bus using data records from the user program as well as user-friendly local parameterization using the Motor Starter ES start up software through the local point-to-point interface.

Functions can be flexibly assigned to the digital inputs and outputs, adapting them to all possible conveyor applications. All motor protection functions, limit values and reactions can be defined by parameterization. The AS-i Standard is unique. In its 6E/4A process image the motor starter sends all four digital inputs and the digital output via the process image to the PLC in cyclic mode. System configuration and system documentation are facilitated not least by a number of CAX data.

Operation

The new generation of motor starters is characterized by its advanced functionality, maximum flexibility and extremely high degree of automation.

All digital inputs and outputs exist in the cyclic process image. All limit values for monitoring functions and their reactions are parameterizable and therefore adaptable to the application. The motor starters record the actual current flow. Evaluating the current of the parameterizable solid-state overload protection increases the availability of the drives, as do reliable messages concerning the overshooting or undershooting of setpoint values.

Diagnostics and maintenance

The M200D sets new standards for diagnostics. In addition to diagnostics using the PAE process image and diagnostics by "parameter echo" (up to 15 different diagnostic signals per slave can be read out via AS-i communication), the possibility of reading out diagnostic data records is unique on the market.

The AS-i Standard is recommended in particular for expansive and highly automated system components because the possibility of monitoring devices and systems with data records (statistical data, measured values and device diagnostics) provides an in-depth view of the plant from the control room, guaranteeing the monitoring process and increasing plant availability.

Preventive maintenance can be carried out with the integrated maintenance timer and plant downtimes prevented as a result in advance.

Local control of a drive is possible using the ordering option with integrated manual operation. This is yet another new development which distinguishes the M200D AS-i Standard motor starter from the rest of the market and adds innovative technology, maximum availability and transparency to the plant.

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M200D Motor Starters for AS-Interface

General data



SIRIUS M200D
AS-i Basic

SIRIUS M200D
AS-i Standard

Device functions (firmware features)

Slave on the bus

Fieldbus	✓ AS-i	
Slave type	✓ A/B acc. to Spec 2.1	✓ A/B acc. to Spec 3.0
Profile	✓ 7.A.E	✓ 7.A.E & 7.A.5
Number of assigned AS-i addresses on the bus	✓ 1	✓ 2
Number of stations per AS-i master	✓ Max. 62 devices	✓ Max. 31 devices
AS-i master profile	✓ M3 and higher	✓ M4 and higher

Parameter assignment

DIP switches	✓	--
Potentiometer for rated operational current	✓	--
Motor Starter ES	--	✓
Data records through AS-i	--	✓

Diagnostics

Diagnostics through parameter channel	✓	
Acyclic through data records	--	✓
Expanded process image PAE 4 bytes	--	✓

Process image

Process image	✓ 4E/3A	✓ 6E/4A
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Data channels

Local optical interface (manual local)	✓	
AS-i bus	✓	
Motor Starter ES through local interface	--	✓
Motor Starter ES through bus	--	

Data records¹⁾ (acyclic)

Parameterization	--	✓
Diagnostics	--	✓
Measured values	--	✓
Statistics	--	✓
Commands	--	✓

Inputs

Number	✓ 4	
• Of these in the process image	✓ 2 through AS-i	✓ 4 through AS-i
Input action	✓ For permanently assigned functions, see manual ²⁾	✓ Parameterizable: flexible
Quick stop	✓ Permanent function: latching, edge-triggered	✓ Parameterizable function: latching (edge-triggered), non-latching (level-triggered)

Outputs

Number	✓ 1	
Output action	✓ Permanent function: assigned with group fault	✓ Parameterizable: For function, see manual ³⁾

Brake output

180 V DC /230/400 V AC / none	✓	
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Motor protection

Overload protection	✓ Electronic, wide range 1:10	
Short-circuit protection	✓	
Full motor protection	✓	
Temperature sensor	✓ Parameterizable using DIP switches: PTC or Thermoclock or deactivated	✓ Parameterizable using Motor Starter ES, data record: PTC or Thermoclock or deactivated

✓ Function available

-- Function not available

¹⁾ The data records are a reduced selection compared with PROFIBUS/PROFINET.

²⁾ <https://support.industry.siemens.com/cs/ww/en/view/35016496>.

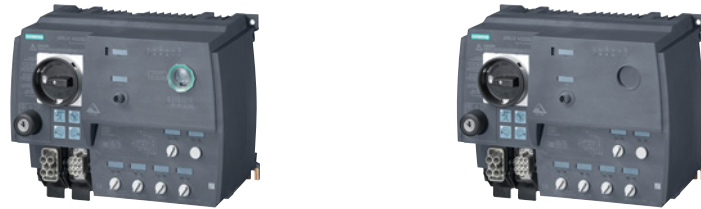
³⁾ <https://support.industry.siemens.com/cs/ww/en/view/38722160>.

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M200D Motor Starters for AS-Interface

General data



SIRIUS M200D
AS-i Basic

SIRIUS M200D
AS-i Standard

Device functions (firmware features)

Device function

Repair switch	✓	
Current limit monitoring bottom	--	✓ Parameterizable
Current limit monitoring top	--	✓ Parameterizable
Zero current detection	✓ Permanent function: Disconnection, less than 18.75% of the rated operational current I_e	✓ Parameterizable
Blocking current	✓ Permanent function: starting up of the motor: Tripping limit up to 800% of the rated operational current I_e for 10 s Active operation: Threshold for tripping "blocking current" up to 400% of the rated operational current I_e	✓ Parameterizable
Unbalance	✓ Permanent function: At 30% of the rated operational current I_e (only mechanical MS)	✓ Parameterizable
Load type	✓ Permanent function: 3-phase	✓ Parameterizable: single-phase and three-phase
Shutdown class	✓ Parameterizable using DIP switches: CLASS 10/deactivated	Parameterizable using Motor Starter ES, data record: CLASS 5, 10, 15, 20
Protection against voltage failure	✓	✓ Parameterizable: activated/deactivated
Soft starter control function		
Soft start function	--	✓ Only solid-state version
Bypass function	--	✓ Only solid-state version

✓ Function available

-- Function not available

Application

The M200D AS-i standard is particularly suitable for highly automated applications in conveyor systems requiring devices and systems to be monitored to prevent or limit plant downtime. The option of planning the functions of the motor starter or its interfaces also creates the prerequisite for fine-adjustment to the function of the motor starter in the application and hence provides for extreme flexibility.

For the use of SIRIUS M200D motor starters in conjunction with highly energy-efficient IE3/IE4 motors, please observe the information on dimensioning and configuring; see [Application Manual "Controls with IE3/IE4 Motors"](https://support.industry.siemens.com/cs/ww/en/view/94770820), <https://support.industry.siemens.com/cs/ww/en/view/94770820>.

For more information, see [page 1/7](#).

Technical specifications

More information

Device manuals for SIRIUS M200D AS-i Basic and Standard, see

- <https://support.industry.siemens.com/cs/ww/en/view/35016496>
- <https://support.industry.siemens.com/cs/ww/en/view/38722160>

FAQs, see <https://support.industry.siemens.com/cs/ww/en/ps/16324/faq>

Notes on security:

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions only represent one component of such a concept.

For more information about the subject of Industrial Security, see www.siemens.com/industrialsecurity.

Motor Starters for Use in the Field, High Degree of Protection

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M200D Motor Starters for AS-Interface

