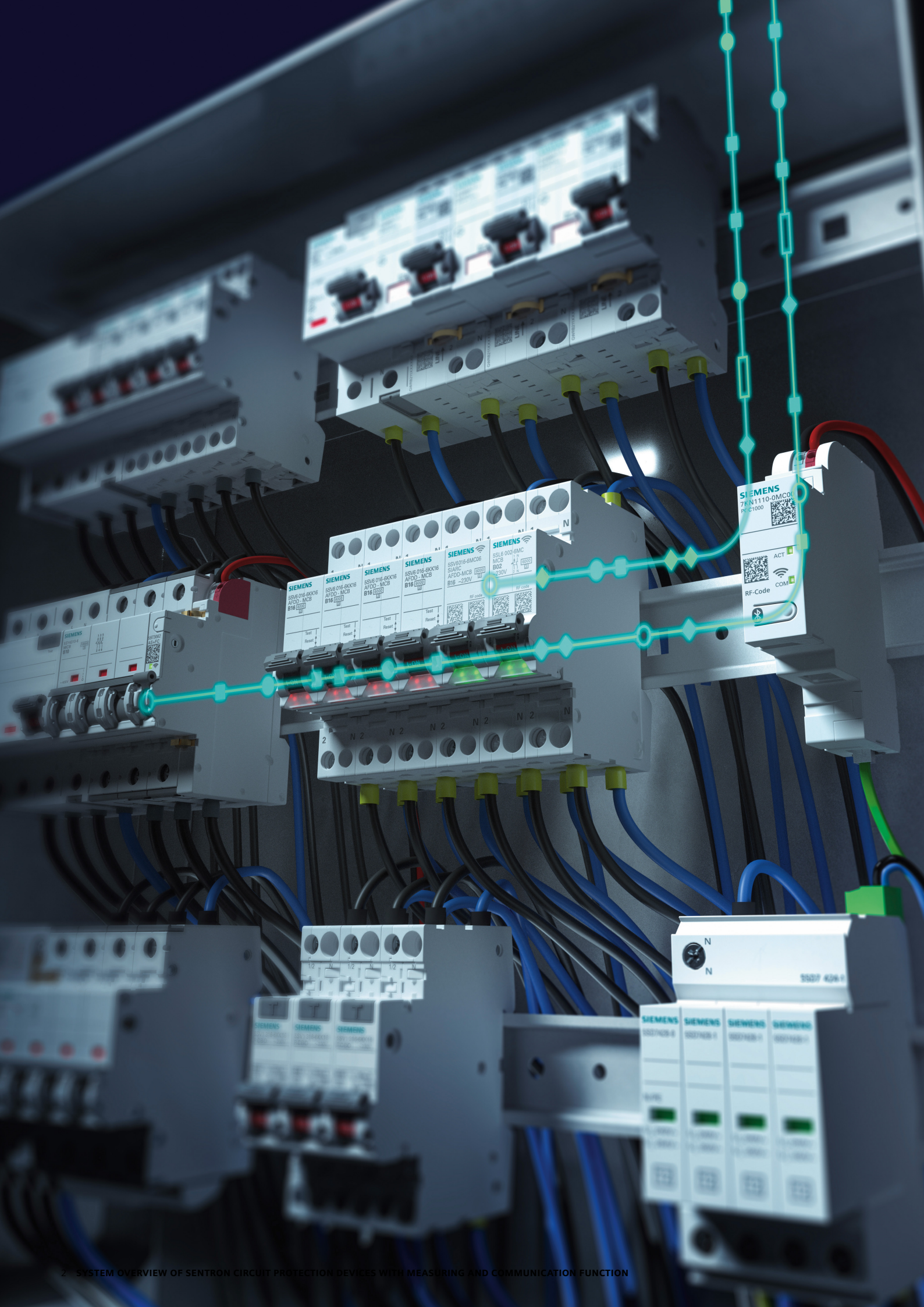


# The safe choice – Now made smarter

SENTRON circuit protection devices with measuring and communication function  
[siemens.com/circuit-protection](https://www.siemens.com/circuit-protection)

**SIEMENS**





# Index

<b>System overview</b>	Topology and operating principle of SENTRON circuit protection devices	4
	Increasing transparency and system availability	5
	Overview of communicative SENTRON circuit protection devices	6
	Gateways for forwarding data to higher-level systems	8
	Overview of functions	10
<b>Order selection data</b>	SENTRON Powercenter 1000 data transceiver	12
	SENTRON Powercenter 3000 IoT data platform	13
	5TY1 COM ECPD electronic circuit protection device	14
	5SL6 COM MCB RCM	16
	5SV6 COM AFDD/MCB	17
	5ST3 COM auxiliary switches and fault signal contact	18
	5ST3 COM remote control	19
	SIRIUS 3RV2 COM wireless auxiliary and signaling switch	20
	3NA COM LV HRC fuse link	21
	LOGO! 8.3	22
	SICAM A8000	24
	5ST36 compact busbars	26
	5ST37 compact busbars	27
<b>Use Cases</b>	Residential and small functional buildings / infrastructure	28
	Industry and Buildings	29
	Continuous residual current monitoring	30
	Lighting with SENTRON ECPD	31



# Topology and operating principle of SENTRON circuit protection devices

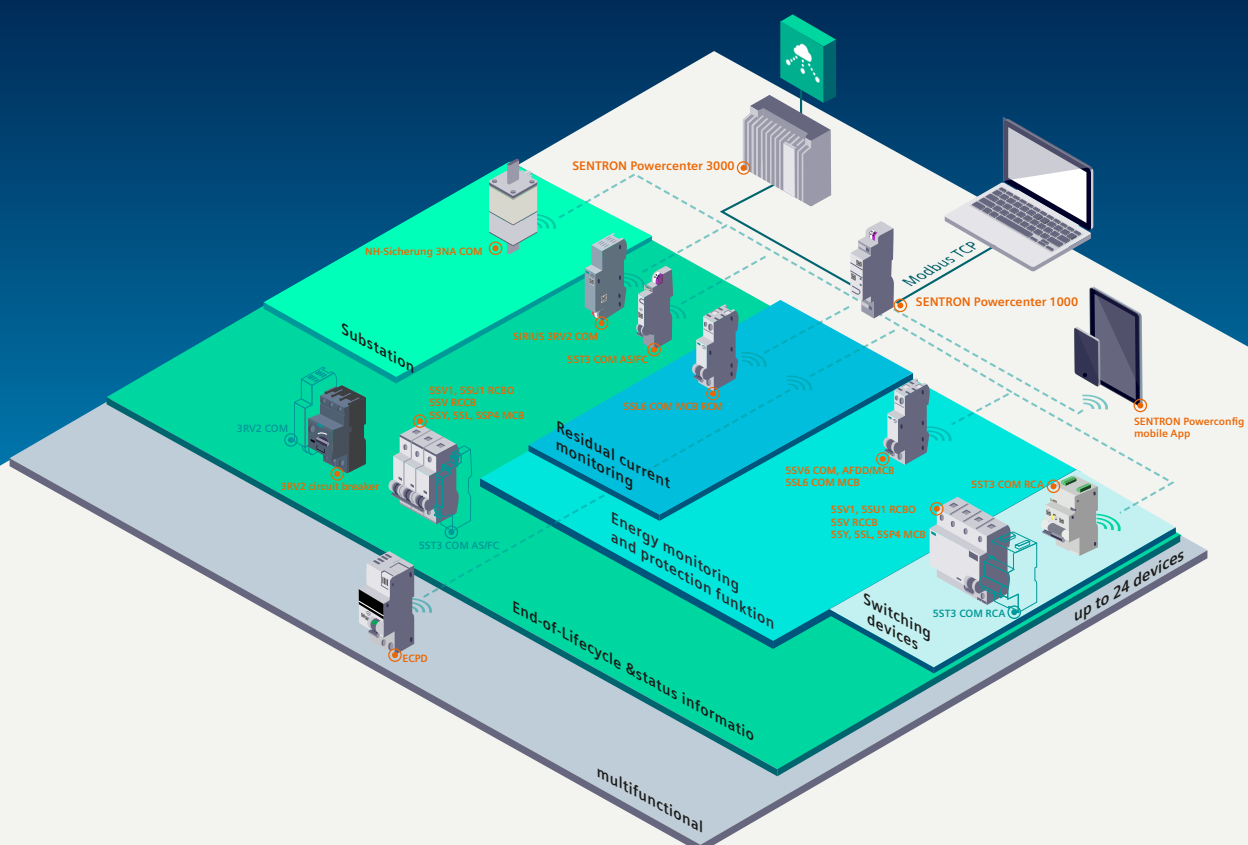
## Protecting and monitoring electric circuits

