Easy, reliable, cost-efficient

There are many advantages to be had from keeping a watchful eye on your energy consumption: in addition to cost savings through optimized consumption, you ensure increased resilience with the monitoring of power supply systems and network quality in infrastructure and industrial plants.

At the same time, systematic power monitoring increases your awareness of actual energy consumption, making it a key prerequisite for greater energy efficiency.

Integration into open IoT operating systems such as MindSphere results in even greater optimization potential.

What is more, with a power monitoring system you lay the foundation for regular energy audits and a corporate energy management system according to ISO 50001 and ISO 50003.

Measuring Devices, Power Monitoring and Digitalization Solutions

10

A multitude of additional information …

Information + ordering

ⓘ All the important things at a glance

For information about measuring devices, power monitoring and digitalization solutions, please visit our websites
www.siemens.com/powermonitoring
www.siemens.com/sentron-digital

ⓘ Your product in detail

The Siemens Industry Online Support (SIOS) provides comprehensive information
www.siemens.com/lowvoltage/product-support
• Brochure
  – SENTRON portfolio for power monitoring **(109744725)**
  – SENTRON powermanager – update and benefit **(109805178)**

The relevant tender specifications can be found at
www.siemens.com/lowvoltage/tenderspecifications

▶ Siemens YouTube channel

• Power monitoring (general) **bit.ly/2lZ9QqC**

🛒 Everything you need for your order

Refer to the Industry Mall for an overview of your products
• Measuring devices and power monitoring **sie.ag/2kTH9Lz**
• Digitalization solutions **sie.ag/2olliNi**
• Library for SIMATIC **sie.ag/2kpbwcs**
• SENTRON powermanager/SENTRON powerconfig **sie.ag/2kTJjuF**

Direct forwarding to the individual products in the Industry Mall by clicking on the article number in the catalog or entering this web address incl. article number
www.siemens.com/product?Article No.

🔧 Configurators

The configurator reduces the time and effort required in the planning and ordering process, and allows for individual adaptations.
Configure your 7KM PAC and 7KT PAC measuring device at **www.siemens.com/lowvoltage/pac-configurator**

10

👤 The fast track to the experts

Contact persons in your region

We offer a comprehensive portfolio of services. You can find your local contacts at
www.siemens.com/lowvoltage/components/contact

You will find further information on services at
www.siemens.com/service-catalog

Competent expert advice on technical questions with a wide range of demand-optimized services for all our products and systems.

Assistance with technical queries is provided at
www.siemens.com/support-request

... can be found in our online services

Commissioning + operation

ⓘ Your product in detail

The Siemens Industry Online Support (SIOS) provides detailed technical information
www.siemens.com/lowvoltage/product-support

- Operating instructions
- Certificates

Comprehensive mobile support via the Siemens Industry Online Support app available for download from the
App Store and **Play Store**
You will find further information at
www.siemens.com/support-app

Provision of 3D data (step and u3d data formats)
- Siemens Industry Mall
  www.siemens.com/lowvoltage/mall
- Image database
  www.siemens.com/lowvoltage/picturedb

Engineering data for CAD or CAE systems are available in the CAx Download Manager at
www.siemens.com/cax

👥 Face-to-face or online training

Our training courses can be found at
www.siemens.com/sitrain-lowvoltage

- Digitalization in power distribution boards (WT-LVDIGI)
- SENTRON circuit protection devices with measuring and communication function (WT-LVBCOM)
- Power Monitoring with SENTRON (WT-LVAEM)
- Energy Management with SENTRON powermanager – User training (LV-PM)
- SENTRON powermanager graphic module – User training (LV-PMG)

⚙ SENTRON powerconfig

The combined commissioning and service tool SENTRON powerconfig for communication-capable measuring devices, circuit protection devices and circuit breakers.
Free download SENTRON powerconfig
www.siemens.com/powerconfig
Free download SENTRON powerconfig mobile via
App Store and **Play Store**

📖 Manuals

Manuals are available for downloading in Siemens Industry Online Support (SIOS) at
www.siemens.com/lowvoltage/manuals

- Configuration Manual
  – Measuring devices and power monitoring **(45315973)**
- Equipment Manual
  – 7KT PAC1600 energy meter **(109759827)**
  – 7KT PAC1600 multimeter **(109760293)**
  – 7KM PAC2200 power monitoring device **(109746835)**
  – 7KM PAC2200CLP power monitoring device **(109783220)**
  – 7KM PAC3200T power monitoring device **(109746833)**
  – SENTRON PAC5100/5200 7KM5212/5412 **(109477872)**
  – 7KM PAC3120 and 7KM PAC3220 **(109767307)**
  – 7KN POWERCENTER 3000 **(109763838)**
- System Manual
  – 7KT multichannel current measuring system **(109483442)**
  – SENTRON PAC4200 power monitoring device **(34261595)**
  – SENTRON circuit protection devices with communication and measuring function **(109791806)**
- Communication Manual
  – SENTRON PAC5100/5200 7KM5212/5412 **(109477870)**
  – 3VA molded case circuit breakers with IEC and UL certification **(98746267)**
- SEM3™
  – Embedded Micro Metering Module™ **(109748928)**
- Quick Installation Guide
  – 7KN POWERCENTER 3000 **(109766001)**
- Installation Manual
  – SENTRON circuit protection devices with communication and measuring function **(109791805)**

ⓘ Technical overview – Measuring devices, power monitoring and digitalization solutions

The fast way to get you to our online services

This page provides you with comprehensive information and links on measuring devices, power monitoring and digitalization solutions

www.siemens.com/lowvoltage/product-support (109764480)

Power monitoring

Software

	Local monitoring systems	
	Web	**Mobile App**
	INTERNET	POWER CON SIEMENS
	Web interface integrated	SENTRON powerconfig

Functions for power monitoring

	Web	Mobile App
Commissioning of measuring devices and circuit breakers	–	■
Displaying current data	■	■
Displaying/evaluating current/historical values	■	■
Prepared analyses/reports	–	–
Customized reporting	–	–
Data analysis in the cloud	–	–

Additionally for energy management

Switching loads on and off	–	–

Operating environment

Use	Free of charge	Free of charge
System requirements	Browser	Android, iOS
Suitable according to ISO 50001	–	–
Connection of non-Siemens devices	–	–
Integrated cloud interface	–	–
Further information	From page 10/12	

Measuring devices, circuit breakers and circuit protection devices

		Web	Mobile App
Measuring devices for industrial applications	7KM PAC1020	–	–
	7KM PAC2200/PAC2200 CLP	■	■ [1][2]
	7KM PAC3200T	■	■ [1]
	7KM PAC3120	–	■ [2]
	7KM PAC3220	■	■
	7KM PAC4200	■	■
	7KM PAC5200	■	–
Measuring devices for buildings and infrastructure	7KT PAC1200	■	–
	7KT PAC1600	–	–
	SEM3/SEM3T	■	–
Circuit breakers	3WA	–	■
	3WL	–	■
	3WL10/3VA27	–	–
	3VA ETU5/8	–	■
Communication-capable circuit protection devices	7KN Powercenter 1000/ 5ST3 COM AS+FC/ 5SL6 COM MCB/ 5SV6 COM AFDD/ 3NA COM Fuse	–	■
Other Modbus devices		–	–

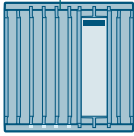■ Function available   – Function not available
[1] Via WiFi   [2] Via gateway (PAC4200)   [3] Incl. module for Desigo CC building management   [4] Via XML/JSON   [5] Via SPP2000

	PC-based			Cloud	World of SIMATIC	
					TIA Portal	
	SENTRON powerconfig	SENTRON powermanager [3]	7KN Powercenter 3000	SENTRON powermind (MindSphere)	SIMATIC TIA Portal integrated	SIMATIC TIA Portal capable
■	–	–	–	■	–
■	■	■	■	■	■
■	■	■	■	■	■
–	■	–	■	■	–
–	■	–	–	–	–
–	–	–	■	–	–
–	■	–	–	■	■
Free of charge	License and trial license	–	Subscription	–	–
Windows X64	Windows X64	–	Browser	–	–
–	■ (TÜV)	■	■	–	–
–	–	■	■	–	–
–	■	■	■	–	–
From page 10/12	**From page 10/14**	**From page 10/18**	**From page 10/22**		
■	■ [4]	■	■	–	–
■	■	■	■	–	■ [5]
■	■	■	■	–	■ [5]
■	■	■	■	–	–
■	■	■	■	■	■
■	■	■	■	■	■
■	■	–	–	–	–
■	■	–	–	–	–
■	■	■	–	–	–
–	■/■ [4]	–	–	–	–
■	■	■	■	–	■
■	■	■	■	■	■
■	■	–	–	–	■
■	■	■	■	■	■
■	■	■	■	–	–
■	■	■	■	–	–

10

Hardware components

Industry

	7KM PAC1020	7KM PAC2200	7KM PAC2200 CLP	7KM PAC3200T	7KM PAC3120	7KM PAC3220
Type of mounting						
Front mounting | DIN rail | Screw mounting	■ | – | –	– | ■ | –	– | ■ | –	– | ■ | –	■ | – | –	■ | – | –
Withdrawable | Fixed-mounted	– | –	– | –	– | –	– | –	– | –	– | –
Measuring connection						
Direct measurement	–	■	■	–	–	–
Transformer measurement	■	■	■	■	■	■
Multichannel measuring system	–	–	–	–	–	–
Suitable transformers						
Window-type current transformers	■	■	■	■	■	■
Folding transformer	■	■	■	■	■	■
Integrated transformer	–	–	–	–	–	–
Commissioning						
MID/PTB-A50.7 version	– | –	■ | –	■ | ■	– | –	– | –	– | –
Max. input voltage L-L/L-N	400 V/230 V	400 V/230 V	400 V/230 V	400 V/230 V	690 V/400 V	690 V/400 V
Transformer connection version	x/1 A or x/5 A	x/1 A or x/5 A	x/1 A or x/5 A	x/1 A or x/5 A	x/1 A or x/5 A	x/1 A or x/5 A
Direct connection version	–	65 A	65 A	–	–	–
DC power supply unit with extra-low voltage version	–	–	–	–	24 ... 60 V DC ±20 %	24 ... 60 V DC ±20 %
1-phase counter version	–	■	■	–	–	–
Electrically isolated voltage inputs	–	–	–	–	–	–
Version without display (for web interface)	–	–	–	■	–	–
Evaluation						
Measured quantities						
Average value of measured values	–	■	■	■	■	■
Voltage, current, frequency	■	■	■	■	■	■
Power, power factor	■	■	■	■	■	■
Energy measurement						
Daily energy storage	–	> 221 days	> 10 years	> 221 days	> 221 days	> 221 days
Monthly energy storage	–	> 25 months	> 10 years	> 25 months	> 25 months	> 25 months
Yearly energy storage	–	> 7 years	> 10 years	> 7 years	> 7 years	> 7 years
Apparent | Active | Reactive energy | p.f. | power factor	– | ■ | ■ | – | ■	■ | ■ | ■ | – | ■	■ | ■ | ■ | – | ■	■ | ■ | ■ | – | ■	■ | ■ | ■ | ■ | ■	■ | ■ | ■ | ■ | ■
Distortion factor THD (voltage, current)	–	–	–	■	■	■
Harmonics (voltage, current)	–	–	–	–	–	–
Phase angle/phase chart	–	–	–	–	–	–
Load profile recording	–	–	■	–	–	–
Flicker acc. to IEC 61000-4-15	–	–	–	–	–	–
Monitoring functions						
Operating hours counter	–	–	–	■	■	■
Limit monitoring	–	–	–	■	■	■
Logic functions	–	–	–	■	■	■
Event log	–	–	–	–	–	–
Gateway function	–	–	–	–	–	–
Reporting acc. to EN 50160	–	–	–	–	–	–
Integrated fault recorder	–	–	–	–	–	–
Integrated communications interfaces						
Digital inputs/digital outputs	1/1	1/1	1/1	1/1	2/2	2/2
S0 interface	■	■	■	■	■	■
M-Bus	–	■	–	–	–	–
RS485 (Modbus RTU)	■	■	–	–	■	–
Ethernet with Modbus TCP	–	■	■	■	–	■
BACnet	–	–	–	–	–	–
Further information						
	See page 10/26	See page 10/26	See page 10/26	See page 10/26	See page 10/26	See page 10/26