General data

Type	M200D motor starters				
	AS-i Basic electromechanical switching	AS-i Basic electronic switching	AS-i Standard electromechanical switching	AS-i Standard electronic switching	
Technology designation ¹⁾	DSte / RSte	sDSte / sRSte	DSte / RSte	sDSte / sRSte	
Mechanics and environment					
Mounting dimensions (W x H x D)	mm	294 x 215 x 159			
Permissible ambient temperature	°C	-25 ... +55			
• During operation	°C	-40 ... +70			
• During storage					
Weight	g	2 880/3 130	3 220/3 420	2 880/3 130	3 220/3 420
Permissible mounting position		Vertical, horizontal, lying			
Vibration resistance acc. to IEC 60068 Part 2-6	g	2			
Shock resistance		12/11 half-sine			
• Acc. to IEC 60068 Part 2-27	g/ms	9.8/5 or 5.9/10			
• Without influencing the contact position	g/ms				
Degree of protection acc. to IEC 529		IP65			
Installation altitude		No derating			
• Up to 1 000 m		1 % per 100 m			
• Up to 2 000 m					
Cooling		Convection			
Protection class IEC 536 (VDE 0106-1)		1			
Electrical specifications					
Control circuit					
Operating voltage U_{AS-i}	V DC	26.5 ... 31.6			
Supply voltage U_{aux}	V DC	20.4 ... 28.8			
Power consumption from AS-i (incl. 200 mA sensor supply)	mA	< 300			
Current consumption from U_{aux} (without digital output)					
• Max.	mA	155	15 (direct-on-line)/ 175 (reversing)	155	15 (direct-on-line)/ 175 (reversing)
• Typ.	mA	75	10 (direct-on-line)/ 75 (reversing)	75	10 (direct-on-line)/ 75 (reversing)
Main circuit					
Maximum power of three-phase motors at 400 V AC	kW	5.5	4	5.5	5.5
Rated operational voltage U_e					
• Approval acc. to EN 60947-1	V AC	400 (50/60 Hz)			
• Approval acc. to UL and CSA	V AC	600 (50/60 Hz)			
• Rated operational current range	A	0.15 ... 2 / 1.5 ... 12	--	0.15 ... 2 / 1.5 ... 12	--
• Rated operational current range for soft starting	A	--		--	0.15 ... 2 / 1.5 ... 12
• Rated operational current range for direct-on-line starting	A	--	0.15 ... 2 / 1.5 ... 9	--	0.15 ... 2 / 1.5 ... 9
Rated operational current for starters I_e at 400 V AC					
• 400 V at AC-1 / 2 / 3	A	12	--	12	--
• 500 V at AC-1 / 2 / 3	A	9	--	9	--
• 400 V at AC-4	A	4	--	4	--
• 400 V at AC-53a	A	--	9	--	12 for soft starting 9 for direct-on-line starting
Mechanical endurance of contactor	Operating cycles	30 million	--	30 million	--
Trip class		CLASS 10		CLASS 5, 10, 15, 20	
Type of coordination acc. to IEC 60947-4-1		1 (2 for device version 2A)	1	1 (2 for device version 2A)	1
Permissible switching frequency		See manual ²⁾		See manual ³⁾	
Rated ultimate short-circuit breaking capacity I_q					
• At 400 V AC	kA	50		50	20 ⁴⁾
• At 500 V AC	kA	50 ⁴⁾	20 ⁴⁾	50	20 ⁴⁾
Short-circuit protection		integrated, 2 x 13 I_e = 26 A			
• At $I_{e,max}$ = 2 A		integrated, 2 x 13 I_e = 208 A			
• At $I_{e,max}$ = 9 / 12 A					
Brake actuation (option)					
Operational voltage	V	230/400 AC or 180 DC			
Uninterrupted current	A	< 0.5 at 230/400 V AC < 0.8 at 180 V DC			
Short-circuit protection		Yes, 1 A melting fuse			

1) DS Direct-on-line starters
RS Reversing starters
DSS .. Direct-on-line soft starters
RSS .. Reversing soft starters
te Full motor protection (thermal + electronic)
s Electronic switching with semiconductor.

2) <https://support.industry.siemens.com/cs/ww/en/view/35016496>.

3) <https://support.industry.siemens.com/cs/ww/en/view/38722160>.

4) Only systems with grounded neutral point permitted.

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M200D Motor Starters for AS-Interface

IE3/IE4 ready M200D Basic motor starters

Selection and ordering data



M200D AS-i Basic without manual local operation



M200D AS-i Basic with manual local operation

Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	d					

Electromechanical starters (with integrated contactor)

	15	3RK1315-6□S41-□AA□		1	1 unit	42D
Rated operational current setting range/A					Additional price	
• 0.15 ... 2		K			None	
• 1.5 ... 12		L			✓	
Direct-on-line starters/reversing starters						
• Direct-on-line starters			0		None	
• Reversing starters			1		✓	
• Direct-on-line starters with manual local operation			2		✓	
• Reversing starters with manual local operation			3		✓	
Brake actuation						
• Without brake actuation			0		None	
• Brake actuation (230/400 V AC)			3		✓	
• Brake actuation (180 V DC)			5		✓	

Electronic starters (with thyristors)

	15	3RK1315-6□S71-□AA□		1	1 unit	42D
Rated operational current setting range/A					Additional price	
• 0.15 ... 2		K			None	
• 1.5 ... 9		N			✓	
Direct-on-line starters/reversing starters						
• Direct-on-line starters			0		None	
• Reversing starters			1		✓	
• Direct-on-line starters with manual local operation			2		✓	
• Reversing starters with manual local operation			3		✓	
Brake actuation						
• Without brake actuation			0		None	
• Brake actuation (230/400 V AC)			3		✓	
• Brake actuation (180 V DC)			5		✓	

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M200D Motor Starters for PROFIBUS/PROFINET

General data

Overview

The intelligent, highly flexible M200D PROFIBUS/PROFINET motor starters are the most functional motor starters of the SIRIUS motor starter family in the high degree of protection IP65 for PROFIBUS/PROFINET communication.

They start and protect motors and loads up to 5.5 kW. Direct-on-line and reversing starter versions are available, in a mechanical version and also an electronic version (the latter with soft start function).

The particularly robust M200D PROFIBUS/PROFINET motor starters are characterized by numerous functions which can be flexibly parameterized. Their modular design comprises a motor starter module and a communication module.

The M200D PROFINET motor starters enable TIA-integrated parameterization through PROFINET from STEP 7 – in familiar, user-friendly manner with the look and feel of PROFIBUS.

Functionality

- For basic functionality, see page 9/41 "SIRIUS M200D Motor Starters" → "General data" → "Overview"
- Electronic version also with soft start function
- Robust and widely used M12 connection method for the digital inputs and outputs and the PROFIBUS/PROFINET bus connection
- All four digital inputs and two digital outputs exist in the cyclic process image. This provides complete transparency of the process on the control level
- Full TIA integration: All digital inputs and outputs exist in the cyclic process image and are visible through the bus, providing maximum flexibility and excellent adaptability to the application
- Flexible assignment of the digital inputs and outputs with all available assignable input actions
- Extensive diagnostics concept using LEDs and through the bus with the TIA-compatible mechanisms
- Expanded diagnostics using data records
- Complete plant monitoring using statistics data record and current value monitoring by means of data records
- Parameterization through PROFIBUS/PROFINET bus with the help of data records from the user program
- Control of the motor starter using a command data record from the user program
- Removable modular control unit – quicker device replacement and therefore lower costs when device outages occur – since existing wiring is on the control unit and only one device needs to be replaced
- Parameterization in STEP 7 HW Config using Motor Starter ES (ordering option for start up software)
- Start up and diagnostics with the help of Motor Starter ES (ordering option for start up software)
- Trace function through Motor Starter ES for optimized start up and tracking of process and device values

Only with PROFINET:

- Just one bus system from the MES level to the devices – no routers
- More stations on the bus and possible configuration of flexible bus structures
- Automatic re-parameterization in case of device replacement thanks to proximity detection
- Wireless integration of plant segments in difficult environments using WLAN
- Easier expansion of the system thanks to a higher number of stations on the bus and elimination of terminating resistors



M200D motor starter module for PROFIBUS/PROFINET (without communication module)



M200D communication module for PROFIBUS



M200D communication module for PROFINET

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M200D Motor Starters for PROFIBUS/PROFINET

General data

Mounting and installation

The M200D PROFIBUS/PROFINET motor starter is comprised of the communication module and the motor starter module. Only the motor starter module has to be replaced therefore when replacing devices. This saves time and money. The communication module remains as an active station on the bus and all other system components continue running. This prevents downtimes.

The integrated plug-in technology enables far lower wiring outlay: Connecting cables can be plugged directly onto the motor starter module. The PROFINET bus is connected cost-effectively using an M12 connection on the device. All versions have identical enclosure dimensions for easier system design and conversion.

Parameterization and configuration

All motor protection functions, limit values and reactions can be defined by parameterization.

The user has several user-friendly options for the parameterization. In addition to parameterization directly from STEP 7, which also permits automatic re-parameterization in case of device replacement, it is possible to use the user-friendly Motor Starter ES start up software. By connecting a programming device directly to PROFIBUS/PROFINET and the Motor Starter ES start up software, the devices can also be conveniently programmed from a central point through the bus. Also, parameters can be changed during operation from the user program using the data record mechanism so that the function of the motor starter is adapted to the process when required. With the help of a PC and the Motor Starter ES software it is also possible to perform the parameterization through the local point-to-point interface on-site.

Functions can be flexibly assigned to the digital inputs and outputs, adapting them to all possible conveyor applications. All digital inputs and outputs exist in the cyclic process image. All limit values for monitoring functions and their reactions are parameterizable and therefore adaptable to the application. Consistency with other products of the SIRIUS M200D motor starter range and with the frequency converter and ET 200pro I/O system is assured.

Only with M200D PROFINET motor starters

Thanks to the integrated proximity detection, the device name does not need to be issued manually when a device is replaced. The name is issued automatically by the neighboring devices which note the "names" of the devices in their proximity. No additional start up measures are required therefore when replacing a device.

The new motor starter generation is characterized by high functionality, maximum flexibility and the highest level of automation. PROFINET is especially recommended for large-scale and highly automated system components, since the possibility of monitoring the devices or plants with data records (statistical data, measured values and devices diagnoses) ensures a broader insight into the plant by the control room, and hence increases the availability of the plant sustainably.

Operation

The motor starters record the actual current flow. Evaluating the current of the parameterizable solid-state overload protection increases the availability of the drives, as do reliable signals concerning the overshooting or undershooting of setpoint values.

Diagnostics and maintenance

Diagnostics is provided through numerous mechanisms – and can be used as the customer prefers.

The motor starter is TIA-diagnostics compatible, which means that when a fault is identified, a diagnostics alarm is distributed, which invokes the diagnostics OB in the case of a SIMATIC control. The fault can be evaluated as usual in the user program.