Circuit protection devices such as miniature circuit breakers, arc fault detection devices or fuses are used for protecting lines or loads in electric circuits. In case of overload, short circuit or arcing faults, they disconnect the affected circuit from the network. Measuring and communication capable 5SL6 COM (RCM = residual current monitoring) miniature circuit breakers, 5SV6 COM AFDD/MCBs, 3NA COM LV HRC fuse links collect information on the switching status and faults in the circuit. With the 5ST3 COM auxiliary switches and fault signal contacts, standard 5SY, 5SP4 and 5SL miniature circuit breakers (MCBs) as well as 5SV3 and 5SU1/5SV1 residual current operated circuit breakers (RCBOs) can be expanded with little effort and small space requirement with measurement and communication functions. The SIRIUS 3RV2 COM wireless auxiliary and signaling switch fulfills the same functions for the SIRIUS 3RV2 circuit breakers. The communication-capable 5ST3 COM remote control auxiliary enables switching of SENTRON circuit protection devices as well as automated, plannable RCD tests and insulation resistance measurements. The portfolio is complemented by the SENTRON ECPD (Electronic circuit protection device), one of the world's most innovative circuit protection devices with state-of-the-art electronic switching technology. This innovation offers ultra-fast switching, flexible parameterization and an enormous range of functions. Communication capable devices can be connected wirelessly to the SENTRON Powercenter 1000 data transceiver. This collects the measured values and transmits them for visualization and evaluation to mobile devices, PCs or higher-level IoT interfaces, making them available for cloud applications. Transparency and system safety are enhanced.

## Generating valuable data in the circuit – quickly and easily

Thanks to the possibility of retrofitting, the communication-capable 3NA COM LV HRC fuse link offers you a particularly simple and uncomplicated way of integrating digitization in transformer substations. Despite of its additional metering and communication capabilities, it features the same dimensions as the conventional LV HRC fuses and can simply be installed in their place in existing 400 V power distribution systems. The measured data are transmitted wirelessly within a field to the SENTRON Powercenter 1000 data transceiver without requiring any further cabling and, from there, the data can be forwarded to higher-level gateways or monitoring and analysis systems via Modbus TCP.

Its application in switchgear also opens up new possibilities for creating transparency in power distribution and increasing system availability in view of today's increased requirements.

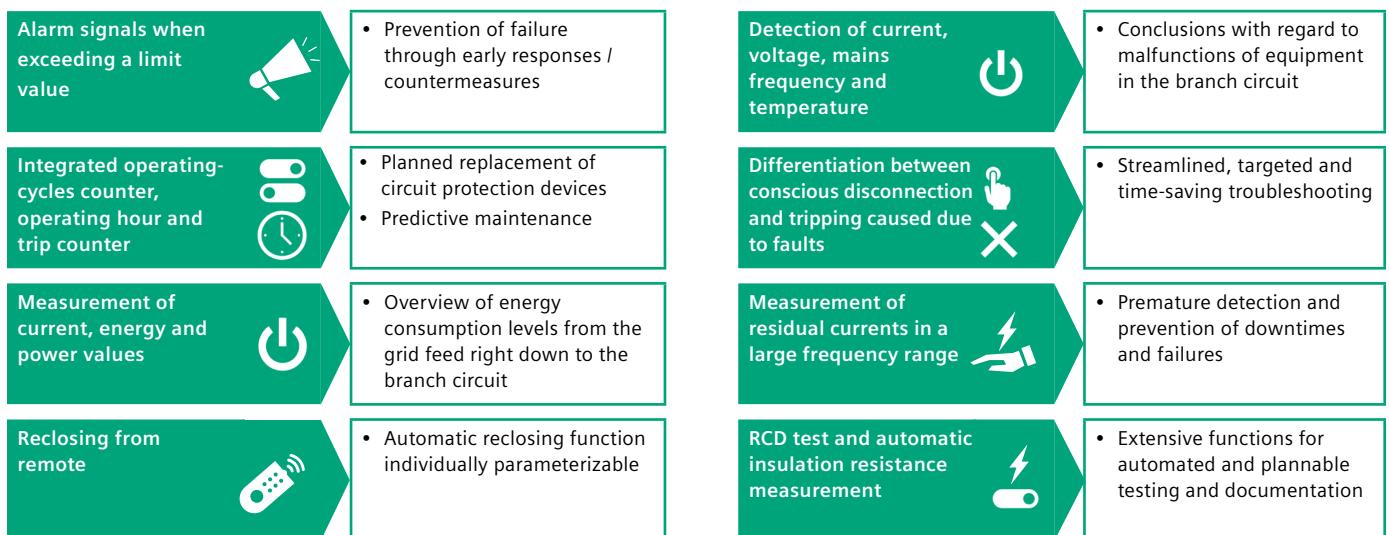




# Increasing transparency and system availability

## Bundling and forwarding measured values

SENTRON Powercenter 1000 data transceivers collect the data for communication and measurement capable 5SL6 COM (RCM) MCBs, 5SV6 COM AFDD/MCBs, 5ST3 COM auxiliary switches and fault signal contacts (AS+FC) 5ST3 COM remote control auxiliaries and SIRIUS 3RV2 COM wireless auxiliary and signaling switches. They communicate wirelessly within a power distribution board or distribution board, each with up to 24 circuit protection devices. The measured values are saved for a period of up to 30 days in the SENTRON Powercenter 1000. The data can be accessed via Bluetooth with mobile devices on-site or transmitted to higher-level systems by means of Modbus TCP. With the SENTRON Powermanager power monitoring system, energy flows, for example, can be visualized and optimized. Via the SENTRON Powercenter 3000 IoT data platform or the LOGO! 8.3 logic module, the recorded data can be viewed directly on a web server or transferred to Cloud applications and evaluated.



# Overview of communicative SENTRON circuit protection devices

## SENTRON Powercenter 1000 data transceiver



- Transceiver for collecting data from SENTRON protective devices having a communication and metering function
- Simple read-out of the data via SENTRON Powerconfig
- Simple connection to higher-level systems via Modbus TCP
- Small space requirement of 1 MW
- Storage of measured values for up to 30 days
- Connection of up to 24 field devices

## 5SL6 COM RCM MCB



- Measurement of residual currents in a large frequency range
- Short-circuit and overload protection, line protection
- Communication and metering function
- Focused fault finding with differentiation of the cause of tripping
- Avoidance of unwanted tripping due to early warning
- Small space requirement of 1 MW
- Transparency about the energy consumption and system condition

## 5SL6 COM MCB



- Short-circuit and overload protection, line protection
- Communication and metering function
- Focused fault finding with differentiation of the cause of tripping
- Avoidance of unwanted tripping due to early warning
- Small space requirement of 1 MW
- Transparency about the energy consumption and system condition

## Electronic circuit protection device 5TY1 COM ECPD



- Ultra-fast: Up to 1,000 times faster switching, pulse-resistant, selective
- Multifunctional: Up to 10 product functions in one device
- Parameterizable: Adaptation of demand-specific variables such as rated current, tripping limits or behavior according to the individual requirements of the application
- Sustainable: More functions with less space requirements of only 2 MW saves resources and costs

## 5SV6 COM AFDD/MCB



- Protection from serial and parallel arcing faults, short circuits and overload
- Communication and metering function
- Focused fault finding with differentiation of the cause of tripping
- Small space requirement of 1 MW
- Transparency about the energy consumption and system condition



### 5ST3 COM AS+FC



- Communication and metering function through connection of conventional SENTRON circuit protection devices
- Predictive maintenance by counting switching cycles and tripping operations for greater system availability
- Simple switching status signaling (switched on, switched off manually, tripped, tripped with locked handle)
- Small space requirement of 0.5 MW

### 5ST3 COM remote control



new

- Communication, metering and switching function through connection of conventional SENTRON circuit protection devices
- RCD test and automatic insulation resistance measurement can be carried out and documented remotely
- Automatic reclosing can be configured individually
- Low space requirement of max. 2.5 MW
- All status information of the AS/FC