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	Industry		Buildings and infrastructure			Circuit breakers			
	7KM PAC4200	7KM PAC5200	7KT PAC1200	7KT PAC1600	SEM3	3WA	3WL	3WL10/ 3VA27	3VA ETU8
	■|–|–	■|■|–	–|■|–	–|■|–	–|–|■	–|–|–	–|–|–	–|–|–	–|–|–
	–|–	–|–	–|–	–|–	–|–	■|■	■|■	■|■	–|■
	–	–	■	■	–	–	–	–	–
	■	■	■	■	–	■	■	■	■
	–	–	■	–	–	–	–	–	–
	■	■	■	■	■	–	–	–	–
	■	■	■	■	■	–	–	–	–
	–	–	■	–	■	■	■	■	■
	–|–	–|–	–|–	■|–	–|–	–|–	–|–	–|–	–|–
	690 V/400 V	690 V/400 V	400 V/230 V	400 V/230 V	480 V/277 V	1000 V/577 V	690 V/400 V	690 V/400 V	690 V/400 V
	x/1 A or x/5 A	x/1 A or x/5 A	x/5 A	x/5 A	50…1200 A/0.1 A	integrated	integrated	integrated	integrated
	–	–	40/63 A	63/80 A	–	–	–	–	–
	22 … 65 V DC	–	–	–	–	24 V DC	24 V DC	24 V DC	24 V DC
	–	–	■	■	■	–	–	–	–
	–	■	–	–	–	–	–	–	–
	–	■	■	–	■	–	–	–	–
	■	–	–	–	–	■	–	–	–
	■	■	–	–	–	■	■	■	■
	■	■	■	■	■	■	■	■	■
	> 365 days	–	–	–	–	–	–	–	–
	> 24 months	–	–	–	–	–	–	–	–
	–	–	–	–	–	–	–	–	–
	■|■|■|■|■	■|■|■|■|■	–|■|■|–|–	■|■|■|–|–	■|■|■|■|■	■|■|■|■|■	■|■|■|■|■	■|■|■|■|–	■|■|■|■|■
	■	■	–	–	–	■	■	–	■
	2nd to 64th	2nd to 40th	–	–	–	2nd to 31st	2nd to 29th	–	–
	■	–	–	–	–	–	–	–	–
	■	–	–	–	■	■	–	■	■
	–	■	–	–	–	–	–	–	–
	■	–	–	■	–	■	■	–	■
	■	■	–	■	–	–	■	■	■
	■	■	–	–	■	–	–	–	–
	> 4000 events	■	–	–	■	–	■	■	■
	■	■	–	–	–	–	–	–	–
	–	–	–	–	–	–	–	–	–
	–	■	–	–	–	–	–	–	–
	2/2	0/2	–	1/1	2/1	■	■	■	■
	■	–	–	■	–	■	–	■	■
	–	–	–	■	–	–	–	–	–
	–	–	–	■	■	–	■	■	■
	■	■	■	–	■	■	■	■	■
	–	–	–	–	–	–	–	–	–
	See page 10/26	See page 10/26	See page 10/31	See page 10/30	See page 10/32	See page 1/4	See page 1/66	See page 1/66 See page 2/6	See page 2/6

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Hardware components

Circuit protection devices

	7KN Powercenter 1000	5ST3 COM auxiliary switches and fault signal contacts	5SV6 COM AFDD/MCB
Communications interfaces			
Radio link	■	■	■
Modbus TCP	■	–	–
Bluetooth	■	–	–
Gateway function	■	–	–
Type of mounting			
DIN rail	■	■	■
Busbar	–	–	–
Evaluation			
Switching state	–	■	■
Temperature	–	■	■
Current	–	–	■
Voltage	–	–	■
Frequency	–	–	■
Apparent, reactive and active power, power factor	–	–	■
Reactive and active energy	–	–	■
Monitoring functions			
Operating hours counter	■	■	■
Operating hours counter with load current	–	–	■
Operating cycles counter	–	■	■
Trip counter	–	■	■
Short-circuit trip counter	–	–	■
Alarms for limit monitoring	■	■	■
Detection of overload and short circuit	–	–	■
Detection of arcing faults	–	–	■
Further information			
	See page 10/20	See page 3/52 and 4/62	See page 4/54

[1] Protection function provided, but tripping is not communicated

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Circuit protection devices
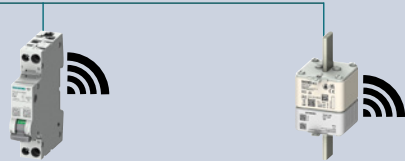
5SL6 COM miniature circuit breakers	3NA COM fuses
■	■
–	–
–	–
–	–
■	–
–	■
■	–
■	■
■	■
■	–
■	–
■	–
■	–
■	■
■	■
■	–
■	–
■	–
■	■
■	– [1]
–	–
See page 3/40	**See page 7/50**

Accessories

Communication modules
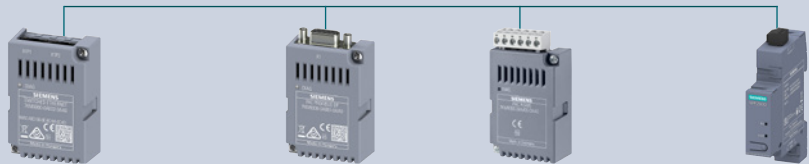
		7KM Switched Ethernet PROFINET/Modbus TCP	7KM PROFIBUS DP	7KM RS485 Modbus RTU	SENTRON PROFINET Proxy SPP2000 new
Industry					
	7KM PAC1020	–	–	–	–
	7KM PAC2200	–	–	–	∎
	7KM PAC2200 CLP	–	–	–	∎
	7KM PAC3200T	–	–	–	∎
	7KM PAC3120	–	–	–	–
	7KM PAC3220	∎	∎	∎	–
	7KM PAC4200	∎	∎	∎	–
	7KM PAC5200	–	–	–	–
Buildings and infrastructure					
	7KT PAC1200	–	–	–	–
	7KT PAC1600	–	–	–	–
	SEM3	–	–	–	–
Circuit breakers					
	3WA/3WL	–	–	–	–
	3WL10/3VA27	–	–	–	–
	3VA ETU5/8	∎	∎	∎	–

	Expansion modules		Current transformers		
	7KM PAC 4DI/2DO	**7KM PAC I(N), I(Diff), analog**	**4NC**	**7KT**	**3NJ calibrated**
	–	–	■	■	■
	–	–	■	■	■
	–	–	–	–	■
	–	–	■	■	■
	–	–	■	■	■
	■	■	■	■	■
	■	■	■	■	■
	–	–	■	■	■
	–	–	–	–	–
	–	–	■	■	■
	–	–	–	–	–
	–	–	–	–	–
	–	–	–	–	–
	–	–	–	–	–

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SENTRON powerconfig

Configuration software for commissioning and maintenance

SENTRON powerconfig is available free of charge at
www.siemens.com/powerconfig

You will find further information on the internet at
www.siemens.com/sentron

Free download SENTRON powerconfig mobile via:

App Store   **Play Store**

- Software tool for the efficient commissioning and diagnostics of communication-capable SENTRON components
- Supports all electronic SENTRON devices, e.g. 3WA, 3WL, 3VA, 7KN Powercenter 3000 and 7KN Powercenter 1000, with 5ST3 AS+FC COM, 5SL6 MCB COM, 5SV6 AFDD COM and 3NA Fuse COM
- General range of functions:
  – User-friendly parameter assignment even for complex devices such as the 3WA
  – Fast, optical detection of communication and measuring-capable circuit protection devices, such as 7KN Powercenter 1000
  – Saving and printing of device settings
  – Monitoring, saving and printing of instantaneous measured quantities
  – Execution of specific device functions, such as resetting of devices and setting of energy meters

- Service functions:
  – Detection of devices and acquisition of measured quantities and status information via different networks, e.g. via Ethernet
  – Device and status acquisition via local interfaces, such as Bluetooth and USB
  – Acquisition and archiving of historic records, such as load profiles and events
  – Firmware updates
  – Switching of language packs for 7KM PAC measuring devices
- Cooperative interaction between powerconfig mobile and powerconfig on the PC:
  – powerconfig mobile offers a high degree of mobile versatility, e.g. to scan codes on the circuit protection devices
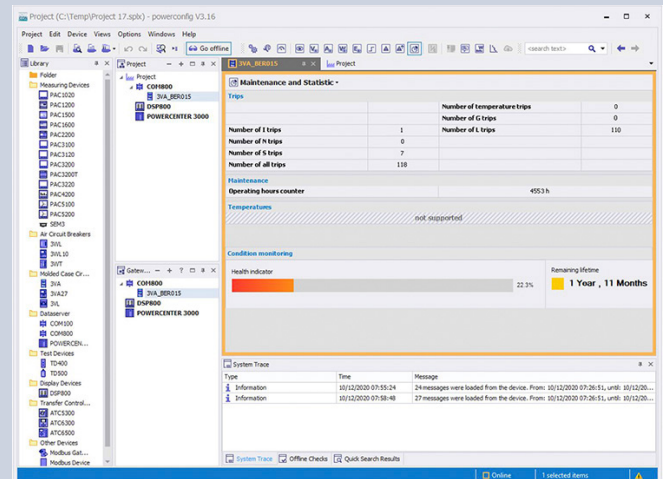 – powerconfig on the PC can be used for subsequent editing and archiving of the system configuration
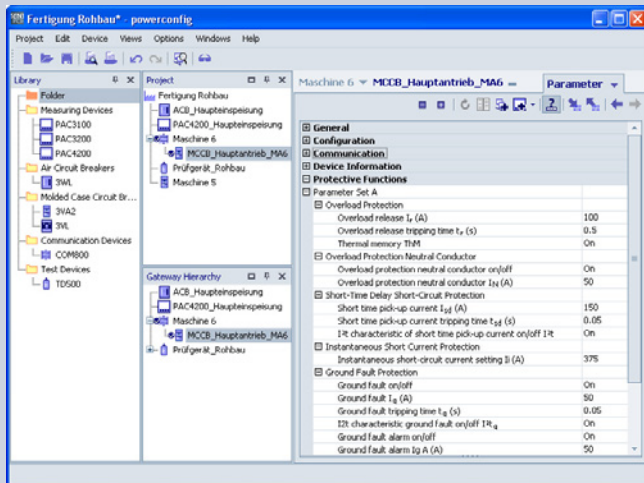
Setting of parameter values
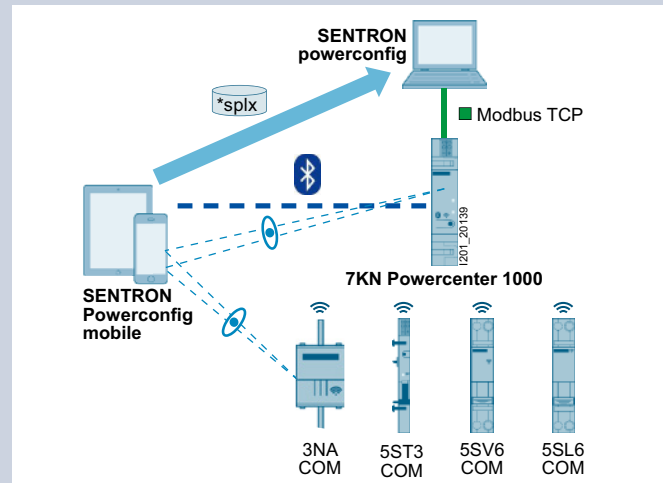
Scanning of circuit protection devices
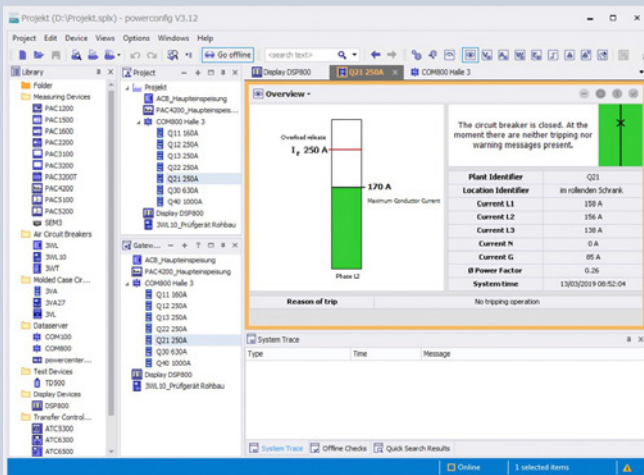
Display of the circuit breaker status