The M200D motor starter offers a large variety of diagnostics data through data records. Its functionality is without equal on the market. There are extensive options for reading out data from the motor starter for monitoring devices, systems or processes.

The motor starter is equipped internally with three logbooks for device faults, motor starter trips and events that are issued with a time stamp. These logbooks can be read out of the motor starter at any time in the form of data records and provide the plant operator with plenty of information about the state of his plant and process which he can use to carry out improvements.

With the slave pointer and statistical data functions it is possible to read out, for example, the maximum internal current values or the number of motor starter connection operations for plant monitoring purposes. This allows deviations in the process to be monitored, but also optimum initial commissioning to take place. The user can draw conclusions about the actual load conditions of the devices in his process and on this basis can optimize his plant maintenance intervals.

The device diagnostics data record contains details of all the states of the motor starter, the device configuration and the communication status as a basis for central device and plant monitoring.

With installation and maintenance functions (I&M), information on modules employed and data specified by the user during configuration, such as location designations, are stored in the motor starter. I&M functions are used for troubleshooting faults and localizing changes in hardware in a plant or checking the system configuration. Reordering a device is particularly easy as the result.

The integrated maintenance timer can be used to implement preventative maintenance and avoid plant downtimes through look-ahead servicing.

Another new addition is the TRACE integrated into the ES motor starter software. It can be used to record measured values as a function of time following a trigger event. This enables process flows to be recorded and their timing optimized.

Local control of a drive is possible using the ordering option with integrated manual operation. This is yet another new development which distinguishes the M200D PROFIBUS/PROFINET motor starter from the rest of the market and adds innovative technology, maximum availability and transparency to the system.

M200D PROFINET motor starters with PROFlenergy

Increasing energy prices, far-reaching ecological problems worldwide and the threat of climate change make it necessary for you to be more conscious about your use of energy.

Active and effective energy management is possible with PROFlenergy.

PROFlenergy is a manufacturer-independent profile on PROFINET, which can be used by all manufacturers, has been standardized by PNO¹⁾ and supports switching off electrical devices during dead times and measuring the energy flow.

¹⁾ In the PNO (PROFIBUS Nutzerorganisation e. V. – PROFIBUS User Organization), manufacturers and users have come together to agree on the PROFIBUS and PROFINET standardized communication technologies.

Motor Starters for Use in the Field, High Degree of Protection

SIRIUS M200D Motor Starters

M200D Motor Starters for PROFIBUS/PROFINET

General data

Switching off during dead times

PROFenergy supports the targeted switching-off of loads during dead time.

These can be planned short breaks of a few minutes (such as lunch breaks), longer dead times (such as nights) or unplanned dead times. Energy is always saved when no power is required.

Measuring and visualizing the energy flow as a basis of energy management

The objective of energy management is to optimize the use of energy in a company – from the purchasing of energy through to the consumption of energy – economically and ecologically.

Analyses of energy consumption over time can be used to control energy flows, avoid energy peaks, improve ratings and thus save costs.

PROFenergy enables consumption data to be read off from the devices in a unified form. This is recorded during operation and can be displayed on a control panel, for example, or sent to overlying energy management software packages. This ensures that the measured variables are in a uniform manufacturer-independent form and structure that is available to the user for further processing. These PROFenergy functions thus provide the basis for active load and energy management during operation.

PROFenergy in the M200D PROFINET motor starter

The M200D PROFINET motor starter supports the "switching during dead times" and "current measurement values" functions of the motor current using PROFenergy. These are called commands, because they trigger a reaction in the M200D motor starter.



**SIRIUS M200D
PROFIBUS**

**SIRIUS M200D
PROFINET**

Device functions (firmware features)		
	SIRIUS M200D PROFIBUS	SIRIUS M200D PROFINET
Slave on the bus		
Fieldbus	✓ PROFIBUS to M12	✓ PROFINET to M12
Adjustable number of stations	✓ 1 ... 125	✓ 1 ... 128 with CPU 315, CPU 317 1 ... 1256 with CPU 319
Parameter assignment		
DIP switches	✓ For address setting and terminating resistor	--
Motor Starter ES	✓ Through bus, optical interface	
PROFIBUS/PROFINET data records	✓	
From STEP 7/HW Config	✓	
Diagnostics		
Acyclic through data records	✓	
Diagnostic interrupt support	✓	
Process image		
Process image	✓ 2 bytes PAE/ 2 bytes PAA	
Data channels		
Local optical interface (manual local)	✓	
Motor Starter ES through local interface	✓	
Using Motor Starter ES through bus	✓	
Data records (acyclic)		
Parameterization	✓ Using DS 131 (DS = data record)	
Diagnostics	✓ Device-specific DS 92	
Measured values	✓ Measured values DS 94	
Statistics	✓ Statistical data DS 95	
Commands	✓ Using DS 93	
Slave pointer	✓ Slave pointer DS 96	
Logbook	✓ Using Motor Starter ES and data records: device faults DS 72, tripping operation DS 73, events DS 75	
Device identification	✓ Using DS 100	
I&M data	✓ Using DS 231 ... 234	✓ Using data records 0xAFF0 ... 0xAFF3
Inputs		
Number	✓ 4	
• Of these in the process image	✓ 4	
Input action	✓ Parameterizable: Flexibly assignable action; see manual¹⁾	
Quick stop	✓ Parameterizable: latching, non-latching	

✓ Function available

-- Function not available

¹⁾ <https://support.industry.siemens.com/cs/ww/en/view/38823402>.

Motor Starters for Use in the Field, High Degree of Protection

SIRIUS M200D Motor Starters

M200D Motor Starters for PROFIBUS/PROFINET

General data



**SIRIUS M200D
PROFIBUS**

**SIRIUS M200D
PROFINET**

Device functions (firmware features)

Outputs

Number	✓ 2
• Of these in the process image	✓ 2
Output action	✓ Parameterizable: Flexibly assignable action; see manual ¹⁾

Brake output

180 V DC / 230/400 V AC / none	✓
--------------------------------	---

Motor protection

Overload protection	✓ Electronic, wide range 1:10
Short-circuit protection	✓
Full motor protection	✓
Temperature sensor	✓ Parameterizable using Motor Starter ES, data record: PTC or Thermoclick or deactivated

Device function

Repair switch	✓
Current limit monitoring bottom	✓ Parameterizable
Current limit monitoring top	✓ Parameterizable
Zero current detection	✓ Parameterizable: tripping, warning
Blocking current	✓ Parameterizable
Unbalance	✓ Parameterizable
Load type	✓ Parameterizable: single-phase and three-phase
Shutdown class	✓ Parameterizable using Motor Starter ES, data record: CLASS 5, 10, 15, 20
Protection against voltage failure	✓ Parameterizable: activated/deactivated

Support for PROFlenergy profile

Switching during dead times	--	3
Measured motor current values	--	3

Soft starter control function

Soft start function	✓
Bypass function	✓ Only solid-state version

✓ Function available

-- Function not available

¹⁾ <https://support.industry.siemens.com/cs/ww/en/view/38823402>.

Benefits

M200D PROFINET motor starters with PROFlenergy

Both standards and laws are making environmental protection and energy management increasingly important, as is the desire to cut energy costs in production facilities and thus ensure a sustainable competitive advantage.

It is thus an objective within the industry to save energy and actively reduce CO₂ emissions. By the careful use of valuable resources, the manufacturer-independent PROFlenergy profile on PROFINET can make an active contribution to environmental protection.

Application

M200D PROFIBUS/PROFINET motor starters are particularly suitable for fully TIA-integrated, highly automated conveyor applications that meet all needs with regard to the monitoring of devices and systems and preventive maintenance.

Adaptability of the motor starter functions and maximum flexibility of the device enable a broad range of application without any limits. The PROFINET-specific expansions are the best assurance of a future-proof investment.

Motor Starters for Use in the Field, High Degree of Protection

SIRIUS M200D Motor Starters

M200D Motor Starters for PROFIBUS/PROFINET

General data

Technical specifications

More information

Device manual for M200D PROFIBUS/PROFINET, see <https://support.industry.siemens.com/cs/ww/en/view/38823402>
 FAQs, see <https://support.industry.siemens.com/cs/ww/en/ps/16325/faq>

Notes on security:
 In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions only represent one component of such a concept.
 For more information about the subject of Industrial Security, see www.siemens.com/industrialsecurity.