### 3NA COM LV HRC fuse link



- Current and temperature acquisition
- Wireless communication of acquired values to SENTRON Powercenter 1000 data transceiver
- Has the same dimensions as a standard LV HRC fuse and is therefore suitable for time and space saving retrofitting
- Early response to irregularities thanks to adjustable limit values (current, temperature) and activated alarm signals

### SIRIUS 3RV2 COM wireless auxiliary and signaling switch



new

- Communication and metering function through connection of conventional SIRIUS 3RV2 circuit breakers
- Predictive maintenance by counting switching cycles and tripping operations for greater system availability
- Simple switching status signaling (switched on, switched off manually, tripped), differentiation of tripping causes (short-circuit, overload)
- Small space requirement of 1 MW

# Gateways for forwarding data to higher-level systems

## SENTRON Powercenter 3000



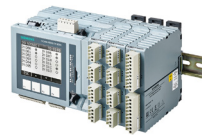
- Integrated web server
- Data visualization and analysis
- Alarm message in case of definable events
- IoT data platform: interface with cloud solutions such as Mindsphere
- Basis for energy management, e.g. acc. to ISO 50001

## LOGO! 8.3



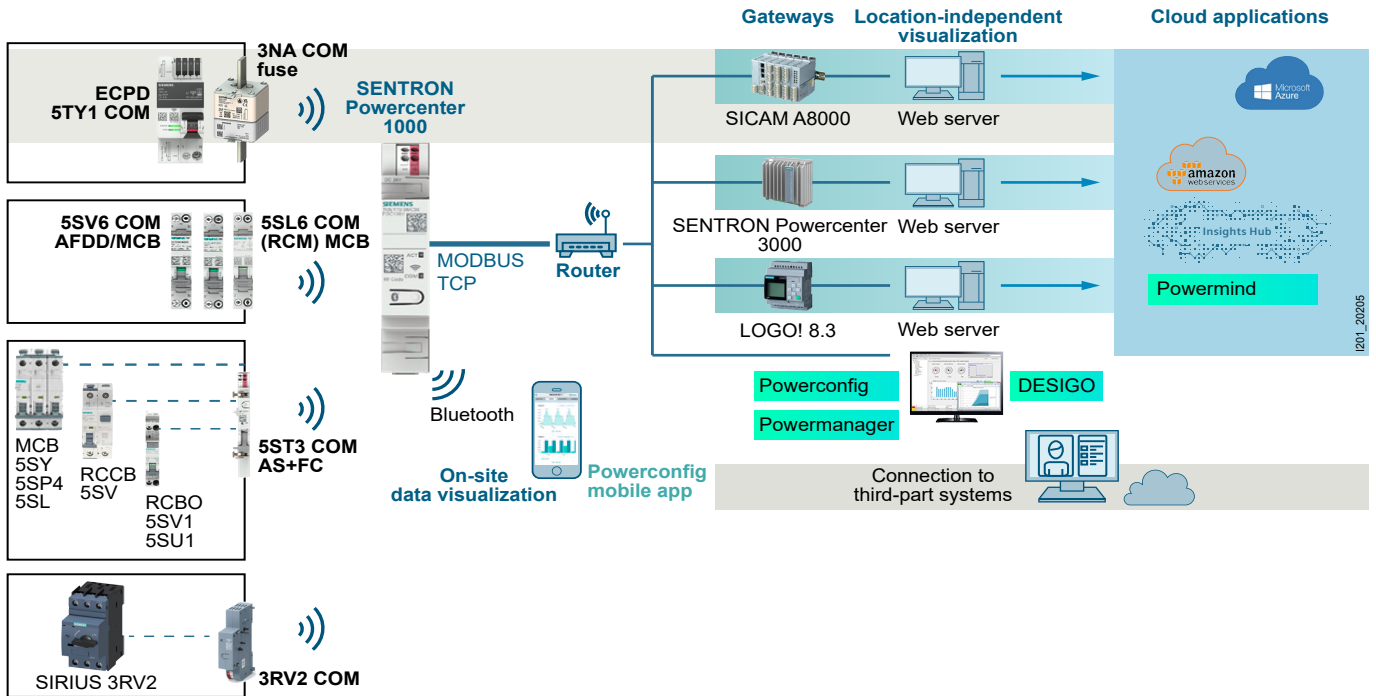
- Favorably priced automation solution
- Integrated Ethernet interface
- Modbus TCP/IP communication protocol
- Integrated web server
- Interface with AWS cloud
- Data visualization
- Active alarm signaling when values exceed or fall below the limit values

## SICAM A8000



- Modular automation applications in power supply systems
- Easy connection to SICAM PAS via Modbus TCP
- Integrated web server
- Wide range of functions for determining and evaluating power quality data
- Remote and on-site operation
- Acquisition of messages and malfunctions





# Overview of functions

## Circuit protection devices



	SENTRON Powercenter 1000	5SL6 COM MCB	5TY1 COM ECPD
<b>Communication interfaces</b>			
Wireless	■	■	■
Modbus TCP	■	–	–
Bluetooth	■	–	–
Gateway function	■	–	–
<b>Type of mounting</b>			
Standard mounting rail	■	■	■
Busbars	–	–	–
<b>Evaluation</b>			
Breaker status	–	■	■
Temperature	–	■	■
Current	–	■	■
Voltage	–	■	■
Frequency	–	■	■
Apparent, reactive and active power, power factor	–	■	■
Reactive and active energy	–	■	■
<b>Monitoring functions</b>			
Operating hours counter	■	■	■
Operating hours counter with load current	–	■	■
Operating cycle counter	–	■	■
Trip counter	–	■	■
Short-circuit trip counter	–	■	■
Alarms for limit monitoring	■	■	■
Detection of overload and short circuit	–	■	■
Detection of residual currents	–	–	■
Detection of arc faults	–	–	–
<b>Switch function</b>			
Remote switching	–	–	■
RCD test function	–	–	–
Insulation resistance measurement	–	–	–

<sup>1)</sup> Protection function provided, but tripping is not communicated





# SENTRON Powercenter 1000 data transceiver

The SENTRON Powercenter 1000 data transceiver is designed to enable comprehensive data acquisition of communication and metering-capable circuit protection devices. This increases transparency in power distribution up to the final circuit, allowing optimization measures for increasing system availability to be derived.

Up to 24 devices can communicate wirelessly with SENTRON Powercenter 1000 via radio link. This means that no increased installation effort is required for communication. Selected measured values of the circuit protection devices are stored in the data transceiver for up to 30 days. These can be visualized and further processed to ensure extensive data availability.

The compact design of the SENTRON Powercenter 1000, in a single modular width, results in an extremely small footprint in the distribution board so as to enable wireless, comprehensive data acquisition. This is complemented by easy mounting on a 35 mm standard mounting rail and plug-in terminals for an external 24 V DC power supply, which can be immediately looped through (daisy chain) to supply other devices.

The integrated Bluetooth interface enables simple on-site communication and commissioning via the SENTRON Powerconfig mobile app. Connection to various monitoring or power monitoring systems such as SENTRON Powerconfig, SENTRON Powermanager or customized solutions is ensured via the Modbus TCP interface. Furthermore, this interface also enables a connection via e.g. SENTRON Powercenter 3000 or via LOGO! to cloud applications.