Display of the state of health of the 3VA

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SENTRON powermanager

PC-based power monitoring software

SENTRON powermanager

SENTRON powermanager is based on the modern Desigo CC platform with advanced graphical capabilities and a standard SQL database. The workflows for setting up the system, creating devices, graphically displaying the device data and processing it in reports have been fundamentally revised.

You can find the latest download and change information in the SIOS portal at
www.siemens.com/lowvoltage/product-support (109771760)

Updates and upgrades of version 4.x or higher are based on the SUS/SUR principles.
You will find further information in the brochure – SENTRON powermanager – update and benefit
www.siemens.com/lowvoltage/product-support (109805178)

If you wish to migrate from classic powermanager (3.6) to the current version, please get in touch with your local Siemens contact.

The "Trial" license gives customers the opportunity to gain initial experience with SENTRON powermanager during a 60-day test phase. The application can still be used by purchasing a regular license.

You will find further information on the internet at
**www.siemens.com/powermanager**

You will find training courses on the internet at
**www.siemens.com/sitrain-lowvoltage**

Version	Description	Article No.
powermanager		
Extended Package	Full product license for up to 10 devices, installation for client/server, web access	7KN2710-2CE40-0YC0
Trial license	Full product license limited to 60 days for up to 10 devices, incl. all functions; software download via SIOS Portal **www.siemens.com/lowvoltage/product-support (109771760)** A free license for one-time use (limited to 60 days) must also be requested via **powermanagerlicence.de@siemens.com**	
Device expansions		
Device Pack (20)	Device expansion license for up to 20 devices	7KN2711-1CE40-0YC0
Device Pack (50)	Device expansion license for up to 50 devices	7KN2711-2CE40-0YC0
Device Pack (100)	Device expansion license for up to 100 devices	7KN2711-3CE40-0YC0
Device Pack (200)	Device expansion license for up to 200 devices	7KN2711-4CE40-0YC0
Device Pack (500)	Device expansion license for up to 500 devices	7KN2711-5CE40-0YC0
Device Pack (1000)	Device expansion license for up to 1000 devices	7KN2711-6CE40-0YC0
Option packs		
"Graphics Editor 60 Days" option pack	Option for creating any number of freely configured graphics, validity period limited to 60 days	7KN2712-0CE40-0YC0
"Graphics Editor Unlimited" option pack	Option for creating custom-made SENTRON powermanager applications, e.g. graphics; especially suitable for partners such as Solution Providers, control cabinet builders, etc.	7KN2712-0CE40-0YC1
"Client (2)" option pack	Expansion for up to 2 clients	7KN2712-1CE40-0YC0
"Client (5)" option pack	Expansion for up to 5 clients	7KN2712-2CE40-0YC0
"powermanager Server" option pack	Additionally, powermanager server license for distributed systems without devices, web, etc.	7KN2712-4CE40-0YC0
Powermanager SUR-Unit	Update – Extend subscription period by 12 months	7KN2713-7CE40-0YC0 new
Powermanager SUS-Unit	Update – Start new 12-month subscription period	7KN2713-8CE40-0YC0 new
System packages		
System 1	Package comprising 1× powermanager Extended 1× PAC4200 1× PAC3120 1× RS485 modules	7KN2715-1CE40-0YC0
System 3	Package comprising 1× powermanager Extended 3× PAC3220	7KN2715-3CE40-0YC0
System 4	Package comprising 1× powermanager Extended 1× PAC4200 4× PAC1600 1× RS485 module	7KN2715-4CE40-0YC0
System 5	Package comprising 1× powermanager Extended 5× PAC2200 transformer measurement Modbus TCP	7KN2715-5CE40-0YC0

powermanager – Measuring device diagram
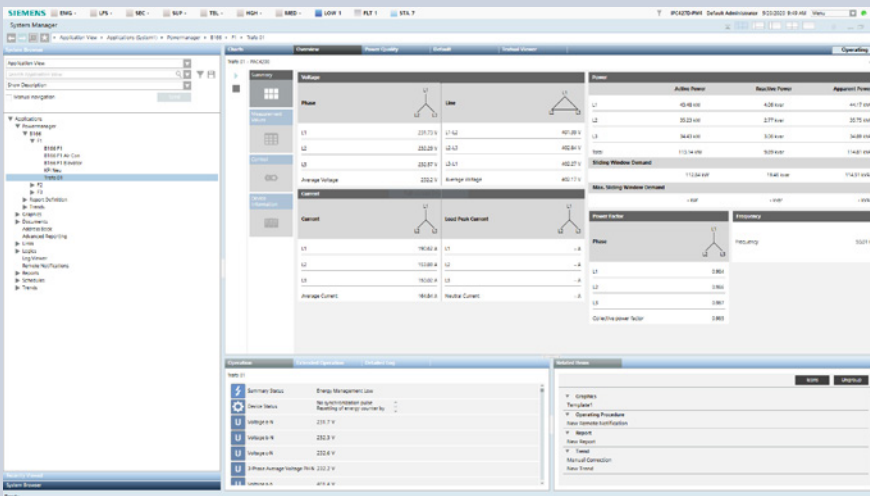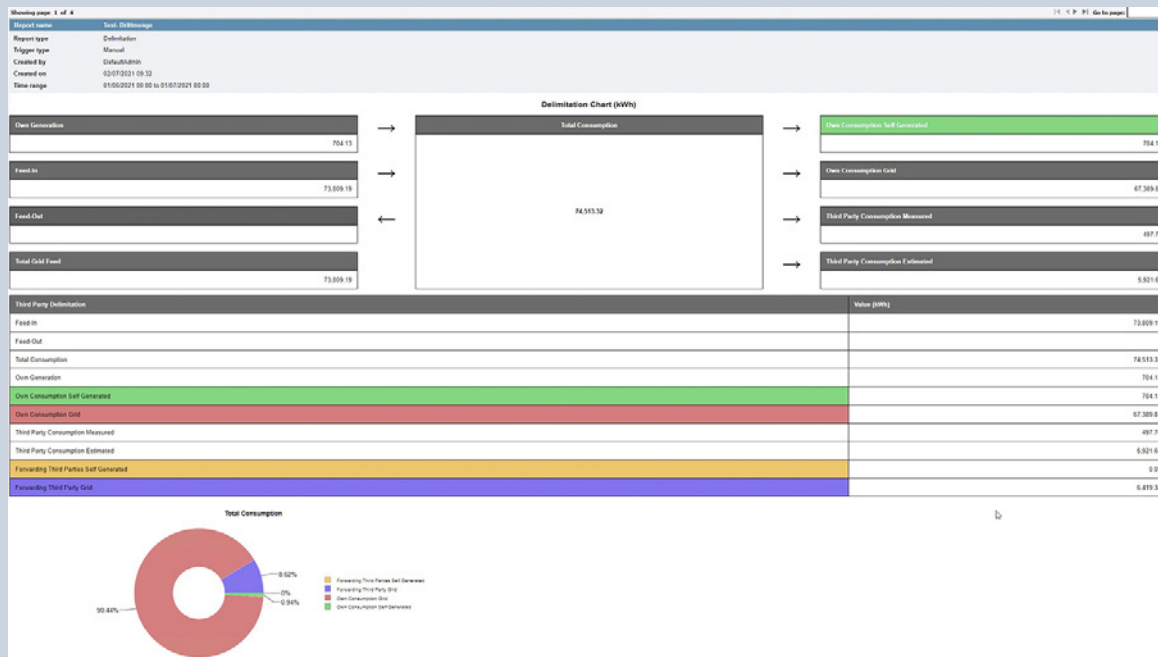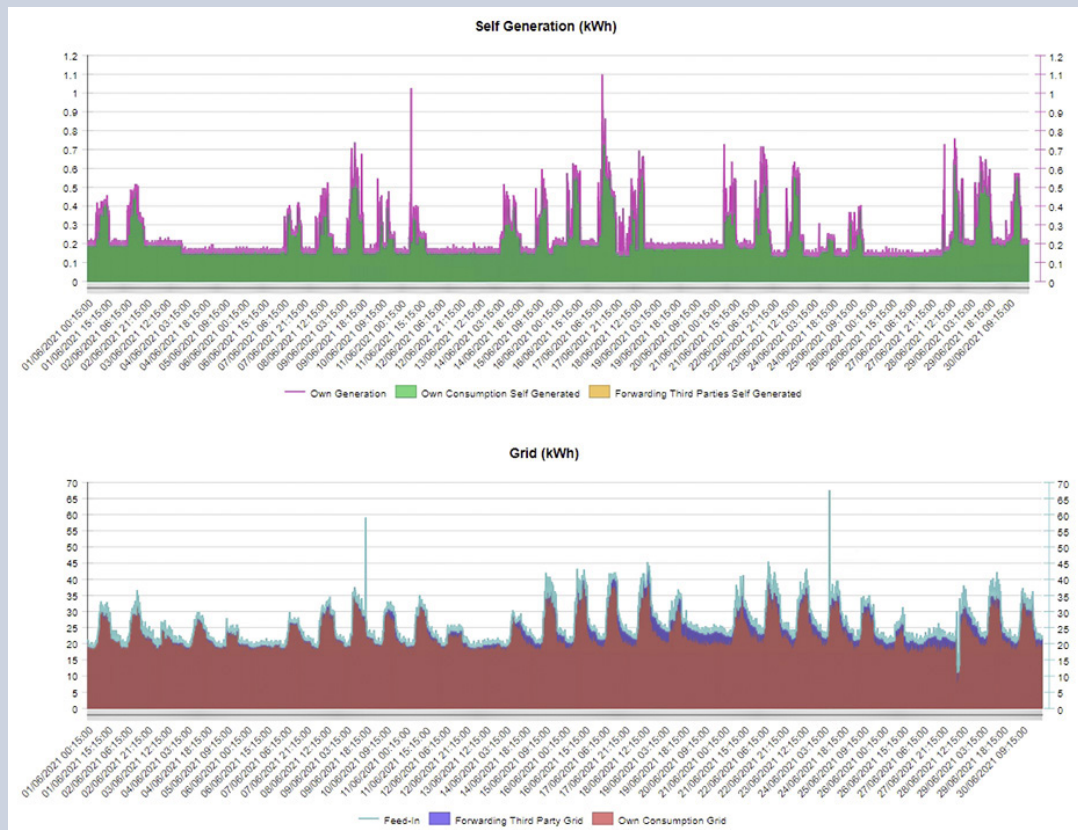