Type	M200D PROFIBUS/PROFINET motor starter modules		
		Electromechanical switching DSste/RSste	Electronic switching sDSste/sRSste
Technology designation¹⁾			
Mechanics and environment			
Mounting dimensions (W x H x D)			
• Without communication module	mm	294 x 215 x 159	
• With communication module	mm	295 x 215 x 163	
Permissible ambient temperature			
• During operation	°C	-25 ... +55	
• During storage	°C	-40 ... +70	
Weight	g	2 820/3 080	3 160/3 360
Permissible mounting position		Vertical, horizontal, lying	
Vibration resistance acc. to IEC 60068 Part 2-6	g	2	
Shock resistance			
• Acc. to IEC 60068 Part 2-27	g/ms	12/11 half-sine	
• Without influencing the contact position	g/ms	9.8/5 or 5.9/10	
Degree of protection acc. to IEC 529		IP65	
Installation altitude			
• Up to 1 000 m		No derating	
• Up to 2 000 m		1% per 100 m	
Cooling		Convection	
Protection class IEC 536 (VDE 0106-1)		1	
Electrical specifications			
Main circuit			
Maximum power of three-phase motors at 400 V AC	kW	5.5	
Rated operational voltage U_e			
• Approval acc. to EN 60947-1	V AC	400 (50/60 Hz)	
• Approval acc. to UL and CSA	V AC	600 (50/60 Hz)	480 (50/60 Hz)
• Rated operational current range	A	0.15 ... 2 / 1.5 ... 12	--
• Rated operational current range for soft starting	A	--	0.15 ... 2 / 1.5 ... 12
• Rated operational current range for direct-on-line starting	A	--	0.15 ... 2 / 1.5 ... 9
Rated operational current for starters I_e at 400 V AC			
• 400 V at AC-1 / 2 / 3	A	12	--
• 500 V at AC-1 / 2 / 3	A	9	--
• 400 V at AC-4	A	4	--
• 400 V at AC-53a	A	--	12 for soft starting, 9 for direct-on-line starting
Mechanical endurance of contactor	Operating cycles	30 million	--
Trip class		CLASS 5, 10, 15, 20	
Permissible switching frequency		See manual ²⁾	
Rated ultimate short-circuit breaking capacity I_q			
• At 400 V AC	kA	50	
• At 500 V AC	kA	50	20 ³⁾
Short-circuit protection			
• At $I_{e\max} = 2$ A		integrated, $2 \times 13 I_e = 26$ A	
• At $I_{e\max} = 9 / 12$ A		integrated, $2 \times 13 I_e = 208$ A	

1) DS Direct-on-line starters
 RS Reversing starters
 DSS .. Direct-on-line soft starters
 RSS .. Reversing soft starters
 te Full motor protection (thermal + electronic)
 s Electronic switching with semiconductor.

2) <https://support.industry.siemens.com/cs/ww/en/view/38823402>.

3) Only systems with grounded neutral point permitted.

Motor Starters for Use in the Field, High Degree of Protection

SIRIUS M200D Motor Starters

M200D Motor Starters for PROFIBUS/PROFINET

General data

		Line voltage				
		380 V AC	400 V AC	440 V AC	480 V AC	500 V AC
Brake voltage with brake control 180 V DC¹⁾						
Operational voltage	V	230/400 AC or 180 DC				
Uninterrupted current	A	< 0.5 at 230/400 V AC, < 0.8 at 180 V DC				
Short-circuit protection	Yes, 1 A melting fuse					
Rectified brake voltage		171 V DC	180 V DC	198 V DC	216 V DC	225 V DC
Recommended brake coil voltage for Siemens motors		170 ... 200 V DC	170 ... 200 V DC	184 ... 218 V DC	184 ... 218 V DC	--

¹⁾ Integrated brake control supplies DC power supply for the brake.

Type	M200D communication modules	
	For PROFIBUS	For PROFINET
Mechanics and environment		
Mounting dimensions (W x H x D)	mm	174 x 139 x 40
Permissible ambient temperature		
• During operation	°C	-25 ... +55
• During storage	°C	-40 ... +70
Weight	g	300
Permissible mounting position	Vertical, horizontal, lying	
Vibration resistance acc. to IEC 60068 Part 2-6	g	2
Shock resistance		
• Acc. to IEC 60068 Part 2-27	g/ms	12/11 half-sine
• Without influencing the contact position	g/ms	9.8/5 or 5.9/10
Degree of protection acc. to IEC 529	IP65	
Installation altitude		
• Up to 1 000 m	No derating	
• Up to 2 000 m	1% per 100 m	
Cooling	Convection	
Protection class IEC 536 (VDE 0106-1)	1	
Electrical specifications		
Control circuit		
Operational voltage		
• $U_{DC24V-NS}$	V DC	20.4 ... 28.8
• $U_{DC24V-S}$	V DC	20.4 ... 28.8
Power consumption from		
• $U_{DC24V-NS}$	mA	< 300
• $U_{DC24V-S}$	mA	< 100

Motor Starters for Use in the Field, High Degree of Protection

SIRIUS M200D Motor Starters

M200D Motor Starters for PROFIBUS/PROFINET

Communication modules, motor starter modules

Selection and ordering data



M200D motor starter modules
PROFIBUS / PROFINET
(without communication module)



M200D motor starters
PROFIBUS



M200D motor starters
PROFINET

Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	d					

M200D communication modules for PROFIBUS

Communication module for PROFIBUS

M12 connection for communication, 7/8" for 24 V power supply

15 **3RK1305-0AS01-0AA0** 1 1 unit 42D

M200D communication modules for PROFINET

Communication module for PROFINET

M12 connection for communication, 7/8" for 24 V power supply

15 **3RK1335-0AS01-0AA0** 1 1 unit 42D

M200D motor starter modules for PROFIBUS/PROFINET

Electromechanical starters (with integrated contactor)

15 **3RK1395-6□S41-□AD□** 1 1 unit 42D

Rated operational current setting range/A

- 0.15 ... 2
- 1.5 ... 12

Direct-on-line starters/reversing starters

- Direct-on-line starters
- Reversing starters
- Direct-on-line starters with manual local operation
- Reversing starters with manual local operation

Brake actuation

- Without brake actuation
- Brake actuation (230/400 V AC)
- Brake actuation (180 V DC)

Additional price
None
✓
None
✓
✓
✓
None
✓
✓

Electronic starters (with thyristors)

15 **3RK1395-6□S71-□AD□** 1 1 unit 42D

Rated operational current setting range/A

- 0.15 ... 2
- 1.5 ... 12

Direct-on-line starters / reversing starters

- Direct-on-line starters
- Reversing starters
- Direct-on-line starters with manual local operation
- Reversing starters with manual local operation

Brake actuation

- Without brake actuation
- Brake actuation (230/400 V AC)
- Brake actuation (180 V DC)

Additional price
None
✓
None
✓
✓
✓
None
✓
✓

Motor Starters for Use in the Field, High Degree of Protection

SIRIUS M200D Motor Starters

Software

Motor Starter ES

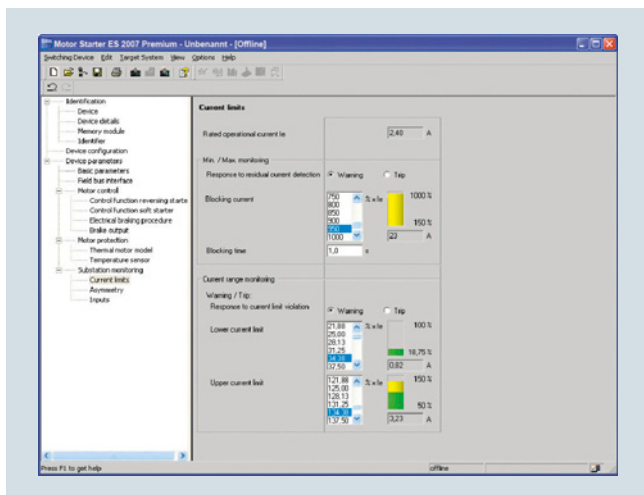
Overview

More information

Homepage, see www.siemens.com/sirius-engineering

Industry Mall, see www.siemens.com/product?3ZS1

Technical specifications and system requirements, see <https://support.industry.siemens.com/cs/ww/en/ps/16713/td>



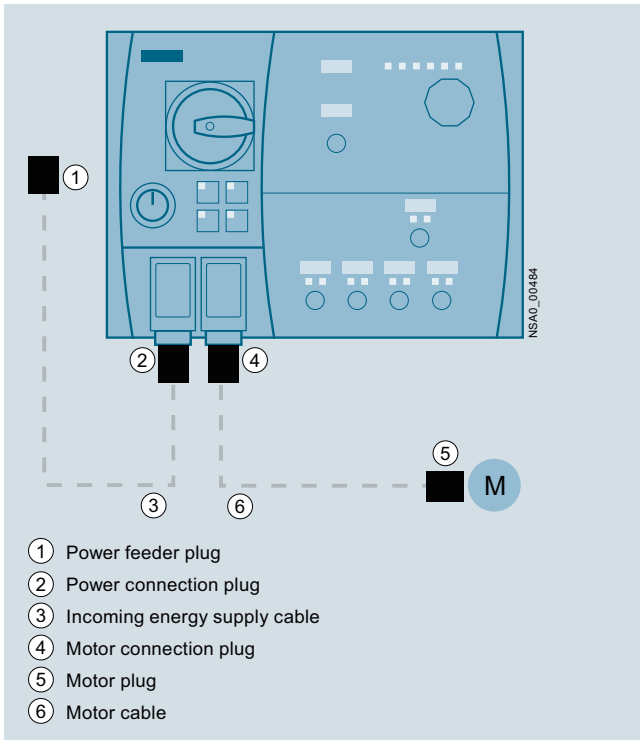
Motor Starters for Use in the Field, High Degree of Protection