Mounting	Max. current consumption	Power supply	Devices that can be connected	Interfaces	Article No.
Standard rail mounting	100 mA	24 V DC SELV	24 circuit protection devices via radio link	Bluetooth, Ethernet (Modbus TCP)	7KN1110-0MC00

## SENTRON Powercenter 1000 data transceiver

SENTRON Powercenter 1000

COM protection devices:  
5TY1 COM ECPD  
5SV6 COM AFDD/MCB  
5SL6 COM RCM MCB  
5SL6 COM MCB

COM accessories:  
5ST3 COM AS/FC  
3RV2 COM  
5ST3 COM RCA

COM fuses:  
3NA COM LV HRC

max. 24

Wireless Protocol

- Collecting and saving the data and measured values from up to 24 communication-capable circuit protection devices via radio link
- Parameterization, visualization and further processing of data in higher-level applications via Bluetooth and Modbus TCP

**You will find further information under:**

Installation Manual – Circuit protection devices with communication and measuring function ([109791805](#))

System Manual – Circuit protection devices with communication and metering function ([109791806](#))



# SENTRON Powercenter 3000 IoT data platform

- Central element for the digitization of low-voltage power distribution systems
  - Integrated web interface for a clear overview of all connected devices
  - Perfect interplay with SENTRON Powermind (MindSphere application) – see MindSphere apps
  - Data interface / gateway function of low-voltage power distribution to MindSphere, the cloud-based IoT operating system from Siemens
  - Communication interface via Modbus TCP for diverse applications, e.g. SENTRON Powermanager, Energy Manager Pro, etc.
- Provision of the 15 min energy values over 14 months for the connected devices as a basis for energy management according to ISO 50001
- Event message via email and web interface
- Flexible IT security features for protection against unauthorized access
- Easy commissioning using SENTRON Powerconfig or directly in the web interface
- Compact design, 24 V DC supply

## Other functions:

### Display and export of daily trends

- Support of SENTRON Powermind made easy
- Third-party devices can be used in the SENTRON environment, e.g. web interface and SENTRON Powermind
- Applications in other clouds, e.g. aws, Azure, can be supplied with data via SENTRON Powercenter 3000.
- Web interface in up to 10 languages

### Areas of use and applications for

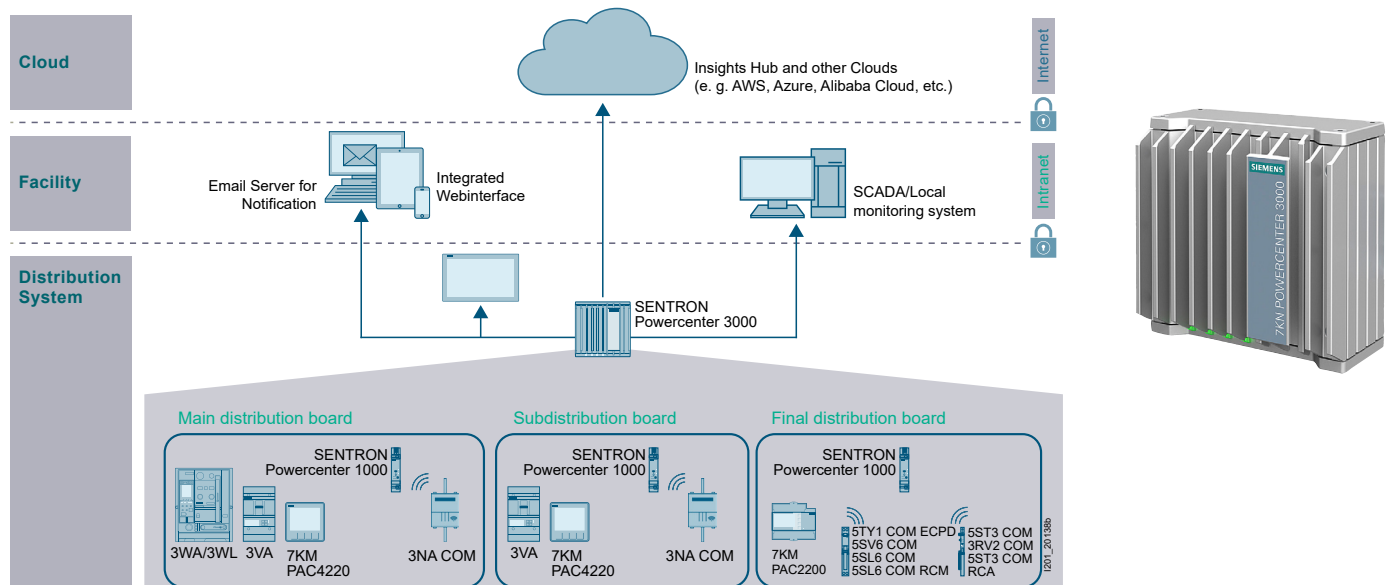
#### SENTRON Powercenter 3000:

- Basis for certified energy management
- Increased power efficiency
- Optimization of maintenance management
- Transparency and fault localization in campus structures / distributed locations
- Prerequisite for future-proof and sustainable energy and condition monitoring
- Future-proof foundation for expanding on-site and cloud-based data analysis

You can find more information on the Internet at

[www.siemens.com/powermonitoring](http://www.siemens.com/powermonitoring)

Mounting	Interfaces	Protocols	Article No.
Standard rail mounting	2x Ethernet	Modbus TCP, http, MindSphere	7KN1310-0MC00-0AA8



Areas of use and applications for SENTRON Powercenter 3000

# Electronic circuit protection device

## 5TY1 COM ECPD

The new concept underlying the 5TY1 COM electronic circuit protection devices allows them to combine familiar protection and convenience functions in a way that has not previously been possible. The functions – with the exception of the basic functions – can be actively enabled/disabled and parameterized thereby permitting application-specific customization.

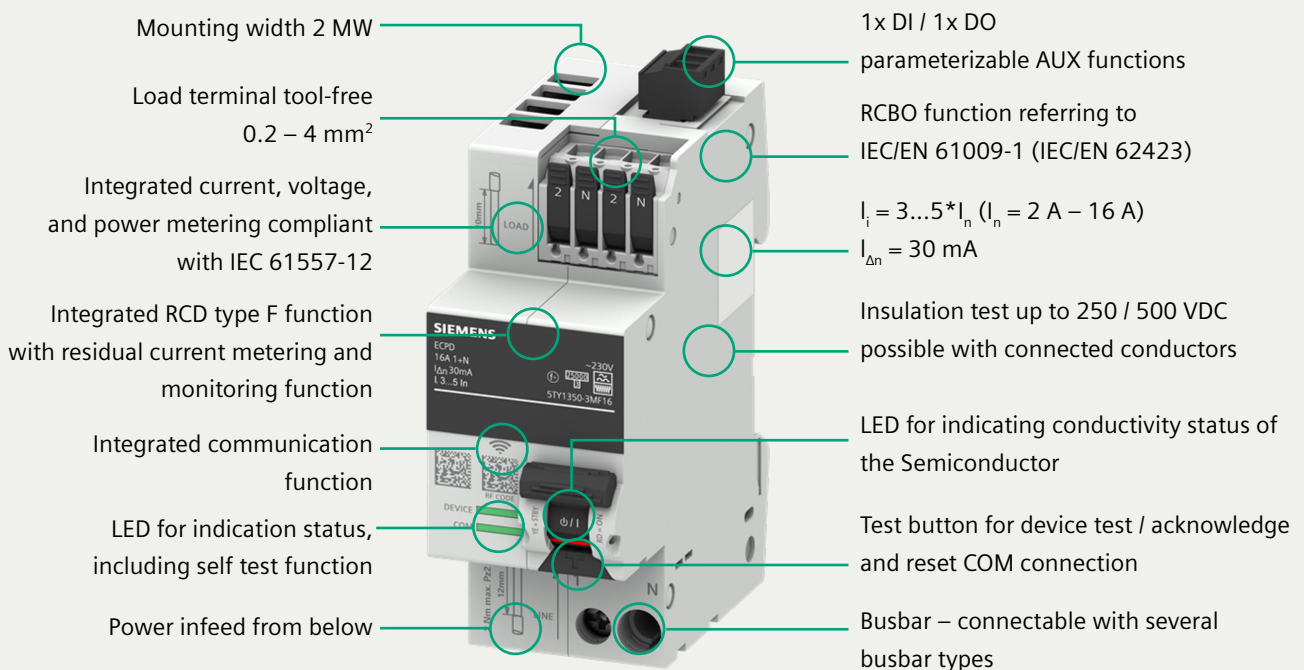
In addition to the familiar measurement functions, it is now possible to change protected parameters, which means that the downstream behavior of the device can be defined more precisely depending on the cause of the trip (e.g. short circuit/overload). The device features a new Standby (STBY) status for this purpose. This makes it possible to use power semiconductors to switch between ON (conducting, like modern circuit protection devices) and STBY (non-conducting/high-impedance) to avoid unwanted losses by standby loads, for example, or to reconnect following an overload trip.

The device also features an integrated self-test which cyclically monitors the device for anomalies and switches the device off when this is necessary in order to achieve a safe state.