powermanager – Overview of measuring devices

10
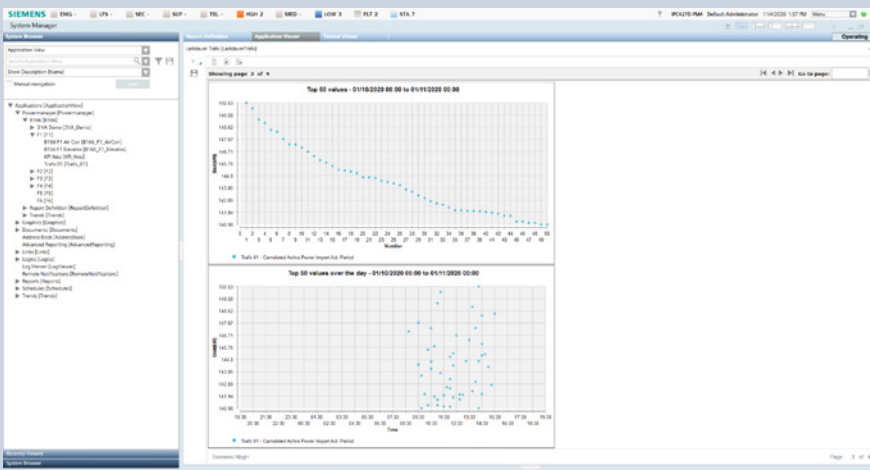
powermanager – Load duration report
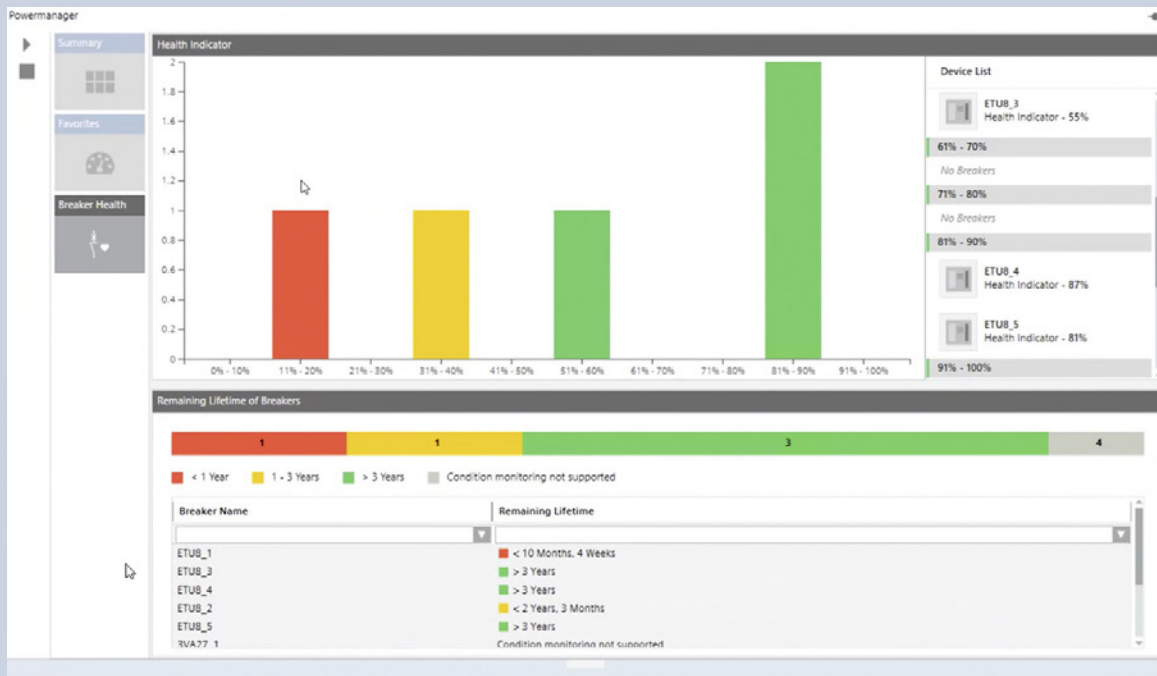
SENTRON powermanager
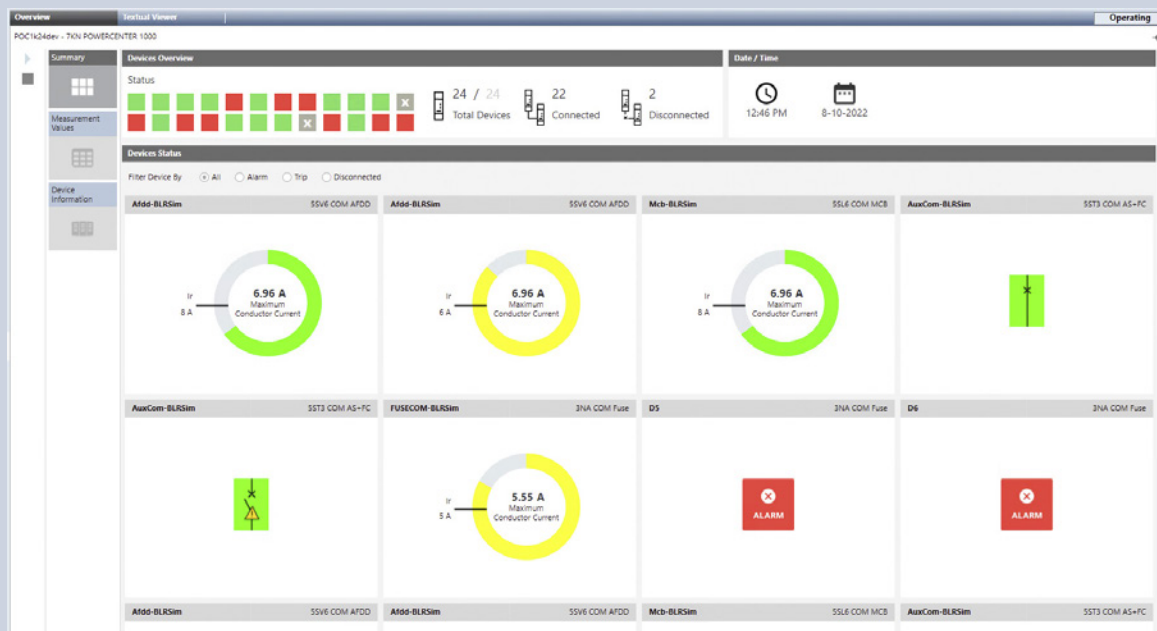
PC-based power monitoring software

Third-party quantity report

Health Dashboard

10

7KN Powercenter 1000 Dashboard

7KN Powercenter

Edge/IoT-based data acquisition and visualization for low-voltage power distribution

7KN Powercenter 3000

Areas of use and applications
- Basis for certified energy management according to ISO 50001 to improve energy efficiency and optimize maintenance management
- Transparency and fault localization in single and distributed locations
- Future-proof foundation for expanding data analysis from on-site analysis to cloud-based analysis

Features
- Simple and fast commissioning via
  - Reuse of the configuration data from SENTRON powerconfig or
  - An integrated network scan with automatic device recognition and dashboard selection in accordance with the device type
- Data acquisition, storage and provision
  - All key data of lower-level devices and energy/demand values as well as breaker status and signals
  - The 15min energy values as a basis for energy reporting as part of ISO 50001 certification
  - Export in form of CSV file (once, periodically, send e.g. by email

- Visualization/data analysis
  - In the web interface of the 7KN Powercenter 3000 via the predefined device dashboards and the customer-specific dashboards
  - Analysis of the data in graphical form, e.g. lines, bars, diagrams, and also in tabular form
  - Can also be output as a report
- Interfaces for the digitalization of low-voltage
  - Integrated and easy-to-configure communication with SENTRON powermind (see separate section)
  - To other cloud applications, e.g. based on AWS, Azure, AliCloud, etc.
  - Via Modbus TCP for other applications, e.g. SENTRON powermanager
- General:
  - Energy and status data from infeed to the final circuit of up to 32 SENTRON protection, switching, measuring and monitoring devices
  - Compact design, 24 V DC supply
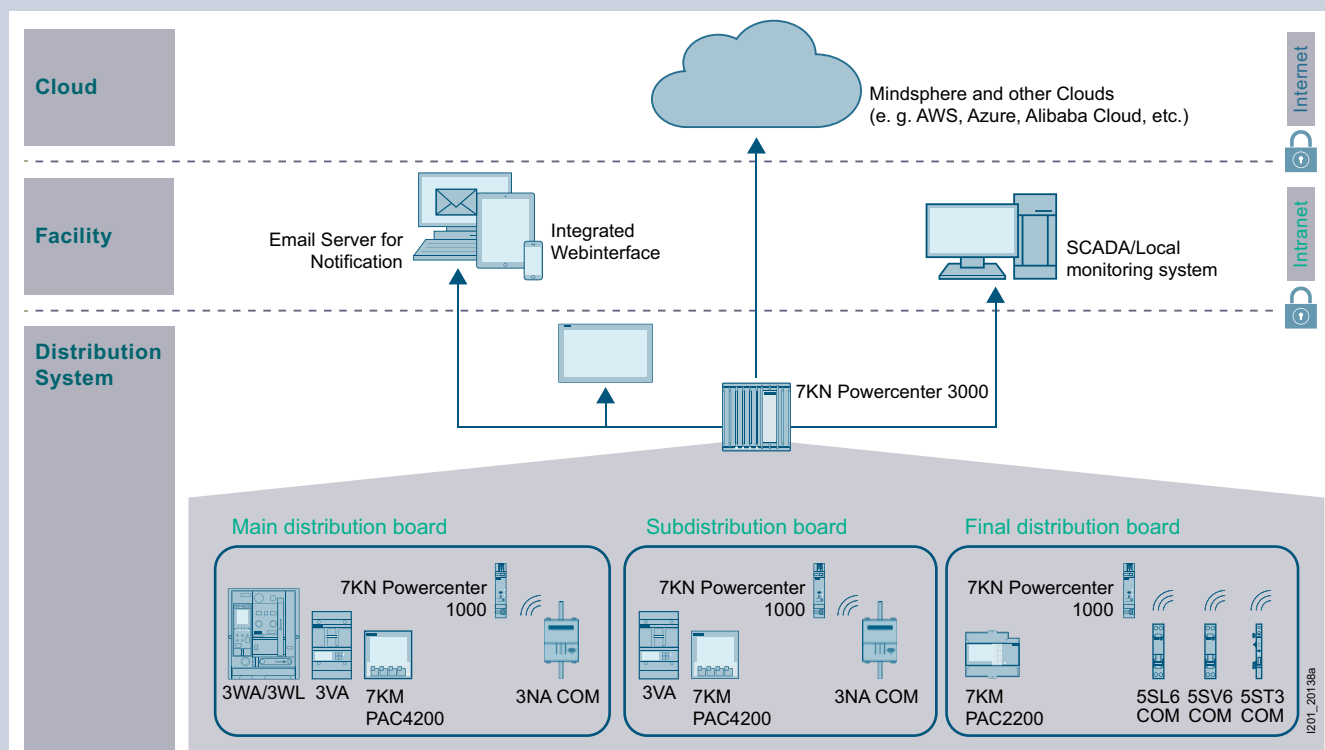 - Web interface in 10 languages
  - Flexible IT security features for protection against unauthorized access

More information: **www.siemens.com/powermonitoring**

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

Areas of use and applications for 7KN Powercenter 3000

The following examples give an impression of the diverse functions of the 7KN Powercenter 3000. These are aimed at different customer groups, such as energy managers and maintenance personnel, but also electricians. All information is available via a web browser on a standard PC, but also on mobile devices, such as tablets and smartphones. The information is therefore also available remotely within the company network.