SIRIUS M200D Motor Starters

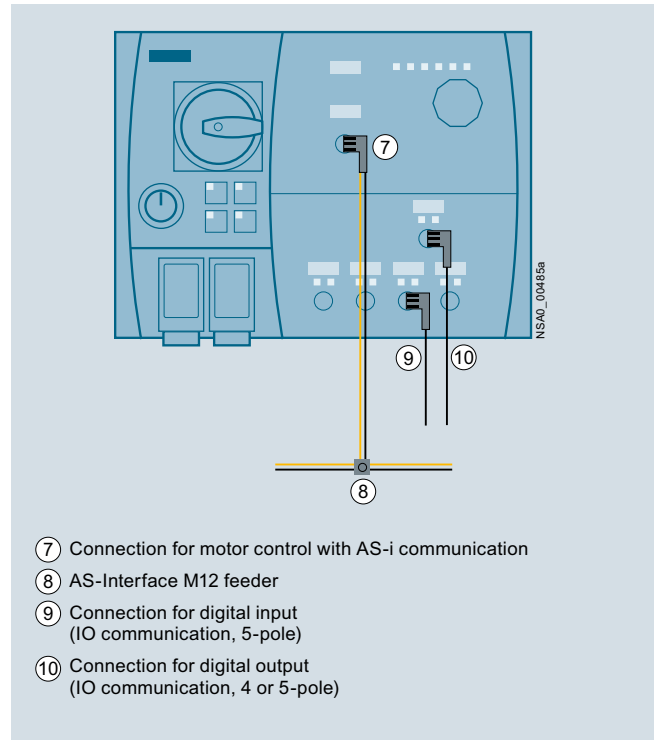
Accessories

For all M200D motor starters

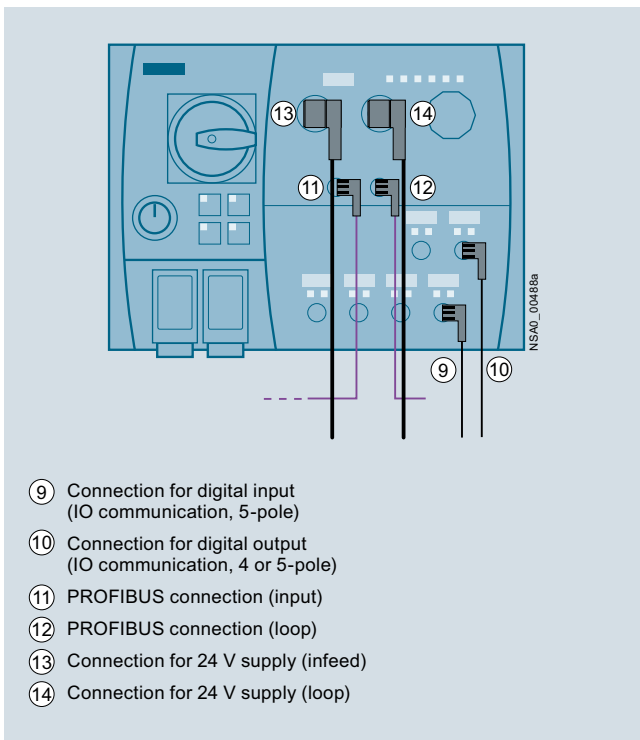
Overview



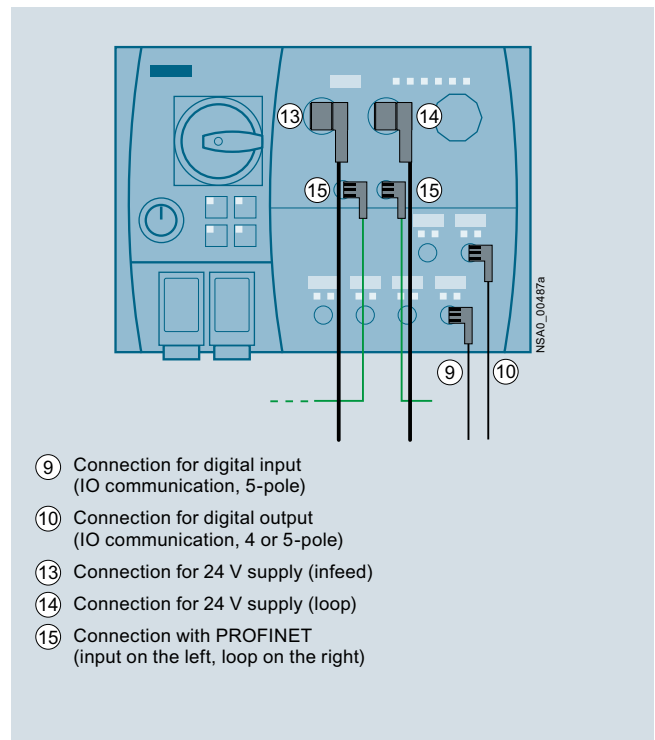
Power and motor connection on the M200D motor starter (in this example: M200D for AS-i)



Communication connection using AS-Interface and digital inputs and outputs



Communication connection using PROFIBUS and digital inputs and outputs



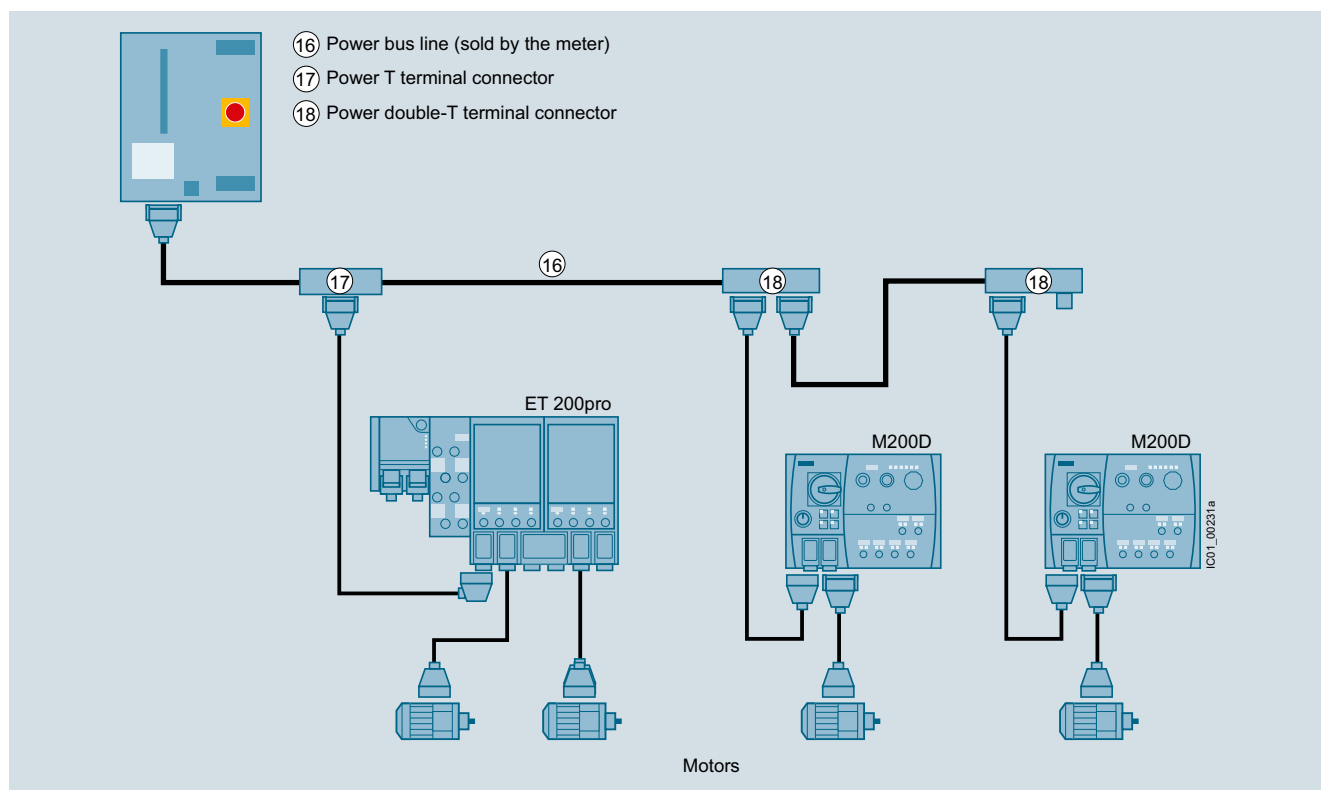
Communication connection using PROFINET and digital inputs and outputs

Motor Starters for Use in the Field, High Degree of Protection

SIRIUS M200D Motor Starters

Accessories

For all M200D motor starters



Power supply to the motors via the power bus with power T and double-T terminal connectors linked by power bus cables, spur lines to the field devices (motor starters), and power loop-through connections to the motors via motor connection cables

Power bus

The power supply to the field devices (ET 200pro motor starters, M200D motor starters) is provided via the power bus, in which the power T terminal connectors or power double-T terminal connectors are connected by power bus cables.

Feeders

From the terminal connectors, spur lines with Han Q4/2 plugs lead to the field devices, from which the motors are supplied with power via motor connection cables.

Interruption-free thanks to power terminal connectors

In finger-safe connection technology the power T terminal connectors and power double-T terminal connectors connect the components of a feeder to the power bus. They ensure interruption-free operation, i.e. the power bus is not interrupted when the components are plugged in.