### Main features

- Compact 1+N (2MW) residual current circuit breaker with integrated miniature circuit breaker type F referring to IEC/EN 61009-1 (IEC/EN 62423)
- Convenience functions such as remote switching, auxiliary switch, undervoltage release
- Current, voltage and power measurement (energy monitoring) based on IEC 61557-12
- Threshold monitoring functions: Overcurrent, undercurrent, overvoltage, undervoltage, temperature
- Meter functions: Active energy, reactive energy, operating hours, switching cycles (mechanical and electrical)
- POP function based on IEC 63024
- Wireless communication capability with the Powercenter 1000 gateway

### In detail



## Electronic circuit protection device with communication and metering function

Mounting width 2 MW

1P+N (N pole right)  
230 V AC / 75 kA



Rated current $I_n$	Article No.
6 A	5TY1350-3MF06
10 A	5TY1350-3MF10
16 A	5TY1350-3MF16

### Further technical specifications

5TY1350-3MF...

#### Approvals/certificates

Standards	CE
General product approvals	RED

#### Basic data

Rated current	6, 10, 16 A
Operational voltage	230 V AC
Number of poles	1P + N
Breaking capacity $I_{cn}$ for AC (230 V)	acc. to IEC / EN 62423 75 kA

#### Operational voltage

Max. operational voltage	250 V AC
Rated frequency	50 Hz

#### Connections

Conductor crosssection	Solid/stranded	0.75 ... 16 mm <sup>2</sup>
	Finely stranded, with end sleeve	0.75 ... 10 mm <sup>2</sup>
Tightening torque/for screw terminals		1.2 ... 2 Nm

#### Load Side – Conductor cross-sections (tool-free mounting)

Solid or stranded (with opened terminal lever)	0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Solid (Push-In)	0.5 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Finely stranded (with / without ferrule)	0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>

#### Ambient conditions

Ambient temperature	-40 ... +70 °C
Storage temperature	-40 ... +75 °C
Pollution degree for overvoltage category	2   III

#### Additional functions

Communication and metering function	Yes
Interface	SENTRON Powercenter 1000 wirelessly



# 5SL6 COM MCB RCM

6 kA MCBs, with communication and metering functions				
Mounting width 1 MW	1P+N (N pole right) 230 V AC/6 kA	1P+N (N pole right) 230 V AC/6 kA	1P+N (N pole right) 230 V AC/6 kA, residual current monitoring	1P+N (N pole right) 230 V AC/6 kA, residual current monitoring



Rated current $I_n$	Characteristic B	Characteristic C	Characteristic B	Characteristic C
2 A	5SL6002-6MC	5SL6002-7MC	–	5SL6002-7MF
4 A	5SL6004-6MC	5SL6004-7MC	–	5SL6004-7MF
6 A	5SL6006-6MC	5SL6006-7MC	5SL6006-6MF	5SL6006-7MF
8 A	–	5SL6008-7MC	–	5SL6008-7MF
10 A	5SL6010-6MC	5SL6010-7MC	5SL6010-6MF	5SL6010-7MF
13 A	5SL6013-6MC	5SL6013-7MC	5SL6013-6MF	5SL6013-7MF
16 A	5SL6016-6MC	5SL6016-7MC	5SL6016-6MF	5SL6016-7MF
20 A	5SL6020-6MC	5SL6020-7MC	5SL6020-6MF	5SL6020-7MF
25 A	5SL6025-6MC	5SL6025-7MC	5SL6025-6MF	5SL6025-7MF
32 A	5SL6032-6MC	5SL6032-7MC	5SL6032-6MF	5SL6032-7MF

## Note:

Please note the country-specific radio licenses of the products in SIOS:  
[www.siemens.com/lowvoltage/certificates](http://www.siemens.com/lowvoltage/certificates) (109801197)

## Further technical specifications

	5SL60...-MC	5SL60...-MF
<b>Approvals/certificates</b>		
Standards	IEC EN 60898-1	IEC EN 60898, IEC EN 62020-1 (VDE 0663-1)
General product approvals	VDE, RED	RED
<b>Basic data</b>		
Rated current	2 ... 32 A	2 ... 32 A
Operational voltage	230 V AC	230 V AC
Number of poles	1P + N	1P + N
Tripping characteristic	B   C	B   C
Breaking capacity $I_{cn}$ for AC (230 V)	acc. to IEC / EN 60898-1 6 kA	6 kA
<b>Operational voltage</b>		
Max. operational voltage	250 V AC	250 V AC
Rated impulse withstand voltage $U_{imp}$	4 kV	4 kV
Rated frequency	50 Hz	50 Hz
<b>Connections</b>		
Conductor crosssection	Solid/stranded Finely stranded, with end sleeve	
	0.75 ... 16 mm <sup>2</sup>	0.75 ... 16 mm <sup>2</sup>
	0.75 ... 10 mm <sup>2</sup>	0.75 ... 10 mm <sup>2</sup>
Tightening torque/for screw terminals	1.2 ... 2 Nm	1.2 ... 2 Nm
<b>Ambient conditions</b>		
Ambient temperature	–25 ... +60 °C	–25 ... +60 °C
Storage temperature	–40 ... +75 °C	–40 ... +75 °C
Pollution degree for overvoltage category	2 / III	2 / III
<b>Additional functions</b>		
Communication and metering function	Yes	Yes
Interface	SENTRON Powercenter 1000 wirelessly	wirelessly

# 5SV6 COM AFDD/MCB

## 6 kA 5SV6 COM AFDD/MCBs, with communication and metering functions

Mounting width 1 MW	1P+N (N pole right) 230 V AC/6 kA	1P+N (N pole right) 230 V AC/6 kA
---------------------	--------------------------------------	--------------------------------------



Rated current $I_n$	Characteristic B	Characteristic C
6 A	5SV6016-6MC06	5SV6016-7MC06
10 A	5SV6016-6MC10	5SV6016-7MC10
13 A	5SV6016-6MC13	5SV6016-7MC13
16 A	5SV6016-6MC16	5SV6016-7MC16
20 A	5SV6016-6MC20	5SV6016-7MC20
25 A	5SV6016-6MC25	5SV6016-7MC25
32 A	5SV6016-6MC32	5SV6016-7MC32

### Note:

Please note the country-specific radio licenses of the products in SIOS:  
[www.siemens.com/lowvoltage/certificates](http://www.siemens.com/lowvoltage/certificates) (109801197)

## Further technical specifications

### 5SV6016-.MC..

Approvals/certificates		
Standards		IEC / EN 62606, IEC / EN 60898-1
General product approvals		VDE, RED
Basic data		
Rated current		6 ... 32 A
Operational voltage		230 V AC
Number of poles		1P + N
Tripping characteristic		B   C
Breaking capacity $I_{cn}$ for AC (230 V)	acc. to IEC / EN 60898-1	6 kA
Operational voltage		
Max. operational voltage		250 V AC
Rated frequency		50 Hz
Connections		
Conductor crosssection	Solid/stranded	0.75 ... 16 mm <sup>2</sup>
	Finely stranded, with end sleeve	0.75 ... 10 mm <sup>2</sup>
Tightening torque/for screw terminals		1.2 ... 2 Nm
Ambient conditions		
Ambient temperature		-25 ... +60 °C
Storage temperature		-40 ... +75 °C
Pollution degree for overvoltage category		2   III
Additional functions		
Communication and metering function		Yes
Interface	SENTRON Powercenter 1000	wirelessly

# 5ST3 COM auxiliary switches and fault signal contact

## AS+FC with communication and metering function

Mounting width 0,5 MW

24 V DC



Supply voltage	For combining with basic units	Article No.
24 DC (SELV)	5SY, 5SL, 5SP, 5TE, 5TL, 5SG71, 5SU <sup>1)</sup> , 5SV <sup>2)</sup>	5ST3062-0MC

<sup>1)</sup> Except 5SU1-FP and 5SU1-FR. Connection element 5ST3805-1 is required

<sup>2)</sup> Except 5SV5

### Note:

Please note the country-specific radio licenses of the products in SIOS:  
[www.siemens.com/lowvoltage/certificates](http://www.siemens.com/lowvoltage/certificates) (109801197)