Predefined dashboards

These are automatically selected according to the configuration of the 7KN Powercenter 3000 and show the most important data of SENTRON protection, switching and measuring devices.

Data visualization based on the example of a measuring device
- Key data points such as active energy or active power are displayed in the form of a curve (time range can be altered by scrolling).
- Further instantaneous values or device information are available in tabular form.

Information on the status of protection and switching devices
- Representation of the device status, e.g. open, closed, tripped and relevant measured quantities, such as maximum phase current, total power ...
- Condition monitoring information is used to assess the state of health and predict the remaining service life

10

Creation of customer-specific dashboards

Users can create their own dashboards (in addition to the standard "Overview" dashboard) by using widgets from the library to compile their own views of the most important information.
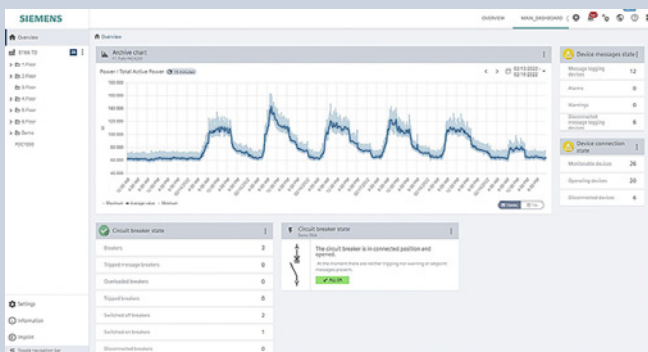
Example of a customer-specific dashboard
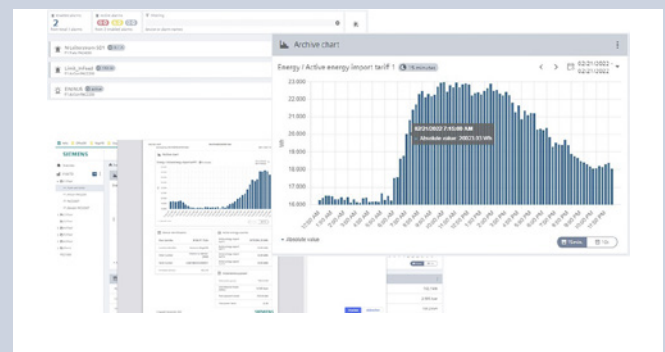
Several examples of the UI elements

Easy-to-operate user interface
Further UI elements provide additional operating convenience and more in-depth views of the collected data.
- The alarm widget serves as a convenient tool to obtain an overview of the active limit monitoring and any alarms that may be triggered.
  - In the archive graph widget, the 15min energy values (kWh) are displayed as a bar chart
  - The detailed display on "mouse over" shows the individual values in the bar chart with the corresponding date/time stamp
- Dashboards and their contents, e.g. results of data analysis can be printed using the web browser print function

7KN Powercenter

Wireless data acquisition and visualization in the final circuit

7KN Powercenter 1000

The 7KN Powercenter 1000 data transceiver is designed to enable comprehensive data acquisition of communication and measuring-capable circuit protection devices. This increases transparency in the final circuit, through which optimization measures can be derived to increase system availability.

Up to 24 devices can communicate wirelessly with 7KN 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 to ensure extensive data availability.

The compact design of the 7KN 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 DIN rail and plug-in terminals for a 24 V DC power supply, which can be immediately looped through (daisy chain) to supply other devices.
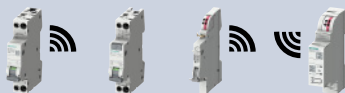
The integrated Bluetooth interface enables simple on-site communication and commissioning via the SENTRON powerconfig mobile app. Connection to various configuration or power monitoring systems, such as SENTRON powerconfig, SENTRON powermanager or customized solutions, is ensured via the Modbus TCP interface. Furthermore, this interface also enables a connection via e.g. 7KN Powercenter 3000 or via LOGO! to cloud applications.

Mounting	Power supply	Devices that can be connected	Interfaces	Article No.
DIN-rail mounting	24 V DC SELV	24 circuit protection devices via radio link	2× Ethernet	7KN1110-0MC00

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

Bundles new	Scope of supply	Article No.
Bundle 1		
	2× MCB 5SL6 COM B16 1× RCBO 5SV1 1× AS/FC 5ST3 COM 1× 7KN Powercenter 1000	7KN1110-0XC01
Bundle 2		
	2× MCB 5SL6 COM C16 1× RCBO 5SV1 1× AS/FC 5ST3 COM 1× 7KN Powercenter 1000	7KN1110-0XC02
Bundle 3		
	3× 3NA COM LV HRC fuse links 1× 7KN Powercenter 1000 1× 3NP1 fuse switch disconnectors	7KN1110-0XC03
Bundle 4		
	9× 3NA COM LV HRC fuse links 1× 7KN Powercenter 1000 1× 7KN Powercenter 3000	7KN1110-0XC04
Bundle 5		
	9× 3NA COM LV HRC fuse links 1× 7KN Powercenter 1000	7KN1110-0XC05

7KN Powercenter 1000 data transceiver

SENTRON
powerconfig
or other
Software
Solutions

SENTRON
powerconfig mobile

Modbus TCP

7KN Powercenter 1000

5SL6 COM
MCB

5ST3 COM
AS+FC

5SV6 COM
AFDD

3NA COM
Fuse

max. 24

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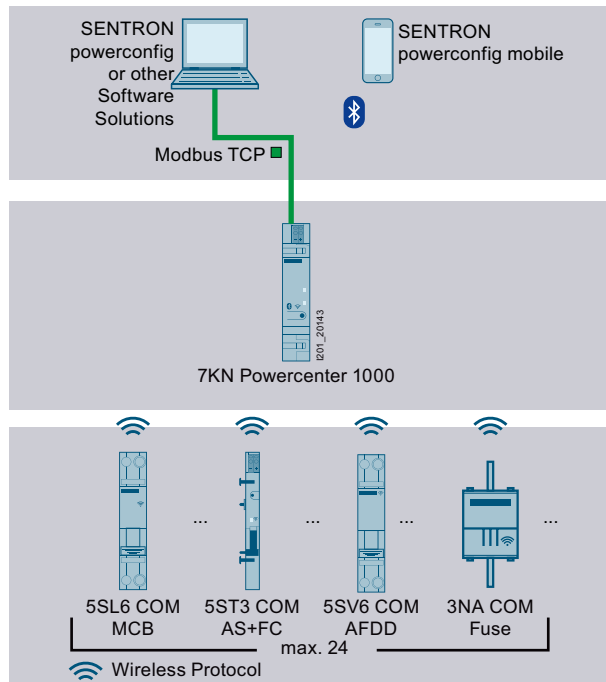
• Acquisition and storage of data and measured values from up to 24 communication-capable circuit protection devices via radio link
• Parameterization, visualization and further processing of the data in higher-level applications via Bluetooth and Modbus TCP

You will find further information under:
www.siemens.com/lowvoltage/manuals

Installation Manual – SENTRON circuit protection devices with communication and measuring function **(109791805)**

System Manual – SENTRON circuit protection devices with communication and measuring function **(109791806)**

10

SENTRON powermind

Cloud-based solution for data visualization and analysis in power distribution systems

SENTRON powermind is aimed equally at energy managers, facility managers and/or operators. For energy managers, predefined, automated representations and analyses of energy data are available, such as:

- Analysis of data in graphical form, e.g. lines, bars, heatmap, Sankey diagram (Can also be output as a report)
- Comparison of energy consumption on weekdays versus weekends with percentage day-by-day representation of the distribution of energy consumption to identify unnecessary energy consumption
- Comparison of energy consumption and power import during a selected period as compared with a reference period to assess the effectiveness of energy efficiency measures
- Day-by-day representation of the 15 min power demand, incl. min and max values to assess power peaks

SENTRON powermind offers operators and facility managers the following information and analyses:

- Status of the switching and protection devices, such as 3VA, 3WA and 3WL
- Display of the maximum current value of an individual phase in relation to I_n
- Condition monitoring information about the condition of the contact system of each circuit breaker and also as an overview of all circuit breakers
- The following devices are supported:
  PAC1020, PAC2200/PAC2200CLP, PAC3100/PAC3120, PAC3200/PAC3200T/PAC3220, PAC4200 measuring devices, 3VA, 3WA and 3WL circuit breakers

You will find further information on the MindSphere Store at
www.dex.siemens.com/mindsphere/applications

I201_20136a
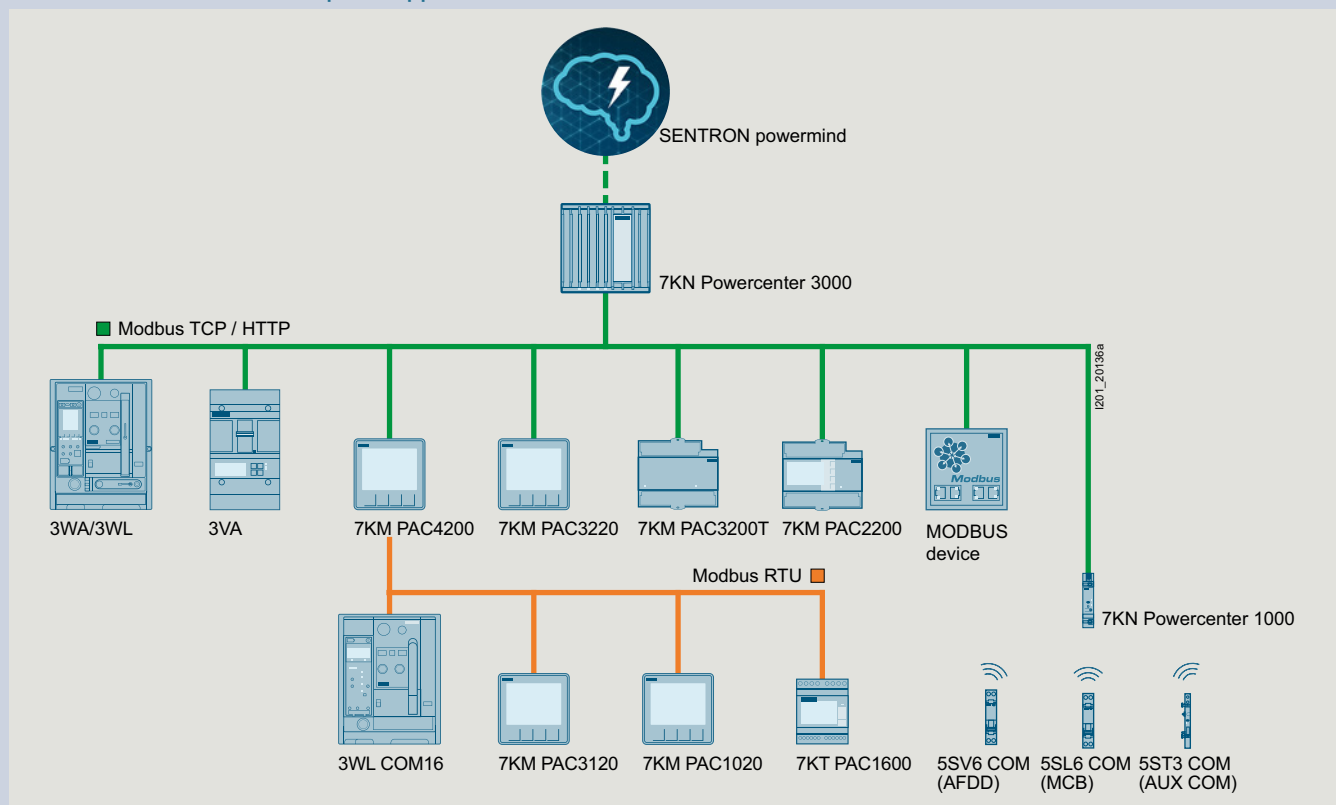
A large number of devices transmit data via SENTRON Powercenter 3000 or SENTRON powermanager to SENTRON powermind