Motor Starters for Use in the Field, High Degree of Protection

SIRIUS M200D Motor Starters

Accessories

For all M200D motor starters

Selection and ordering data

The accessories listed below represent a basic selection sorted by:

- Accessories for all M200D motor starters
- Accessories for M200D motor starters for AS-interface
- Accessories for M200D motor starters for PROFIBUS
- Accessories for M200D motor starters for PROFINET



Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	d					
Mountable accessories						
M200D protective brackets						
	5	3RK1911-3BA00		1	1 unit	42D
Incoming power supply						
① Power feeder plugs						
Connector set for energy supply, e.g. for connecting to T terminal connectors, comprising a coupling enclosure, straight outgoing feeder (with bracket), pin insert for HAN Q4/2, incl. gland						
• 5 male contacts, 2.5 mm ²	5	3RK1911-2BS60		1	1 unit	42D
• 5 male contacts, 4 mm ²	5	3RK1911-2BS20		1	1 unit	42D
• 5 male contacts, 6 mm ²	5	3RK1911-2BS40		1	1 unit	42D
② Power connection plugs						
Connector set for energy supply for connection to M200D motor starters, comprising a cable-end connector hood, angular outgoing feeder, female insert for HAN Q4/2, incl. gland						
• 5 female contacts, 2.5 mm ² , 2 female contacts, 0.5 mm ²	5	3RK1911-2BE50		1	1 unit	42D
• 5 female contacts, 4 mm ² , 2 female contacts, 0.5 mm ²	5	3RK1911-2BE10		1	1 unit	42D
• 5 female contacts, 6 mm ² , 2 female contacts, 0.5 mm ²	5	3RK1911-2BE30		1	1 unit	42D
② + ③ Power connection cable						
Assembled at one end with "N" and jumper pin 11 and 12 for plug monitoring, with HAN Q4/2, angular, open at one end; 5 x 4 mm ²						
• Length 1.5 m	10	3RK1911-0DC13		1	1 unit	42D
• Length 5.0 m	10	3RK1911-0DC33		1	1 unit	42D
Motor cables						
④ Motor connection plugs						
Connector set for motor cable for connection to M200D motor starters, comprising a cable-end connector hood, angular outgoing feeder, pin insert for HAN Q8/0, incl. gland						
• 8 male contacts, 1.5 mm ²	5	3RK1902-OCE00		1	1 unit	42D
• 6 male contacts, 2.5 mm ²	5	3RK1902-0CC00		1	1 unit	42D
⑤ Motor plugs						
Connector set for motor cable for connection to motors, comprising a cable-end connector hood, straight outgoing feeder, female insert for HAN 10e, incl. star jumper, including gland						
• 7 female contacts, 1.5 mm ²	15	3RK1911-2BM21		1	1 set	42D
• 7 female contacts, 2.5 mm ²	15	3RK1911-2BM22		1	1 set	42D
④ + ⑤ Motor cables, assembled at one end						
For connection to M200D motor starters, HAN Q8/0, angular, length 5 m						
• Motor cables for motor without brake, 4 x 1.5 mm ²	15	3RK1911-0EB31		1	1 unit	42D
• Motor cables for motor without brake with thermistor, 6 x 1.5 mm ²	15	3RK1911-0EF31		1	1 unit	42D
• Motor cable for motor with brake actuation, braking voltage 400 V AC or 180 V DC, 6 x 1.5 mm ²	15	3RK1911-0ED31		1	1 unit	42D
• Motor cable for motor with brake actuation, braking voltage 400 V AC or 180 V DC and thermistor, 8 x 1.5 mm ²	15	3RK1911-0EG31		1	1 unit	42D
• Motor cable for motor with brake actuation, braking voltage 230 V AC, 6 x 1.5 mm ²	15	3RK1911-0EH31		1	1 unit	42D
• Motor cable for motor with brake actuation, braking voltage 230 V AC and thermistor, 8 x 1.5 mm ²	15	3RK1911-0EE31		1	1 unit	42D

Motor Starters for Use in the Field, High Degree of Protection

SIRIUS M200D Motor Starters

Accessories

For all M200D motor starters

Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Power bus						
Ⓣ Power T terminal connectors For 400 V AC, for connection of feeders (e.g. motor starters) by means of standard round cable at any point of the power bus, by insulation displacement connection, used with preassembled bus segments						
• 2.5 mm ² / 4 mm ²	5	3RK1911-2BF01		1	1 unit	42D
• 4 mm ² / 6 mm ²	5	3RK1911-2BF02		1	1 unit	42D
Ⓡ Power double-T terminal connector For 400 V AC, for connection of feeders (e.g. motor starters) by means of standard round cable at any point of the power bus, by insulation displacement connection, used with preassembled bus segments, connection of two motor starters possible						
• 4 mm ² / 6 mm ²	5	3RK1911-2BG02		1	1 unit	42D
Sealing set (comprising 2 seals) For power T/power double-T terminal connectors						
• For power cables with						
- Ø 10 ... 13 mm	5	3RK1911-5BA00		1	1 unit	42D
- Ø 13 ... 16 mm	5	3RK1911-5BA10		1	1 unit	42D
- Ø 16 ... 19 mm	5	3RK1911-5BA20		1	1 unit	42D
- Ø 19 ... 22 mm	5	3RK1911-5BA30		1	1 unit	42D
• Blanking plugs	5	3RK1911-5BA50		1	1 unit	42D
Further accessories for power connections						
						
Crimping tools for pins/sockets 4 mm² and 6 mm²	15	3RK1902-0CW00		1	1 unit	42D
						
Dismantling tools • For male and female contacts for 9-pole HAN Q4/2 inserts						
	5	3RK1902-0AB00		1	1 unit	42D
• For male and female contacts for 9-pole HAN Q8 inserts						
	5	3RK1902-0AJ00		1	1 unit	42D
Sealing caps For 9-pole power socket connectors						
• 1 unit per pack	5	3RK1902-0CK00		1	1 unit	42D
• 10 units per pack	5	3RK1902-0CJ00		1	10 units	42D

For more connection technology products and accessories (e.g. crimping tools), see

"Siemens Solution Partners Automation" under "Distributed Field Installation System" technology: www.siemens.com/partnerfinder.

Motor Starters for Use in the Field, High Degree of Protection

SIRIUS M200D Motor Starters

Accessories

For all M200D motor starters

Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Motor control with I/O communication						
 3RK1902-4BA00-5AA0	10	3RK1902-4BA00-5AA0		1	1 unit	42D
M12 plugs, straight Screw mounting, 5-pole screw terminals, max. 0.75 mm ² , A-coded, max. 4 A						
 3RK1902-4DA00-5AA0	10	3RK1902-4DA00-5AA0		1	1 unit	42D
M12 plugs, angular Screw mounting, 5-pole screw terminals, max. 0.75 mm ² , A-coded, max. 4 A						
 3RK1902-4H...-5AA0	10	3RK1902-4HB15-5AA0		1	1 unit	42D
Control cable, assembled at one end M12 plugs, angular, screw mounting, 5-pole, 5 x 0.34 mm ² , A-coded, black PUR sheath, max. 4 A						
	10	3RK1902-4HB50-5AA0		1	1 unit	42D
	10	3RK1902-4HC01-5AA0		1	1 unit	42D
<ul style="list-style-type: none"> • Cable length 1.5 m • Cable length 5 m • Cable length 10 m 						
 3RK1902-4PB15-3AA0	10	3RK1902-4PB15-3AA0		1	1 unit	42D
Control cable, assembled at both ends Straight M12 plug, straight M12 socket, screw mounting, 3-pole, 3 x 0.34 mm ² , A-coded, black PUR sheath, max. 4 A						
• Cable length 1.5 m						
Further accessories						
 3RK1922-3BA00	5	3RK1922-3BA00		1	1 unit	42D
Handheld devices For M200D motor starters (or for ET 200pro and ET 200S High Feature motor starters) for local operation. The motor starter-specific serial interface cables must be ordered separately. The RS 232 interface cable 3RK1922-2BP00 is used for the MS M200D.						
	5	3RK1922-2BP00		1	1 unit	42D
RS 232 interface cable Serial data connection between M200D (or ET 200pro) motor starters and the RS 232 interface of a PC/PG/laptop (with the Motor Starter ES software) or the handheld device 3RK1922-3BA00						
	3	6SL3555-0PA00-2AA0		1	1 unit	346
USB interface cable, 2.5 m Serial data connection between M200D (or ET 200pro) motor starters and the USB interface of a PC/PG/laptop (with the Motor Starter ES software).						
 3RK1901-1KA00	▶	3RK1901-1KA00		100	10 units	42C
M12 sealing caps For sealing unused M12 input and output sockets – not for M12 AS-i communications interface for motor control ⑦ (one set contains 10 sealing caps)						
 3SU1950-0FB80-0AA0	▶	3SU1950-0FB80-0AA0		1	1 unit	41J
RONIS SB30 keys Replacement key for M200D for "manual local control" ordering option						