## Further technical specifications

## 5ST3062-0MC

Approvals/certificates		
Standards	IEC / EN 60669-2-5	
General product approvals	RED	
Basic data		
Max. current consumption	20 mA	
Supply voltage	24 V DC	
Operating range	± 20%	
Type of voltage	SELV	
Connections		
Conductor crossection	0.2 ... 1.5 mm <sup>2</sup>	
Type of connection	Plug-in terminals	
Ambient conditions		
Ambient temperature	-25 ... +60 °C	
Storage temperature	-40 ... +85 °C	
Pollution degree for overvoltage category	2   III	
Additional functions		
Interface	SENTRON Powercenter 1000 wirelessly	
Metering values	Temperature	Accuracy of 1 °C with limit monitoring (1 hour in 1-minute intervals and 7 days in 15-minute)
	Operating cycle counters	Number of switching cycles with limit monitoring
	Trip counter	Number of tripping operations of mounted protection device with limit monitoring
Breaker status of attached device	On, off, trip	

# 5ST3 COM remote control auxiliaries

## RCA with communication and measuring function

Mounting width 2 bzw. 2,5 MW

240 V DC



Device type	Article No.
Communication function, ARD	5ST3072-0MC
Communication function, ARD, RCD/IR-Test	5ST3073-0MC

Attached device	Adapter
5SY4/5/6/7/8(1p/2p), 5SY60, 5SP4 (1p)	5ST3820-1
5SY4/5/6/7/8(3p/4p), 5SP4 (2p/3p/4p)	5ST3820-2
5SM2	5ST3820-3
5SU1 (max. 3TE)	5ST3820-5
5SL4/6 (1p/2p), 5TL1 (1p/2p), 5SL60, 5SV60, 5SV1/3/4/9	5ST3820-6
5SL4/6 (3p/4p), 5TL1 (3p/4p)	5ST3820-7

### Note:

Please note the country-specific radio licenses of the products in SIOS:  
[www.siemens.com/lowvoltage/certificates](http://www.siemens.com/lowvoltage/certificates) (109801197)

## Further technical specifications

## 5ST3072-0MC, 5ST3073-0MC

Approvals/certificates		
Standards	IEC / EN 60669-2-5, inspired by IEC 63024	
General product approvals	RED2014/53/EU	
Basic data		
Supply voltage	100 ... 240 V AC	
Operating frequency	50 Hz / 60 Hz	
Operating cycles	10.000	
Number of ARD attempts	3 (+3 adjustable)	
Connections		
Conductor crosssection	0,5 ... 1,5 mm <sup>2</sup>	
Type of connection	Screw terminals	
Ambient conditions		
Ambient temperature	-40 ... +70 °C	
Storage temperature	-40 ... +70 °C	
Communication function		
Interface	SENTRON Powercenter 1000	wirelessly
Metering values	Breaker status, temperature, operating cycles, trip counter, operating hours	
Switching command	wired, via communication	
Configuration	5ST3072-0MC	Alarms, Origin of switching command, ARD-Times
	5ST3073-0MC	Alarms, Origin of switching command, ARD-Times, Test function
Testing function		
RCD-test	Measurement, Tripping current, Tripping time	
IR-Measurement	according to IEC 63024	Measurement, insulation resistance
Manual test start	wired, via communication	
Automatic test start	Adjustable time and repeat intervals	

# SIRIUS 3RV2 COM wireless auxiliary and signaling switch

## AS+FC with communication and measuring function

Mounting width 1 TE

24 V DC



### Supply voltage

24 DC (SELV)

### For combining with basic units

3RV2 circuit breakers

### Artikel-No.

3RV2921-5M

### Note:

Please note the country-specific radio licenses of the products in SIOS:  
[www.siemens.com/lowvoltage/certificates](http://www.siemens.com/lowvoltage/certificates) (109801197)

## Further technical specifications

### 3RV2921-5M

#### Approvals/certificates

Standards	IEC / EN 60947-2
General product approvals	RED

#### Basic data

Max. current consumption	20 mA
Supply voltage	24 V DC
Operating range	± 20%
Type of voltage	SELV

#### Connections

Conductor crosssection	0.2 ... 1.5 mm <sup>2</sup>
Type of connection	Plug-in terminals

#### Ambient conditions

Ambient temperature	-25 ... +60 °C
Storage temperature	-40 ... +85 °C
Pollution degree for overvoltage category	2   III

#### Additional functions

Interface	SENTRON Powercenter 1000	wirelessly
Metering values	Temperature	Accuracy of 1 °C with limit monitoring (1 hour in 1-minute intervals and 7 days in 15-minute)
	Operating cycle counters	Number of switching cycles with limit monitoring
	Trip counter	Number of tripping operations of mounted protection device with limit monitoring, Differentiation tripping cause
	Breaker status of attached device	On, off, trip



# 3NA COM LV HRC fuse link

## 3NA COM LV HRC fuse links with communication and metering function

Mounting width 59 mm      3NA COM, with electronic module



Rated current $I_n$	Size 2
100 A	3NA3230-4KK01
125 A	3NA3232-4KK01
160 A	3NA3236-4KK01
200 A	3NA3240-4KK01
224 A	3NA3242-4KK01
250 A	3NA3244-4KK01
315 A	3NA3252-4KK01

## Spare part

Mounting width 59 mm      Spare part, without electronic module      Electronic module for 3NA COM



Rated current $I_n$	Size 2	Size 2
100 A	3NA3230-4KK02	3NX8201
125 A	3NA3232-4KK02	3NX8201
160 A	3NA3236-4KK02	3NX8201
200 A	3NA3240-4KK02	3NX8201
224 A	3NA3242-4KK02	3NX8201
250 A	3NA3244-4KK02	3NX8201
315 A	3NA3252-4KK02	3NX8201

### Note:

Please note the country-specific radio licenses of the products in SIOS:  
[www.siemens.com/lowvoltage/certificates](http://www.siemens.com/lowvoltage/certificates) (109801197)

## Further technical specifications

Approvals/certificates		3NA COM
Standards		IEC / EN 60269-1, -2; EN 60269-1
General test approval		RED
EMC		EN 63 044-5-3, IEC 61000-6-2, IEC 61000-4-2/3/4/5/6/8/11
For impacts, continuous impacts, free fall, environmental testing		IEC 60068-2-1/-2/-6/-27/-29/-30/-32
General product approvals		VDE, KEMA KEUR
Key information		
Size		2
Operational class		gG
Operational voltage $I_n$		400 V AC
Rated current $I_n$		100 ... 315 A
Rated breaking capacity		100 kA
Spare parts		
Fuse element		Yes
Electronic unit		Yes
Environmental conditions		
Ambient temperature		-10 ... +55 °C
Storage temperature		-10 ... +70 °C
Relative humidity at 25 °C, non-condensing		Max. 95%
Pollution degree		2
Communication and metering function		
Communication and metering function		Yes
Interface	SENTRON Powercenter 1000	wirelessly
Measurable current range		2,5 ... 440 A (RMS)
Current measuring accuracy		± 1%
Power loss of electronic unit		50 mW
Power supply of electronic unit		Self-powered

# LOGO! 8.3

## The compact control system with cloud interface

LOGO! offers more versatile application options than ever before: LOGO! communicates via the integrated Ethernet interface or the TCP/IP communication protocol and enables easy data visualization. With its cloud functionality, it provides a connection to the Internet of Things (IoT), enabling the development of new business models such as predictive maintenance and energy data monitoring. This communication interface opens up additional possibilities beyond imagination.

### LOGO! 8.3

Number of inputs 8



Type	Supply voltage	Number of outputs (relay)	Number of outputs (transistor)	With display	Without display
24 CE	20 ... 29 V DC	–	4	6ED1052-1CC08-0BA1	6ED1052-2CC08-0BA1
12/24 RCE	11 ... 29 V DC	4	–	6ED1052-1MF08-0BA1	6ED1052-2MD08-0BA1
24 RCE	20 ... 29 V AC/DC	4	–	6ED1052-1HB08-0BA1	6ED1052-2HB08-0BA1
230 RCE	100 ... 253 V AC 85 ... 265 V DC	4	–	6ED1052-1FB08-0BA1	6ED1052-2FB08-0BA1

All CPUs can be expanded with digital and analog inputs and outputs (max. 24 DI, 20 DQ, 8 AI, 8 AQ).

For LOGO! versions 24 CE and 12/24 RCE 4 DI are fast inputs (max. 5 kHz) and 4 can be configured as 0 ... 10 V analog inputs.