SENTRON powermind processes data from SENTRON Powercenter 3000. No complex configuration or parameterization is required, as the necessary information is exchanged using files. This also prevents possible incorrect entries or write errors. An error-free connection can thus be easily established in just a few minutes.

Quick selection guide, page 10/4

The examples show some of the functions of SENTRON powermind, which are aimed at different customer groups, such as energy managers and maintenance personnel, but also electricians. All information is available via a web browser on a standard PC, but also on mobile devices, such as tablets and smartphones. The information is therefore available both on-site (locally) and off-site (remotely).
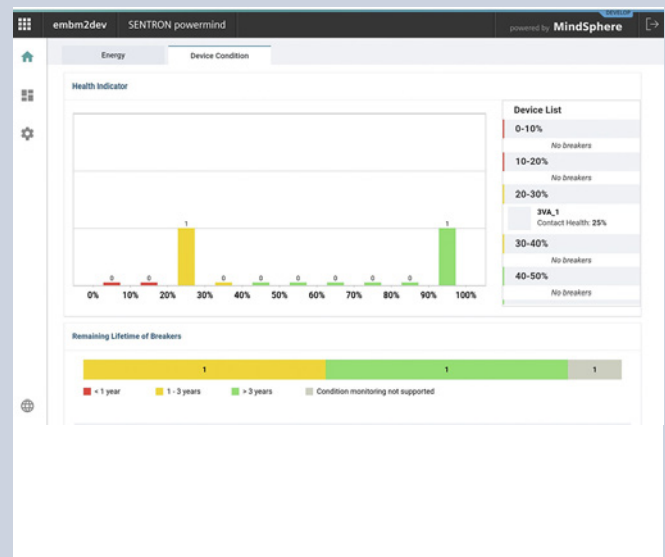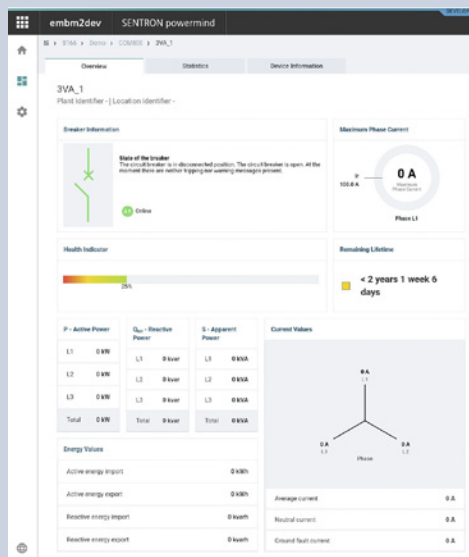
Creating transparency
- Representation of the device status, e.g. open, closed, tripped and relevant measured quantities, such as maximum phase current, total power ...
- Information about the state of health of the device to take action proactively

Overview of the circuit breaker status
- Overview of the state of the health of all circuit breakers in the switchboard
- Assignment to a maintenance cycle (< 1 year; between 1 and 3 years; > 3 years)
- Display of circuit breakers in list form as well as link to the respective circuit breaker dashboard
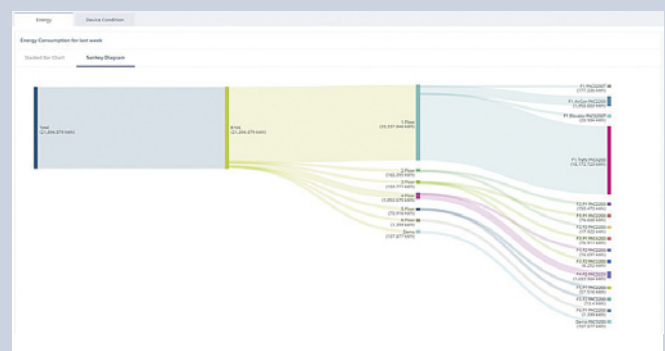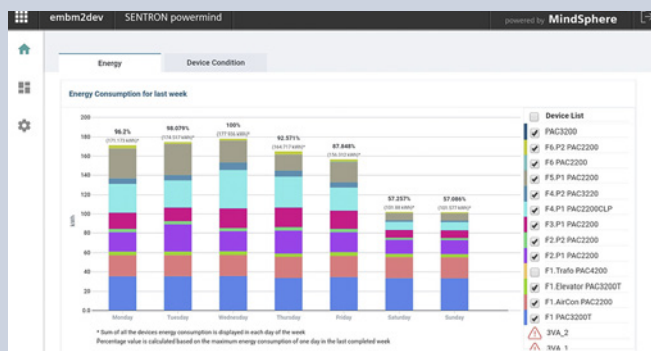
Creating transparency
- Representation of the power flow/power import in various parts of the power distribution system
- Comparison of the weekly energy consumption (percentage distribution of weekdays in comparison to weekend) to identify unusual energy consumption patterns and to check energy-saving measures in the form of a bar chart or Sankey diagram
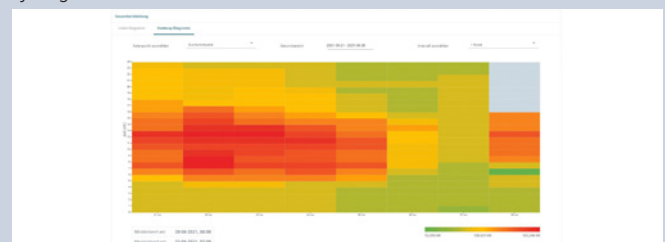
Energy management
- Comparison of the energy consumption of two periods, for example, to assess the effectiveness of energy saving measures
- Representation of the active power as mean and min/max values in a line diagram or heatmap

SIMATIC Energy Suite

For integrated energy management

Highlights
• Simple and intuitive configuration instead of programming
• Automatic generation of the PLC energy program
• Convenient integration of measuring components from the Siemens portfolio and from other manufacturers
• Integrated into the TIA Portal and the automation system
• Archiving in WinCC Professional or PLC
• Seamless interfacing to Energy Manager PRO and Energy
• Analytics

Additional information on the SIMATIC Energy Suite:
www.siemens.com/energysuite

SIMATIC Modbus/TCP SENTRON PAC

For 7KM PAC3200/4200 measuring devices

Use and version	Valid for	Type	Article No.
Communication via the integrated PN interface for reading values out of PAC3200 and PAC4200 devices, single license	1 CPU and up to 20 SENTRON PACs	Modbus/TCP 20 SENTRON PAC	6AV6676-6MA30-0AX0
	1 CPU and up to 100 SENTRON PACs	Modbus/TCP 100 SENTRON PAC	6AV6676-6MA30-1AX0
	1 CPU and up to 512 SENTRON PACs	Modbus/TCP 512 SENTRON PAC	6AV6676-6MA30-2AX0

10

PAC/3WL/3VA SIMATIC PCS 7 library

For 7KM PAC3200/3220/4200 measuring devices and 3WL/3VA/3VL circuit breakers

Use	Version	Type of delivery	Article No.
PAC/3WL/3VA SIMATIC PCS 7 library			
• AS blocks and faceplates for integrating the 3WL/3VA/3VL circuit breakers into SIMATIC PCS 7, V8.x, V9.0 SP2 or V9.1 • For each SIMATIC PCS 7 Operator Station of the single station/server version, a license containing the following is required: – Engineering license for one SIMATIC PCS 7 Operator Station of the single station/server version – Runtime license for one automation system (1 required per automation system, further AS runtime licenses can be ordered separately)	Engineering and runtime software, software class A, 2-language (English, German), single license for one installation	Software and electronic documentation as a software download, engineering and runtime license as Certificate of License	3ZS2787-1CC30-0YG0
AS runtime license for PAC/3WL/3VA library for SIMATIC PCS 7			
License for one automation system in each case	Runtime software, software class A, 2-language (English, German), single license for one installation	Runtime license as Certificate of License without software and documentation	3ZS2787-1CC30-6YH0

Operating and monitoring level

Archive

PROFINET

Industrial Ethernet

SIMATIC PCS 7 / WinCC,
Option powerrate and function block libraries

Processing level

SIMATIC S7, e.g. with Energy Suite

PROFINET /
PROFIenergy

PROFIBUS DP

Industrial Ethernet

Acquisition and control level

Distributed I/O, e.g. ET200

7KM PAC3220 measuring device

7KM PAC3200 7KM PAC4200 measuring devices

COM100

COM800

SIMOCODE pro motor management system

Analog and digital signals from contactors, counters, flow meters

COM35

3VA-line

3VA-line

SINAMICS G120 frequency converter

3WL

3VA

3VA

3VA

max. 8

NSH0_00060g

10

7KM PAC measuring devices

Basic units

Connec-tions	Power supply	Display	Interface	MID	PTB-A50.7	7KM PAC1020	7KM PAC2200/PAC2200 CLP	7KM PAC3200T
Transformer measurement								
Screw terminals	Self-powered	With	M-Bus	With	Without	–	7KM2200-2EA30-1GA1	–
				Without	Without	–	7KM2200-2EA30-1CA1	–
			Modbus RTU	With	Without	–	7KM2200-2EA30-1HA1	–
				Without	Without	–	7KM2200-2EA30-1DA1	–
			Modbus TCP	With	With	–	7KM2200-2EA00-1JB1	–
					Without	–	7KM2200-2EA30-1JA1	–
				Without	Without	–	7KM2200-2EA30-1EA1	–
	AC/DC wide-range power supply unit	With	Modbus RTU	Without	Without	7KM1020-0BA01-1DA0	–	–
			Modbus TCP	Without	Without	–	–	–
		Without	Modbus TCP	Without	Without	–	–	7KM3200-0CA01-1AA0
	DC power supply unit with extra-low voltage	With	Modbus TCP	Without	Without	–	–	–
			Modbus RTU	Without	Without	–	–	–
Ring cable lug connec-tion	AC/DC wide-range power supply unit	With	Modbus TCP	Without	Without	–	–	–
Direct measurement								
Screw terminals	Self-powered	With	M-Bus	With	Without	–	7KM2200-2EA40-1GA1	–
				Without	Without	–	7KM2200-2EA40-1CA1	–
			Modbus RTU	With	Without	–	7KM2200-2EA40-1HA1	–
				Without	Without	–	7KM2200-2EA40-1DA1	–
			Modbus TCP	With	With	–	7KM2200-2EA40-1JB1	
					Without	–	7KM2200-2EA40-1JA1	–
				Without	Without	–	7KM2200-2EA40-1EA1	–