Motor Starters for Use in the Field, High Degree of Protection

SIRIUS M200D Motor Starters

Accessories

For M200D motor starters for AS-Interface

Selection and ordering data

Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	d					

Motor control with AS-i communication



3RK1902-4GB50-4AA0

⑦ **Control cables, assembled at one end**
M12 socket, angular, screw mounting, 4-pole, 4 x 0.34 mm², A-coded, black PUR sheath, max. 4 A
• Cable length 5 m

10

3RK1902-4GB50-4AA0

1

1 unit 42D



3RK1902-4CA00-4AA0

⑦ **M12 socket, angled**
For screw mounting, 4-pole screw terminals, max. 0.75 mm², A-coded, max. 4 A

10

3RK1902-4CA00-4AA0

1

1 unit 42D



3RK1901-1NR21

⑧ AS-Interface M12 feeder

For flat cable	For	Cable length	Cable end in feeder				
AS-i / U _{aux}	M12 socket	--	not available	2	3RK1901-1NR20	1	1 unit 42C
	M12 cable box	1 m	not available	2	3RK1901-1NR21	1	1 unit 42C
		2 m	not available	2	3RK1901-1NR22	1	1 unit 42C



3RK1901-1MN00

Cable terminating piece
For sealing of open cable ends (shaped AS-Interface cable) in IP67

▶

3RK1901-1MN00

1

10 units 42C



3RX90...-0AA00

AS-Interface shaped cables¹⁾

Material	Color	Quantity				
Rubber	Yellow (AS-Interface)	100 m roll	2	3RX9010-0AA00	1	1 unit 42C
		1 km drum	5	3RX9012-0AA00	1	1 unit 42C
	Black (24 V DC)	100 m roll	2	3RX9020-0AA00	1	1 unit 42C
		1 km drum	5	3RX9022-0AA00	1	1 unit 42C
TPE	Yellow (AS-Interface)	100 m roll	2	3RX9013-0AA00	1	1 unit 42C
		1 km drum	5	3RX9014-0AA00	1	1 unit 42C
	Black (24 V DC)	100 m roll	2	3RX9023-0AA00	1	1 unit 42C
		1 km drum	5	3RX9024-0AA00	1	1 unit 42C
TPE special version according to UL Class 2	Yellow (AS-Interface)	100 m roll	5	3RX9017-0AA00	1	1 unit 42C
	Black (24 V DC)	100 m roll	5	3RX9027-0AA00	1	1 unit 42C
PUR	Yellow (AS-Interface)	100 m roll	2	3RX9015-0AA00	1	1 unit 42C
		1 km drum	5	3RX9016-0AA00	1	1 unit 42C
	Black (24 V DC)	100 m roll	2	3RX9025-0AA00	1	1 unit 42C
		1 km drum	5	3RX9026-0AA00	1	1 unit 42C

¹⁾ See also page 2/86.

Motor Starters for Use in the Field, High Degree of Protection

SIRIUS M200D Motor Starters

Accessories

For M200D motor starters for AS-Interface

Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	d					

Further accessories

3RK1904-2AB02

AS-Interface addressing unit V 3.0

- For AS-Interface modules and sensors and actuators with integrated AS-Interface according to AS-i Specification V3.0
- For setting the AS-i address of standard slaves, and slaves with extended addressing mode (A/B slaves)
- With input/output test function and many other commissioning functions
- Battery operation with four batteries type AA (IEC LR6, NEDA 15)
- Scope of supply:
 - Addressing unit with four batteries
 - Addressing cable, with M12 plug to addressing plug (hollow plug), length 1.5 m

2

3RK1904-2AB02

1

1 unit

42C



3RK1902-4PB15-3AA0

M12 addressing cables to M12

- Standard M12 cable for addressing slaves with M12 connection, e.g. K60R modules
- When using the current version of the 3RK1904-2AB01 addressing unit
- 1.5 m

10

3RK1902-4PB15-3AA0

1

1 unit

42D

"SIRIUS M200D Motor Starter" manuals

Manual – SIRIUS Motor Starter M200D AS-Interface Basic, see <https://support.industry.siemens.com/cs/ww/en/view/35016496>

Manual – SIRIUS Motor Starter M200D AS-Interface Standard, see <https://support.industry.siemens.com/cs/ww/en/view/38722160>





Motor Starters for Use in the Field, High Degree of Protection

SIRIUS M200D Motor Starters

Accessories

For M200D motor starters for PROFIBUS

Selection and ordering data

Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	
Motor control with PROFIBUS							
 3RK1902-1DA00	M12 plugs, angular For screw mounting, 5-pole screw terminal, max. 0.75 mm ² , B-coded, no terminating resistor	<ul style="list-style-type: none"> ⑩ 5 female contacts 	5	3RK1902-1DA00	1	1 unit	42D
		<ul style="list-style-type: none"> ⑪ 5 male contacts 	5	3RK1902-1BA00	1	1 unit	42D
 3RK1902-1BA00	M12 plugs, angular For screw mounting, 5-pole screw terminal, max. 0.75 mm ² , B-coded, no terminating resistor	<ul style="list-style-type: none"> ⑩ 5 female contacts, 3 m 	15	3RK1902-1GB30	1	1 unit	42D
		<ul style="list-style-type: none"> ⑩ 5 female contacts, 5 m 	15	3RK1902-1GB50	1	1 unit	42D
 3RK1902-1G.	Control cables, assembled at one end M12, screw mounting, angular, B-coded, no terminating resistor	<ul style="list-style-type: none"> ⑩ 5 female contacts, 10 m 	15	3RK1902-1GC10	1	1 unit	42D
		<ul style="list-style-type: none"> ⑩ ⑪ Control cables, assembled at both ends M12, screw mounting, angular, pin/socket 5-pole, B-coded, no terminating resistor 	15	3RK1902-1NB30	1	1 unit	42D
 3RK1902-1N.	<ul style="list-style-type: none"> ⑩ 5.0 m ⑩ 10.0 m 	<ul style="list-style-type: none"> ⑩ 3.0 m 	15	3RK1902-1NB30	1	1 unit	42D
		<ul style="list-style-type: none"> ⑩ 5.0 m 	15	3RK1902-1NB50	1	1 unit	42D
		<ul style="list-style-type: none"> ⑩ 10.0 m 	15	3RK1902-1NC10	1	1 unit	42D
Further accessories							
		PROFIBUS trailing cables Max. acceleration 4 m/s ² , at least 3 000 000 bending cycles, bending radius at least 60 mm, 2-core, shielded, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m	1	6XV1830-3EH10	1	1 M	5K2
		PROFIBUS FC Food bus cable With PE outer sheath for operation in the food and beverage industry, 2-core, shielded, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m	1	6XV1830-0GH10	1	1 M	5K2
		PROFIBUS FC Robust bus cables With PUR outer sheath for operation in environments exposed to chemicals and mechanical loads, 2-core, shielded, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m	1	6XV1830-0JH10	1	1 M	5K2
		Power cables 5-core, 5 x 1.5 mm ² , trailing, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m	1	6XV1830-8AH10	1	1 M	5K2
Connection for 24 V power supply of the M200D PROFIBUS/PROFINET							
See page 9/65							
"SIRIUS Motor Starter M200D PROFIBUS / PROFINET" manual							
See https://support.industry.siemens.com/cs/ww/en/view/38823402							

Motor Starters for Use in the Field, High Degree of Protection

SIRIUS M200D Motor Starters



Accessories

For M200D motor starters for PROFINET

Selection and ordering data

Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	d					

Motor control with PROFINET



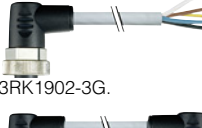

		Ⓜ M12 plugs, angular For screw mounting, 4-pole screw terminal, max. 0.75 mm ² , angular, D-coded <ul style="list-style-type: none"> • 4 male contacts 	5	3RK1902-2DA00	1	1 unit	42D
 3RK1902-2H.		Ⓜ Control cables, assembled at one end M12 for screw mounting, angular, 4-pole, D-coded <ul style="list-style-type: none"> • 4 male contacts, 3 m • 4 male contacts, 5 m • 4 male contacts, 10 m 	15	3RK1902-2HB30	1	1 unit	42D
			15	3RK1902-2HB50	1	1 unit	42D
			15	3RK1902-2HC10	1	1 unit	42D
 3RK1902-2N.		Ⓜ Control cables, assembled at both ends M12 for screw mounting, angular at both ends, 4-pole, D-coded, male contacts at both ends <ul style="list-style-type: none"> • 3 m • 5 m • 10 m 	15	3RK1902-2NB30	1	1 unit	42D
			15	3RK1902-2NB50	1	1 unit	42D
			15	3RK1902-2NC10	1	1 unit	42D

Further accessories

		PROFINET IE FC TP standard cable GP 2 x 2 Sold by the meter	1	6XV1840-2AH10	1	1 M	5K1
		PROFINET IE FC TP trailing cable 2 x 2 Sold by the meter	1	6XV1840-3AH10	1	1 M	5K1
		PROFINET IE FC TP trailing cable GP 2 x 2 Sold by the meter	1	6XV1870-2D	1	1 M	5K2
		PROFINET IE FC TP torsion cable 2 x 2 Sold by the meter	1	6XV1870-2F	1	1 M	5K2
		PROFINET IE FC TP marine cable, 4-core Sold by the meter	1	6XV1840-4AH10	1	1 M	5K1
		Power cable 5-core, 5 x 1.5 mm ² , trailing, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m	1	6XV1830-8AH10	1	1 M	5K2

Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	d					

Connection for 24 V power supply of the M200D PROFIBUS/PROFINET

 3RK1902-3DA00		Plugs On M200D, 7/8" for screw mounting, angular, screw terminal, 1.5 mm ² <ul style="list-style-type: none"> • Ⓜ 5 female contacts 	5	3RK1902-3DA00	1	1 unit	42D
		<ul style="list-style-type: none"> • Ⓜ 5 male contacts 	5	3RK1902-3BA00	1	1 unit	42D
 3RK1902-3G.		Ⓜ Supply lines, assembled at one end 7/8" for screw mounting, angular, 1.5 mm ² <ul style="list-style-type: none"> • 5 female contacts, 3 m • 5 female contacts, 5 m • 5 female contacts, 10 m 	15	3RK1902-3GB30	1	1 unit	42D
			15	3RK1902-3GB50	1	1 unit	42D
			15	3RK1902-3GC10	1	1 unit	42D
 3RK1902-3N.		Ⓜ Ⓜ Supply lines, assembled at both ends 7/8", for screw mounting, angular at both ends, 5-pole pin/socket, 1.5 mm ² <ul style="list-style-type: none"> • 3 m • 5 m • 10 m 	15	3RK1902-3NB30	1	1 unit	42D
			15	3RK1902-3NB50	1	1 unit	42D
			15	3RK1902-3NC10	1	1 unit	42D
 6ES7194-3JA00-0AA0		7/8" sealing caps 1 pack = 10 units	1	6ES7194-3JA00-0AA0	1	10 units	250

"SIRIUS Motor Starter M200D PROFIBUS / PROFINET" manual

See page 9/64

Motor Starters for Use in the Field, High Degree of Protection

Hybrid fieldbus connections

Overview



Hybrid fieldbus connection with two HanBrid sockets



Control cabinet bushing with two M12 sockets

Hybrid fieldbus connections with HanBrid sockets designed as cabinet bushings transmit data and energy from the control cabinet (IP20) to the field (IP65). They are the interface for jointly routing PROFIBUS DP and the auxiliary voltages into the hybrid fieldbus cable.

On the cabinet bushings with two M12 sockets for the PROFIBUS M12 connecting cables, the 24 V supply of the motor starters is implemented via separate 7/8" connecting cables.

Passive and active hybrid fieldbus connections

The hybrid fieldbus connections are available in two versions which differ in their functionality.

- Passive version
- Active version with signal refresher function to considerably increase the maximum PROFIBUS cable length

Connection methods

The field side is connected using HanBrid or M12 plug-in connectors.

In the case of HanBrid, the following versions are available:

- Socket/socket for feeding into the field
- Pin/socket for looping through in the field

The M12 version is generally configured with socket/socket.

Following connections are available at the rear (cabinet side) in the case of the passive glands:

- Direct connection
- FastConnect connection

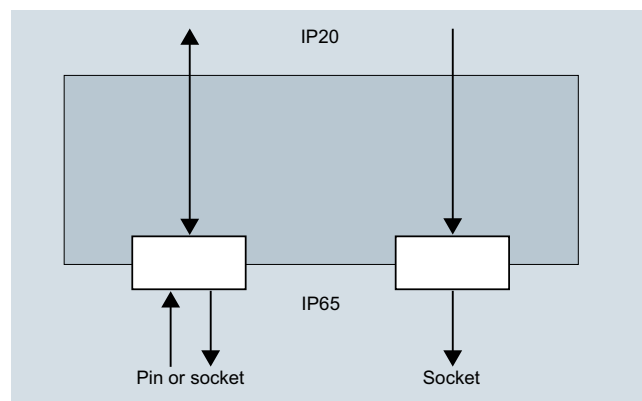
The active gland with refresher function has 9-pole Sub-D sockets for the rear connection.

Auxiliary power infeed

HanBrid plug-in connection technology offers the option of feeding in or looping through two separate auxiliary voltages of 24 V DC (switched/unswitched) into the field in addition to the PROFIBUS signal. The terminal block with spring-type terminals on the rear (cabinet side) of the hybrid fieldbus connection provides a variety of interconnecting options for these auxiliary voltages.

Passive hybrid fieldbus connections

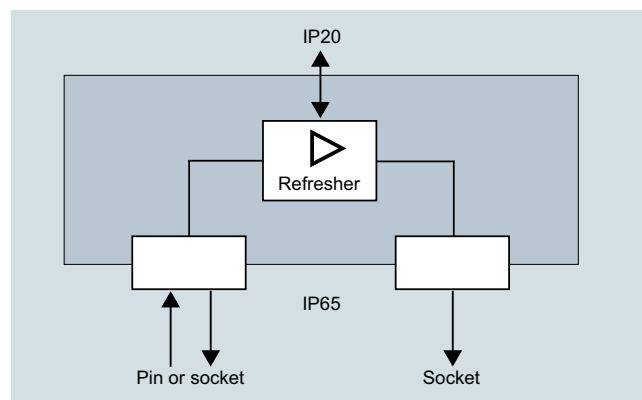
- Gland from the control cabinet (IP20) into the field (IP65)
- HanBrid plug-in design socket/socket or pin/socket
- Direct connection or FastConnect connection for PROFIBUS at the rear
- Terminal block with cage clamp (0.25 to 2.5 mm²) for infeeding or forwarding the auxiliary currents



Hybrid fieldbus connection as passive cabinet bushing

Active hybrid fieldbus connections with refresher function

- Gland from the control cabinet (IP20) into the field (IP65)
- Three independent, electrically separated PROFIBUS segments
- Signal refresher function from and to all segments
- Automatic continuous baud rate detection
- Status/diagnostics displays with LEDs
- Cascading depth of a maximum nine hybrid fieldbus connections
- HanBrid plug-in design socket/socket and pin/socket
- M12 plug-in design socket/socket
- 9-pole Sub D socket connection for PROFIBUS at the rear
- Terminal block with cage clamp (0.25 to 2.5 mm²) for infeeding or forwarding the auxiliary currents



Hybrid fieldbus connection as active control cabinet bushing with refresher function

Motor Starters for Use in the Field, High Degree of Protection

Hybrid fieldbus connections

Technical specifications

Type	Passive hybrid fieldbus connections		Active hybrid fieldbus connections
Mechanics and environment			
Dimensions (W x H x D)	mm	93 x 103 x 65	
Cutout (W x H)	mm	80 x 90	
Temperature range	°C	-25 ... +60	
Degree of protection		IP20 internal / IP65 on field side	
Material/enclosure	mm	Plastic (black PC), flame retardant	
Electrical specifications			
Rated operational voltage	V DC	24, ± 25%	
• 24 V DC not switched (NS)	V DC	24, ± 25%	
• 24 V DC switched (S)			
Max. rated current	A	10	
Power supply	--	From 24 V DC not switched (NS)	
Max. power consumption	mA	130	
Mains buffering	ms	> 20	
Baud rate detection	--	Automatic	
Maximum cascading depth	--	9 hybrid fieldbus connections	
Baud rates	kbps	9.6/19.2/45.45/93.75/187.5/500/1 500/3 000/6 000 /12 000	
Electrical separation	V DC	500	

Selection and ordering data



Hybrid fieldbus connection on the field side:
With socket/socket (HanBrid)



With pin/socket (HanBrid)



Control cabinet bushing on the field side
With socket/socket (M12)

Link type / function	Connection IP65	Connection IP20 (PROFIBUS)	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			d					
Hybrid fieldbus connections								
Passive								
• Cu/Cu, for feeding into the field	Socket/socket (2 x HanBrid)	Direct connection	5	3RK1911-1AA22		1	1 unit	42D
• Cu/Cu, for looping through in the field	Pin/socket (2 x HanBrid)	Direct connection	5	3RK1911-1AA32		1	1 unit	42D
• Cu/Cu, for feeding into the field	Socket/socket (2 x HanBrid)	PROFIBUS FastConnect bus connector	5	3RK1911-1AF22		1	1 unit	42D
• Cu/Cu, for looping through in the field	Pin/socket (2 x HanBrid)	PROFIBUS FastConnect bus connector	5	3RK1911-1AF32		1	1 unit	42D
Active (refresher)								
• Cu/Cu, for feeding into the field	Socket/socket (2 x HanBrid)	9-pole Sub D socket	5	3RK1911-1AJ22		1	1 unit	42D
• Cu/Cu, for looping through in the field	Pin/socket (2 x HanBrid)	9-pole Sub D socket	5	3RK1911-1AJ32		1	1 unit	42D
• Cu/Cu, for feeding into the field	Socket/socket (2 x M12)	9-pole Sub D socket	5	3RK1911-1AK22		1	1 unit	42D
			d					
Version			SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG

Accessories



6ES7194-1JB10-0XA0

Sealing caps for HanBrid
Protective cover for bus and power supply connection (pack of 10)

1 **6ES7194-1JB10-0XA0** 1 10 units 250

PROFIBUS ECOFAST hybrid cables: [see page 9/20](#).