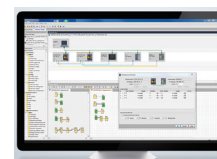
### LOGO! CMK2000

Communication module for integrating the LOGO! 8 in the building system bus KNX



KNX Modul	Artikel-No.
2	6BK1700-0BA20-0AA0

### LOGO! Soft Comfort



Programming software	Artikel-No.
Version 8.3	6ED1058-0BA08-0YA1

## 4AC2 electronic power supply unit, SELV, short-circuit-proof

Mounting width 2 MW



Rated operational voltage $U_e$		Rated secondary voltage $U_{sec}$	Rated secondary current $I_{sec}$	Rated operational power $P_s$	Artikel-No.
AC	DC				
85 ... 265 V	85 ... 265 V	24 ± 5 % V DC	0,35 A DC	8,4 W	4AC2402

## LOGO! 8 power supplies



Output voltage / input current	Width (MW)	Article No.
12 V / 0,9 A	1	6EP3320-6SB00-0AY0
12 V / 1,9 A	2	6EP3321-6SB00-0AY0
12 V / 4,5 A	3	6EP3322-6SB00-0AY0
24 V / 0,6 A	1	6EP3330-6SB00-0AY0
24 V / 1,3 A	2	6EP3331-6SB00-0AY0
24 V / 2,5 A	3	6EP3332-6SB00-0AY0
24 V / 4,0 A	4	6EP3333-6SB00-0AY0

## LOGO! ICL230 Inrush current limiter



Mains voltage	Width (MW)	Article No.
110 ... 240 V AC	1	6EP4683-6LB00-0AY0

# SICAM A8000

The field of application for the SICAM A8000 series ranges from distribution network automation and the connection of renewable energy sources (wind, solar, hydro) through to railway power supply and industrial applications. Customer requirements such as IT security, scalability, flexible communication, spacesaving design, and the ability to be used in harsh conditions were taken into account when the SICAM A8000 was being designed. With the new CP modules and expansion modules, the modular SICAM A8000 series offers optimized solutions for all performance requirements.

## SICAM A8000 – Module Types

- Processor modules (up to a max. of 34 interfaces)
- Power-supply modules (24 V DC to 60 V DC; 110 V DC to 220 V DC; 230 V AC)
- Ethernet or serial communication expansion modules
- Interface modules for a max. of 16 expansion lines
- Binary inputs (24 V DC; 48/60 V DC; 110 V DC; 220 V DC)
- Binary outputs (24/48/60/110/220 V DC; 110/230 V AC)
- Analog inputs (–20 mA/+20 mA; –10 V/+10 V; Pt 100)
- Analog outputs (–20 mA/+20 mA; –10 mA/+10 mA; –10 V/ +10 V)
- Current/voltage inputs (1 A/5 A; LoPo; 230 V)

The universally applicable binary or analog input/output modules can be plugged in any order and are suitable for even the tightest spaces as they have a module width of 30 mm.

## Benefits

- They can also be used in harsh ambient temperatures due to the extended temperature range of –40 °C to +70 °C
- The increased EMC stability of up to 5 kV (IEC 60255) qualifies the devices for direct use in switchgears
- Simple engineering with the integrated Web parameterization tool and the SICAM Device Manager
- Fulfillment of high cyber security requirements according to BDEW whitepaper, NERC CIP and IEC62351 with support for RADIUS, Syslog, IPSec and TLS
- It is a safe investment as international standards such as IEC 61850 IEC 60870-5-101/-103/-104 etc. are followed.
- The modular platform offers a variety of application options and reduces warehousing.
- Adaptation to existing communication infrastructures with a multitude of interfaces and the integrated GPRS module
- The integrated short-circuit indicator functionality enables use in power-system monitoring.
- You can save time and money as installation and maintenance are really simple – plug & play

The SICAM A8000 CP-8000 compact device combines power supply, display with function key, as well as binary inputs and outputs:

### CP-8000 compact device

18 V to 78 V DC incl. tolerance



#### Dimensions (W x H x D)

132 x 30 x 142 mm

#### Article No.

6MF2101-1AB10-0AA0

## Further technical specifications

### CP-8000

#### Approvals/certificates

Standards

IEC 61850, IEC 60870-5-101/-103/-104

#### Key information

Input voltage

DC 18 V to 78 V incl. tolerance

Interfaces

2x Ethernet LAN

1x RS232

1x RS485 (galvanically separated)

Storage

SD card up to 2 GB

Max. number of data points

400000

#### Environmental conditions

Temperature range

-40 ... +70 °C

#### Special features

Special features

Integrated power supply

12 DI and 8 DO integrated

Max. 116 I/O (max. 6 expansion modules)

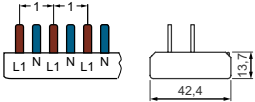
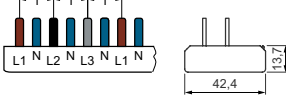
4 function keys and display

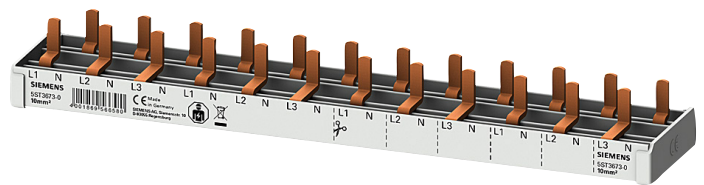
You will find further information and modules under:

[www.siemens.com/sicam-a8000](http://www.siemens.com/sicam-a8000)

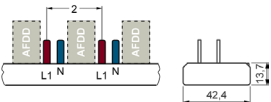
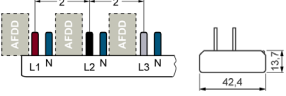
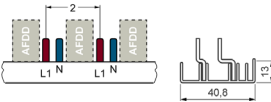


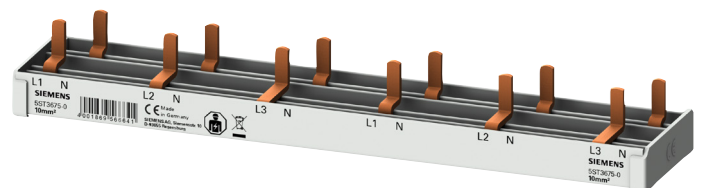
# 5ST36 compact busbars

Pin spacing in MW (1 MW = 18 mm)	Application	No. of MW	Length	End caps incl.	Conductor crossection 10 mm <sup>2</sup>	Article No.
<b>2-phase / 1-phase + N</b>	For compact devices	6 MW	113 mm	■		5ST3674-6
		9 MW	166 mm	■		5ST3674-7
		12 MW	218 mm	■		5ST3674-0
<b>4-phase / 3-phase + N</b>	For compact devices	6 MW	113 mm	■		5ST3673-6
		9 MW	116 mm	■		5ST3673-7
		12 MW	218 mm	■		5ST3673-0
		14 MW	254 mm	■		5ST3673-4



# 5ST36/37 compact busbars for ECPD

Pin spacing in MW (1 MW = 18 mm), fixed length	Application	No. of MW	Length	End caps incl.	Conductor crossection 10 mm <sup>2</sup>	Article No.
<b>1-phase + N</b>	For 1P+N 6x ECPD 5TY1 and / or AFDD 5SM6 + 6x compact	12 MW	200.2 mm	■		5ST3676-0
						
<b>3-phase + N</b>	For 3P+N 6x ECPD 5TY1 and / or AFDD 5SM6 + 6x compact	12 MW	200.2 mm	■		5ST3675-0
						
Pin spacing in MW (1 MW = 18 mm), cuttable	Application	No. of MW	Length	End caps incl.	Conductor crossection 10 mm <sup>2</sup>	Article No.
<b>1-phase + N</b>	For 1P+N ECPD 5TY1 and / or AFDD 5SM6 + compact	59 TE	1042.4 mm	■		5ST3776-0
						
<b>3-phase + N</b>	For 3P+N ECPD 5TY1 and / or AFDD 5SM6 + compact	59 TE	1042.4 mm	■		5ST3775-0
						



## Accessories

Terminals for infeed at side	Article No.
For conductors up to 25 mm <sup>2</sup> Short, IP20	5ST3771-2
End caps	Article No.
2- and 4-phase busbars	5ST3788-0

Touch protection	Article No.
For free connections, yellow (RAL 1004)	For pins L1, N 5ST3655
	For pins L2, L3 5ST3655-0HG