Further technical specifications		7KM1020-..	7KM2200-..	7KM3200-..	7KM3120-0..	7KM3120-1..
Basic data						
Installation		Front mounting	DIN rail		Front mounting	
Mounting width		–	6 MW		–	
Control panel instrument		96 × 96 mm	–		96 × 96 mm	
External auxiliary voltage	50/60 Hz AC	100 ... 250 V	–	90 ... 276 V	100 ... 250 V ±10%	–
	DC	110 ... 250 V ±10%	–	110 ... 275 V	110 ... 250 V ±10%	24 ... 60 V ±20%
Measuring inputs						
Transformer connection	Secondary input current I_e	x/1 A or x/5 A	x/1 A or x/5 A		x/1 A or x/5 A	
Direct connection	Input voltage U_e 3 AC 50/60 Hz	400/230 V			690/400 V	
	Rated current I_n	–	65 A	–		

Quick selection guide, page 10/6

	7KM PAC3120	7KM PAC3220	7KM PAC4200	7KM PAC5200
	–	–	–	–
	–	–	–	–
	–	–	–	–
	–	–	–	–
	–	–	–	–
	–	–	–	–
	–	–	–	–
	7KM3120-0BA01-1DA0	–	–	–
	–	7KM3220-0BA01-1DA0	7KM4212-0BA00-3AA0	7KM5412-6BA00-1EA2
	–	–	–	7KM5412-6CA00-1EA8
	–	7KM3220-1BA01-1EA0	7KM4211-1BA00-3AA0	–
	7KM3120-1BA01-1EA0	–	–	–
	–	–	7KM4212-0BA00-2AA0	–
	–	–	–	–
	–	–	–	–
	–	–	–	–
	–	–	–	–
	–	–	–	–
	–	–	–	–

	7KM3220-0..	7KM3220-1..	7KM4212-..	7KM4211-..	7KM5412-..
	Front mounting				Front mounting/DIN rail
	–				
	96 × 96 mm				
	100 ... 250 V ±10%	–	95 ... 240 V ±10%	–	110 ... 230 V ±10%
	100 ... 250 V ±10%	24 ... 60 V ±20%	110 ... 340 V ±10%	22 ... 65 V ±10%	24 ... 250 V ±10%
	x/1 A or x/5 A				
	690/400 V			500/289 V	690/400 V
	–				

10

7KM PAC measuring devices

Accessories

	7KM PAC1020 7KM PAC3100 7KM PAC3120 7KM PAC3200 7KM PAC3220 7KM PAC4200
7KM PAC TMP2 DIN-rail adapter	
• Two-tier adapter for mounting a measuring device on a DIN rail • Front display • For manual intervention	
	7KM9900-0XA00-0AA0
7KM PAC TMP mounting plate	
• Adapter for mounting a measuring device on DIN rail • Display faces backwards towards DIN rail • Readout and evaluation of measurements solely via mains operation	
	7KM9900-0YA00-0AA0
Compact holder	
• Device holder for 7KM PAC1020/3100/3120/3200/3220/4200 • 10 holders for 5 PAC devices • For seamless side-by-side mounting of the devices (without spaces)	
	7KM9900-0GA00-0AA0
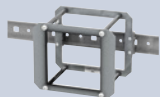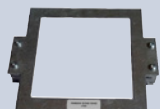
	7KM PAC3100 7KM PAC3200 7KM PAC4200
Spare parts for 7KM PAC	

• Spare parts comprising:
  – Device holders for panel mounting (2X)
    Note: can also be used for 7KM PAC3120/3220
  – Screw terminal for connection of voltage inputs
  – Screw terminal for connection of current inputs
  – Terminal block inputs/outputs for 7KM PAC3100/4200
  – Terminal block inputs/outputs for 7KM PAC3200
  – RS485 terminal blocks for 7KM PAC3100	

	7KM9900-0SA00-0AA0

	7KM PAC2200 7KM PAC2200 CLP 7KM PAC2200 MID	7KM PAC3200T
SENTRON PROFINET Proxy SPP2000 new		
• Proxy for transition from Modbus TCP-capable measuring devices to PROFINET IO. Connection of up to 8 devices from the PAC2200, PAC2200 CLP, PAC2200 MID and PAC3200T product ranges • PROFINET Conformance Class C • Two switched ports • Integration in TIA by means of GSDML file		
	7KM9300-0PP20-0AA0	

Expansion and communication modules

		7KM PAC3220 7KM PAC4200	COM100/800 (3VA)
7KM Switched Ethernet PROFINET communication module			
	• Latest PROFINET switching properties • S2 system redundancy for operation in H systems • CiR Configuration in Run • Firmware update via the modules for PAC4200 and PAC3220		
		7KM9300-0AE02-0AA0	
7KM PROFIBUS DP communication module			
		7KM9300-0AB01-0AA0	
7KM RS485 communication module			
		7KM9300-0AM00-0AA0 [1]	
7KM PAC 4DI/2DO expansion module			
		7KM9200-0AB00-0AA0	–
7KM PAC I(N), I(Diff), analog expansion module			
	• To add the following functions to the measuring inputs: – N conductor measurement – Two analog inputs, also for measuring non-electrical quantities such as temperature, water or air pressure – Residual current measurement via type A or type B summation current transformers		
		7KM9200-0AD00-0AA0	–

[1] Suitable for 7KM PAC4200 (especially for the Modbus TCP/RTU Gateway)

Residual-current transformers for 7KM PAC I(N), I(Diff), analog expansion module, **from page 11/1 onwards**

10

7KT PAC measuring devices

PAC1600 basic unit

Connections	Version	Power supply	Display	Interface	MID	7KT PAC1600
Transformer measurement						
Screw terminals	3-phase	Self-powered	With	Modbus RTU	Without	7KT1661
					With	7KT1662
				M-Bus	Without	7KT1663
					With	7KT1664
				S0 interface	Without	7KT1672
					With	7KT1673
	3-phase, universal	Auxiliary power: 100 ... 240 V AC, 110 ... 250 V DC 50/60Hz	With	–	Without	7KT1681
				Modbus RTU	Without	7KT1682
Direct measurement						
Screw terminals	1-phase	Self-powered	With	Modbus RTU	Without	7KT1651
					With	7KT1652
				M-Bus	Without	7KT1653
					With	7KT1654
				S0 interface	Without	7KT1655
					With	7KT1656
	3-phase	Self-powered	With	Modbus RTU	Without	7KT1665
					With	7KT1666
				M-Bus	Without	7KT1667
					With	7KT1668
				S0 interface	Without	7KT1670
					With	7KT1671

10

PAC1200 multichannel current measuring system

Connections	Version	Power supply	Display	Interface	MID	7KT PAC1200
Direct measurement						
Screw terminals	3-phase	Self-powered	Without	Modbus TCP	Without	7KT1260

PAC1200		**7KT PAC1200**
Data manager with 7KT1260, sensor bars		
	Number of connections	**Article No.**
	3	7KT1233
	6	7KT1236
	9	7KT1238
	12	7KT1242
Data manager with 7KT1260, sensors		
	Current I_e	**Article No.**
	40 A	7KT1254
	63 A	7KT1255
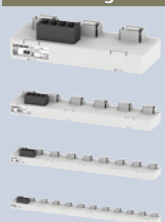
PAC1200 Bundles
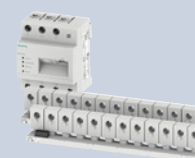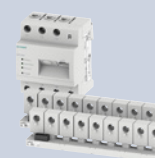
Data manager	Sensor bars	Sensors	18 bundle	24 bundle
1× data manager 7KT1260	2× 9-sensor bar 7KT1238	18× sensors 40 A 7KT1254	7KT1222	–
	2× 12-sensor bar 7KT1242	24× sensors 40 A 7KT1254	–	7KT1223

SEM3 multichannel current measuring system

Data manager

Connections	Version	Power supply	Display	Interface	MID	
Transformer measurement						
Screw terminals	3-phase	Self-powered	Without	Modbus TCP RS485 Modbus RTU	Without	US2:SEM3CONTROLLER

Further technical specifications

	SEM3
Basic data	
Installation	Screw mounting
Measuring inputs	
Max. input voltage 50/60 Hz AC	480 V/277 V
Standard current transformers	50 ... 1200 A/0.1 A
Folding transformer	50 ... 2000 A/0.1 A

Accessories

Metering modules

- For recording measured values
- Accuracy of 0.2% or 1% for the entire measurement including current transformer
- Simple setting of phase configuration by means of slide switch
- Connection of a current transformer for measuring a phase
- Metering module is plugged into meter rack

Measuring accuracy	Article No.
0.2%	US2:SEM3PHAMETER
1%	US2:SEM3PLAMETER

Meter racks

Version	Article No.
For 3 metering modules	US2:SEM3RACK3
For 9 metering modules	US2:SEM3RACK9
For 15 metering modules	US2:SEM3RACK15
For 21 metering modules	US2:SEM3RACK21

Connecting cables

- 600 V insulated special cable for connecting meter racks to the data manager
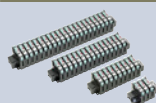
Length	Article No.
0.3 m	US2:SEM3CAB12INCH
0.6 m	US2:SEM3CAB24INCH
0.9 m	US2:SEM3CAB36INCH

Standard current transformers

- Standard power cable brown and yellow, 1.82 m long
- Can be extended up to 100 m while still maintaining accuracy
- Transformer configuration is carried out in the data manager

Output signal	Transformer transmission ratio	Article No.
100 mA	50 : 0.1	US2:SEM3SCCT50
	125 : 0.1	US2:SEM3SCCT125
	250 : 0.1	US2:SEM3SCCT250
	400 : 0.1	US2:SEM3SCCT400
	600 : 0.1	US2:SEM3SCCT600
	800 : 0.1	US2:SEM3SCCT800
	1200 : 0.1	US2:SEM3SCCT1200

Folding transformers
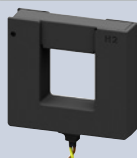
- Standard power cable brown and yellow, 1.82 m long
- Can be extended up to 100 m while still maintaining accuracy
- Transformer configuration is carried out in the data manager

Output signal	Transformer transmission ratio	Article No.
100 mA	50 : 0.1	7KT1280-5MA00
	125 : 0.1	7KT1280-5MA01
	250 : 0.1	7KT1280-5MA02
	400 : 0.1	7KT1280-5MA03
	600 : 0.1	7KT1280-5MA04
	800 : 0.1	7KT1280-5MA05
	1200 : 0.1	7KT1280-5MA06
	1600 : 0.1	7KT1280-5MA07
	2000 : 0.1	7KT1280-5MA08

DIN-rail adapters
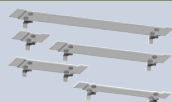
- 5 adapters for snapping onto DIN rail
- 1 adapter each for data manager and for meter racks with 3, 9, 15 and 21 metering modules
- Adapters are screwed onto the data manager or the meter racks

	Article No.
	US2:SEM3DINKIT

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SEM3T multichannel temperature measuring system