# 5ST37 compact busbars

Pin spacing in MW (1 MW = 18 mm)	Application	No. of MW	Length	End caps incl.	Conductor crossection 10 mm <sup>2</sup>
<b>2-phase / 1-phase + N, for infeed via RCCB</b> 	For 1× RCCB 1P+N and 10× compact devices	12 MW	215 mm	■	<b>Article No.</b> 5ST3784-0
<b>2-phase / 1-phase + N</b> 	For compact devices	60 MW	1060 mm	–	<b>Article No.</b> 5ST3774-0
	For compact devices equipped with auxiliary switch	59.5 MW	1055 mm	–	5ST3778-0
<b>4-phase / 3-phase + N, for infeed via RCCB</b> 	For 1× RCCB 3P+N and 6× compact devices	10 MW	181 mm	■	<b>Article No.</b> 5ST3783-1
	For 1× RCCB 3P+N and 8× compact devices	12 MW	216 mm	■	5ST3783-0
	For 1× RCCB 3P+N and 10× compact devices	14 MW	251 mm	■	5ST3783-4
	For 1× RCCB 3P+N, 1× MCBs 3P and 7× compact devices	14 MW	253 mm	■	5ST3785-4
	For 1× RCCB 3P+N, 1× MCBs 3P+N and 4× compact devices	12 MW	217 mm	■	5ST3795-0
	For 1× RCCB 3P+N, 1× MCBs 3P+N and 6× compact devices	14 MW	253 mm	■	5ST3795-4
<b>4-phase / 3-phase + N</b> 	For compact devices	60 MW	1060 mm	–	<b>Article No.</b> 5ST3773-0
	For compact devices equipped with auxiliary switch	59.5 MW	1055 mm	–	5ST3777-0

## Accessories

<b>Terminals for infeed at side</b>	<b>Article No.</b>
For conductors up to 25 mm <sup>2</sup> Short, IP20	5ST3771-2
<b>End caps</b>	<b>Article No.</b>
2- and 4-phase busbars	5ST3788-0

<b>Touch protection</b>	<b>Article No.</b>
For free connections, yellow (RAL 1004)	For pins L1, N 5ST3655 For pins L2, L3 5ST3655-0HG

# Residential and small functional buildings / infrastructure

**Challenges:** power monitoring and intelligent load management



## **Solution**

- Protection with modular SENTRON protection devices, incl. 5ST3 COM AS+FC with communication and measuring function
- Transmission of data with SENTRON Powercenter 1000 data transceiver
- Measuring and management of data with LOGO! 8.3

## **Customer benefits**

- Early detection of upcoming errors and irregularities
- Detailed consumption analysis down to the final circuit
- Load management and data visualization using LOGO! 8.3

**Challenges:** Transparency in transformer substations and switchgear



## **Solution**

- Uniform retrofit of existing systems with 3NA COM LV HRC fuse link
- Transmission of data with SENTRON Powercenter 1000 data transceiver
- Integration in higher management systems (e.g. SICAM A8000)

## **Customer benefits**

- Transparency of energy flows in the grid
- Real-time monitoring of the status of the fuse and predictable maintenance
- Early detection of impending power failures

**Challenges:** Daily execution and documentation of RCD tests in the construction site distribution board



## **Solution**

- Combination of RCDs with 5ST3 COM remote control auxiliary
- Datentransceiver SENTRON Powercenter 1000

## **Customer benefits**

- Plannable, automated execution and documentation of daily necessary RCD tests
- Early detection of errors and irregularities through insulation resistance measurement before switching on again
- Automatic restart in the event of a trip parameterizable

# Industry and Buildings

**Challenge:** Find the cause when the production process is disconnected



## Solution

- Protection of a multiphase circuit with multipole 5SY MCB / 5SV3 TYPE B RCCB
- 5ST3 COM auxiliary switch and fault signal contact
- SENTRON Powercenter 1000 data transceiver

## Customer benefits

- Detection of a manual disconnection for safe maintenance
- Remote querying of the switching status
- Fast detection of disconnections due to a fault in the production process
- Retrofitting of existing plants possible at low cost and with little effort
- Notification of pending maintenance of the circuit protection device

**Challenge:** Cost savings of power monitoring



## Solution

- Protection with communication capable 5SL6 COM MCB or 5SV6 COM AFFD/MCB
- SENTRON Powercenter 1000 data transceiver

## Customer benefits

- Identification of energy saving measures, e.g., stand-by consumption levels
- Evaluation of data, optionally via mobile end devices, SENTRON Powercenter 3000 data concentrator, Mindsphere applications
- Measures for optimization of consumption levels, including within the framework of operational energy management according to ISO 50001

**Challenge:** Minimizing maintenance standstills of elevators



## Solution

- Protection of a multiphase circuit with multipole miniature circuit breaker SIRIUS 3RV2
- Wireless, auxiliary and signaling switch 3RV2 COM
- Data transceiver SENTRON Powercenter 1000

## Customer benefits

- Detection of a manual disconnection for safe maintenance
- Remote querying of the switching status
- Fast detection of disconnections due to faults in the production process
- Retrofitting of existing plants possible at low cost and with little effort
- Notification of pending maintenance of the circuit protection device



# Continuous residual current monitoring

**Challenge:** Alternative for recurring insulation tests



## **Solution**

- Protection and residual current monitoring with the 5SL6 COM MCB RCM
- SENTRON Powercenter 1000 data transceiver
- SENTRON Powercenter 3000 IoT gateway

## **Customer benefits**

- Permanent residual current monitoring instead of periodic testing reduces costs for tests
- Early detection of emerging isolation failures allows timely reaction and creates permanently increased security
- Trend detection of electric measured values allows for precise detection of condition changes in an early stage

**Challenge:** Quick establishment of a highly available and secure power supply



## **Solution**

- Protection with the 5SL6 COM MCB RCM – with residual current monitoring
- SENTRON Powercenter 1000 data transceiver

## **Customer benefits**

- Higher operating security and faster processes due to residual current monitoring
- Early detection of possible critical machine conditions, prevention of power outages and increased safety of people
- Operating state dependent evaluation of the residual current measurement values with simultaneous measurement of residual current and load current
- Data recording for submission in case of claim settlements with insurance



# Lighting with SENTRON ECPD

**Challenge:** High inrush currents and inaccurate short-circuit detection with long cables



## Solution

Efficient, resource-saving planning with SENTRON ECPD as a circuit protection device thanks to:

- reliable handling of inrush peaks through inrush handling
- safe, reliable detection and disconnection of minor, minimal short-circuit currents ( $I_{kmin}$ )

## Customer benefits

- Inrush current limitation: cost savings in the application
- Parameterizable line protection: savings in cable cross-sections
- Multifunction: diagnostic, monitoring and control options

**Challenge:** Monitoring and selective fault identification and location all the way to the final circuit



## Solution

Reliable status information and predictive maintenance with SENTRON ECPD as a protection device thanks to:

- acquisition of measured values and status information
- visualization of condition data and warnings when a threshold is exceeded

## Customer benefits:

- Trend detection of measured electrical variables allows precise detection of status changes at an early stage
- Early detection of possible critical system states, avoidance of power failures and increased personal safety

**Challenge:** High maintenance and repair costs in remote locations with unstaffed control centers



## Solution

Efficient, time-saving maintenance via remote access with SENTRON ECPD as a protection device thanks to:

- remote diagnosis and remote switching in the event of a fault using the SENTRON Powerconfig mobile app
- unambiguous assessment of the fault's relevance, prioritizing of critical results, and targeted service deployment

## Customer benefits:

- Reduction of high travel costs and extensive downtimes
- Auto-reclosure in the event of tripping can be individually parameterizable

Published by  
Siemens AG

Smart Infrastructure  
Electrical Products  
Siemensstraße 10  
93055 Regensburg  
Germany

For the U.S. published by  
Siemens Industry Inc.

100 Technology Drive  
Alpharetta, GA 30005  
United States

SIEP-T90059-02-7600  
Dispo 25600  
Produced in Germany  
© Siemens 2023

Subject to changes and errors. The information given in this document only contains general descriptions and/or performance features which may not always specifically reflect those described, or which may undergo modification in the course of further development of the products. The requested performance features are binding only when they are expressly agreed upon in the concluded contract.

All product designations may be trademarks or other rights of Siemens AG, its affiliated companies or other companies whose use by third parties for their own purposes could violate the rights of the respective owner.