Data manager for thermal monitoring in electrical systems

Connections	Version	Power supply	Display	Interface	
Plug-in connectors	Temperature measurement	24 V DC	Without	Modbus TCP	7KT1281-0AA00
				Modbus TCP/Wi-Fi	7KT1281-0AA10

Further technical specifications

	SEM3T
Basic data	
Installation	DIN-rail mounting
Measuring inputs	
Temperature sensors	0 to 130°C

Accessories

Metering module

- For recording measured values
- No configuration necessary for modules
- Connection of a temperature sensor
- Metering module is plugged into meter rack

	Article No.
	7KT1281-1AA00

Meter racks
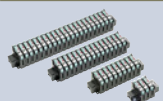
Version	Article No.
For 3 metering modules	US2:SEM3RACK3
For 9 metering modules	US2:SEM3RACK9
For 15 metering modules	US2:SEM3RACK15
For 21 metering modules	US2:SEM3RACK21

Connecting cables

- 600 V insulated special cable for connecting meter racks to the data manager

Length	Article No.
0.3 m	US2:SEM3CAB12INCH
0.6 m	US2:SEM3CAB24INCH
0.9 m	US2:SEM3CAB36INCH

Temperature sensors

- Standard connection cable, brown and yellow, 3 m long
- Can be extended up to 15 m while still maintaining accuracy
- Configuration is carried out in the data manager

Version	Size	Article No.
Sensors with ring cable lugs	Sensor 1/4"	7KT1281-2SA00
	Sensor 5/16"	7KT1281-2SA01
	Sensor 3/8"	7KT1281-2SA02
	Sensor 1/2"	7KT1281-2SA03
Cylindrical sensor		7KT1281-2CA00

10

Time and pulse counters

Mechanical counting mechanisms

Display	Resetting	Rated frequency	Rated control supply voltage U_c	48 × 48 mm	72 × 72 mm	–
Time counter						
00000.00 h	Without	–	10 ... 80 V DC	7KT5500	–	–
			10 ... 50 V DC	–	7KT5600	–
			12 ... 24 V DC	–	–	7KT5801
		50 Hz	24 V AC	7KT5505	–	7KT5802
			115 V AC	7KT5501	7KT5601	7KT5803
			230 V AC	7KT5502	7KT5602	7KT5804
		60 Hz	115 V AC	7KT5503	7KT5603	7KT5806
			230 V AC	7KT5504	7KT5604	7KT5807
Pulse counter						
0000000	Without	–	12 ... 24 V DC	–	–	7KT5811
		50/60 Hz	24 V AC	–	–	7KT5812
			230 V AC	–	–	7KT5814

Further technical specifications

	7KT55..	7KT56..	7KT58..
Basic data			
Installation	Front mounting		DIN-rail mounting
Mounting width	–		2 MW
Front frame	48 × 48 mm	72 × 72 mm	–
Display	Drum-type register		
Version	–	With narrow frame according to DIN 43700	–

Accessories

		7KT55..	7KT56..	7KT58..
Cover				
	Size	Article No.	Article No.	Article No.
	55 × 55 mm	7KT9020	–	–
Sealing ring for cover				
	Degree of protection	Scope of supply	Article No.	Article No.	Article No.
	IP43 (in control panels with smooth surfaces)	1 set = 5 units	7KT9000	–	–
Terminal cover				
	Degree of protection	Article No.	Article No.	Article No.
	IP20 (with connected conductors)	–	7KT9021	–

Electronic counting mechanisms

Display	Resetting	Rated frequency	Rated control supply voltage U_c	
Time counter				
000000.0 h	Without	50/60 Hz	24 ... 240 V AC, 12 ... 150 V DC	7KT5821
	Electrical	50/60 Hz	24 ... 240 V AC, 12 ... 150 V DC	7KT5822
	Electrical and mechanical	50/60 Hz	24 ... 240 V AC, 12 ... 150 V DC	7KT5823
Pulse counter				
0000000	Electrical and mechanical	50/60 Hz	24 ... 240 V AC, 12 ... 150 V DC	7KT5833

Further technical specifications

	7KT58..
Basic data	
Installation	DIN-rail mounting
Mounting width	2 MW
Display	LCD display

10

Current transformers

For measurement purposes

| | | | | 4NC [1] | | 7KT | 3NJ [1] | |
| | | | | 1-phase | | 3-phase | 1-phase | |
Size	Insulation level U_m	Rated primary current I_{pr}	Rated power P_n	I_{sr} = 5 A	I_{sr} = 1 A	I_{sr} = 5 A	I_{sr} = 5 A	I_{sr} = 1 A
Accuracy class 0.2s								
1	720 V	150 A	1 VA	4NC5121-2FA21	–	–	–	–
		200 A	2.5 VA	4NC5122-2FC21	–	–	–	–
		250 A	2.5 VA	4NC5123-2FC21	–	–	–	–
		300 A	5 VA	4NC5124-2FE21	–	–	–	–
		400 A	5 VA	4NC5125-2FE21	–	–	–	–
		500 A	5 VA	4NC5126-2FE21	–	–	–	–
5	720 V	600 A	5 VA	4NC5227-2FE21	–	–	–	–
		700 A	5 VA	4NC5228-2FE21	–	–	–	–
		800 A	5 VA	4NC5231-2FE21	–	–	–	–
		1000 A	5 VA	4NC5232-2FE21	–	–	–	–
Accuracy class 0.5								
1	720 V	100 A	1 VA	4NC5117-2DA21	4NC5117-0DA21	–	–	–
		150 A	2.5 VA	4NC5121-2DC21	4NC5121-0DC21	–	–	–
		200 A	5 VA	4NC5122-2DE21	4NC5122-0DE21	–	–	–
		250 A	5 VA	4NC5123-2DE21	4NC5123-0DE21	–	–	–
2	720 V	200 A	5 VA	4NC5222-2DE21	4NC5222-0DE21	–	–	–
		250 A	5 VA	4NC5223-2DE21	4NC5223-0DE21	–	–	–
		300 A	5 VA	4NC5224-2DE21	4NC5224-0DE21	–	–	–
		400 A	5 VA	4NC5225-2DE21	4NC5225-0DE21	–	–	–
3	720 V	400 A	5 VA	4NC5325-2DE21	4NC5325-0DE21	–	–	–
		500 A	5 VA	4NC5326-2DE21	4NC5326-0DE21	–	–	–
		600 A	5 VA	4NC5327-2DE21	4NC5327-0DE21	–	–	–
		750 A	5 VA	4NC5330-2DE21	4NC5330-0DE21	–	–	–
		800 A	5 VA	4NC5331-2DE21	–	–	–	–
4	720 V	800 A	10 VA	4NC5431-2DH21	4NC5431-0DH21	–	–	–
		1000 A	10 VA	4NC5432-2DH21	4NC5432-0DH21	–	–	–
		1200 A	10 VA	4NC5433-2DH21	4NC5433-0DH21	–	–	–
		1500 A	10 VA	4NC5435-2DH21	4NC5435-0DH21	–	–	–
		1600 A	15 VA	4NC5436-2DK21	–	–	–	–
		2000 A	20 VA	4NC5438-2DL21	–	–	–	–
		2500 A	25 VA	4NC5440-2DM21	–	–	–	–
		3000 A	30 VA	4NC5441-2DN21	–	–	–	–
Accuracy class 0.5 calibrated								
–	720 V	100 A	1.5 VA	–	–	–	3NJ6920-3BD23	3NJ6920-3BD13
		150 A	2.5 VA	–	–	–	3NJ6920-3BE23	3NJ6920-3BE13
		300 A	5 VA	–	–	–	3NJ6940-3BH23	3NJ6940-3BH13
		400 A	5 VA	–	–	–	3NJ6940-3BJ23	3NJ6940-3BJ13
		500 A	5 VA	–	–	–	3NJ6940-3BK23	3NJ6940-3BK13
		600 A	5 VA	–	–	–	3NJ6940-3BL23	3NJ6940-3BL23

[1] Overcurrent limiting factor FS5
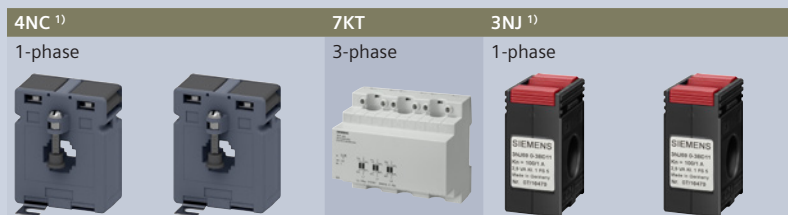
				4NC [1]		7KT	3NJ [1]	
				1-phase		3-phase	1-phase	
Size	Insulation level U_m	Rated primary current I_{pr}	Rated power P_n	$I_{sr} = 5$ A	$I_{sr} = 1$ A	$I_{sr} = 5$ A	$I_{sr} = 5$ A	$I_{sr} = 1$ A
Accuracy class 1.0								
1	720 V	50 A	1.2 VA	4NC5112-2CB21	4NC5112-0CB21	–	–	–
		60 A	1.2 VA	4NC5113-2CB21	4NC5113-0CB21	–	–	–
			1.25 VA	–	–	7KT1200	–	–
		75 A	2.5 VA	4NC5115-2CC21	4NC5115-0CC21	–	–	–
		100 A	2.5 VA	4NC5117-2CC21	4NC5117-0CC21	7KT1201	–	–
		150 A	2.5 VA	4NC5121-2CC21	4NC5121-0CC21	–	–	–
			3.75 VA	–	–	7KT1202	–	–
		200 A	5 VA	4NC5122-2CE21	4NC5122-0CE21	–	–	–
		250 A	5 VA	4NC5123-2CE21	4NC5123-0CE21	–	–	–
2	720 V	200 A	5 VA	4NC5222-2CE21	4NC5222-0CE21	–	–	–
		250 A	5 VA	4NC5223-2CE21	4NC5223-0CE21	–	–	–
		300 A	5 VA	4NC5224-2CE21	4NC5224-0CE21	–	–	–
		400 A	5 VA	4NC5225-2CE21	4NC5225-0CE21	–	–	–
3	720 V	400 A	5 VA	4NC5325-2CE21	4NC5325-0CE21	–	–	–
		500 A	5 VA	4NC5326-2CE21	4NC5326-0CE21	–	–	–
		600 A	5 VA	4NC5327-2CE21	4NC5327-0CE21	–	–	–
		750 A	5 VA	4NC5330-2CE21	4NC5330-0CE21	–	–	–
4	720 V	800 A	10 VA	4NC5431-2CH21	4NC5431-0CH21	–	–	–
		1000 A	10 VA	4NC5432-2CH21	4NC5432-0CH21	–	–	–
		1250 A	10 VA	4NC5434-2CH21	4NC5434-0CH21	–	–	–
		1500 A	10 VA	4NC5435-2CH21	4NC5435-0CH21	–	–	–
		2000 A	12.5 VA	4NC5438-2CJ21	4NC5438-0CJ21	–	–	–
		2500 A	12.5 VA	4NC5440-2CJ21	4NC5440-0CJ21	–	–	–
		3000 A	30 VA	4NC5441-2CN21	–	–	–	–

Accessories

DIN-rail mounting					
For transformer size	Article No.	Article No.	Article No.	Article No.	Article No.
1 and 5	4NC5923-5LT21	4NC5923-5LT21	–	–	–
2	4NC5925-5LT21	4NC5925-5LT21	–	–	–
3	4NC5930-5LT21	4NC5930-5LT21	–	–	–
4	4NC5940-5LT21	4NC5940-5LT21	–	–	–

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