

**SIEMENS**

SENTRON

# Power Monitoring Made Simple

Catalog  
LV 14

Edition  
11/2020

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



# Making sure power makes its way

Consistent, safe and intelligent low-voltage power distribution and electrical installation technology

Whether industries, infrastructures or buildings: Each environment depends on a reliable power supply.

Which is why products and systems featuring maximum safety and optimum efficiency are in demand. This comprehensive portfolio for low-voltage power distribution and electrical installation technology covers every requirement – from the switchboard to the socket outlet.

We are there when you need us

Your personal contact can be found at  
[www.siemens.com/lowvoltage/contact](http://www.siemens.com/lowvoltage/contact)

Catalog LV 14 · 11/2020

You will find the latest edition and all future editions in the Siemens Industry Online Support at  
[www.siemens.com/lowvoltage/catalogs](http://www.siemens.com/lowvoltage/catalogs)

Refer to the Industry Mall for current prices  
[www.siemens.com/industrymall](http://www.siemens.com/industrymall)

The products and systems listed in this catalog are developed and manufactured using a certified quality management system in accordance with DIN EN ISO 9001:2008.

Technical data

The technical specifications are for general information purposes only. Always heed the operating instructions and notices on individual products during assembly, operation and maintenance.

All illustrations are not binding.

© Siemens 2020



# Power Monitoring Made Simple

## Measuring and Monitoring

Introduction .....	I/2
Measuring Devices, Power Monitoring and Digitalization Solutions .....	1/1
Appendix .....	A/1

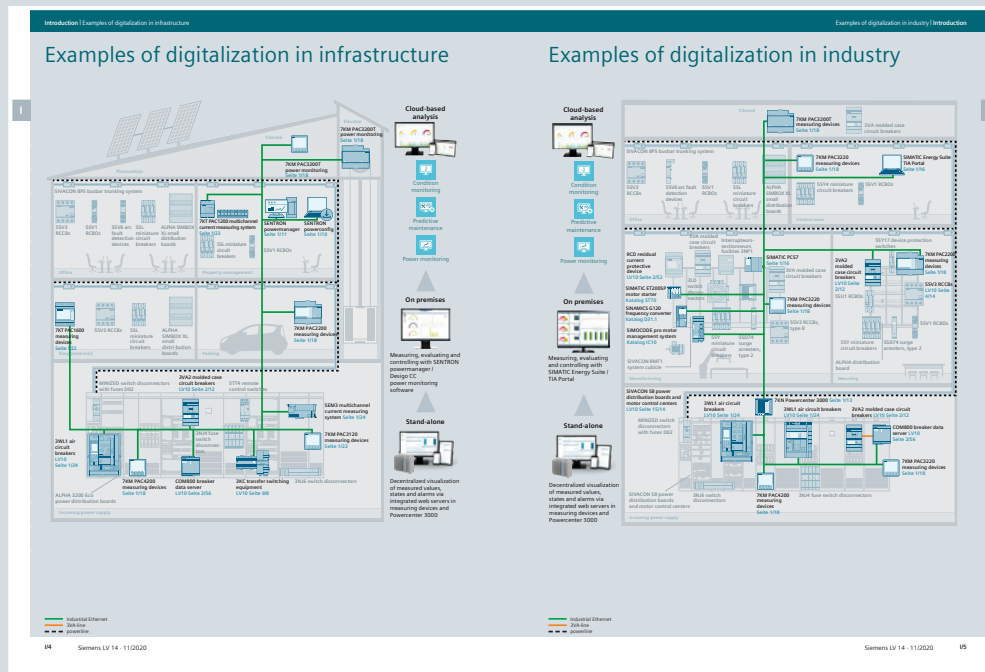
I

1

A

# The fast route to the product

## Overview for better orientation within the catalog



### Overview of digitalization

On pages [I/4](#) to [I/7](#) you can find an overview of the diverse portfolio of catalog LV 10.





## Catalog LV 10 · 10/2020

You can find the entire product spectrum for low-voltage power distribution and electrical installation technology in catalog LV 10 · 10/2020 at [www.siemens.com/lowvoltage/catalogs](http://www.siemens.com/lowvoltage/catalogs) (109482234)

## Clickable Article Numbers

Direct forwarding to the individual products in the Industry Mall by clicking on the Article No. in the catalog

7KM2200-2EA30-1GA1

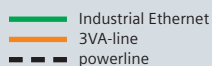


or by entering this web address incl. Article No.  
[www.siemens.com/product?Article No.](http://www.siemens.com/product?Article No.)

## new Search Function

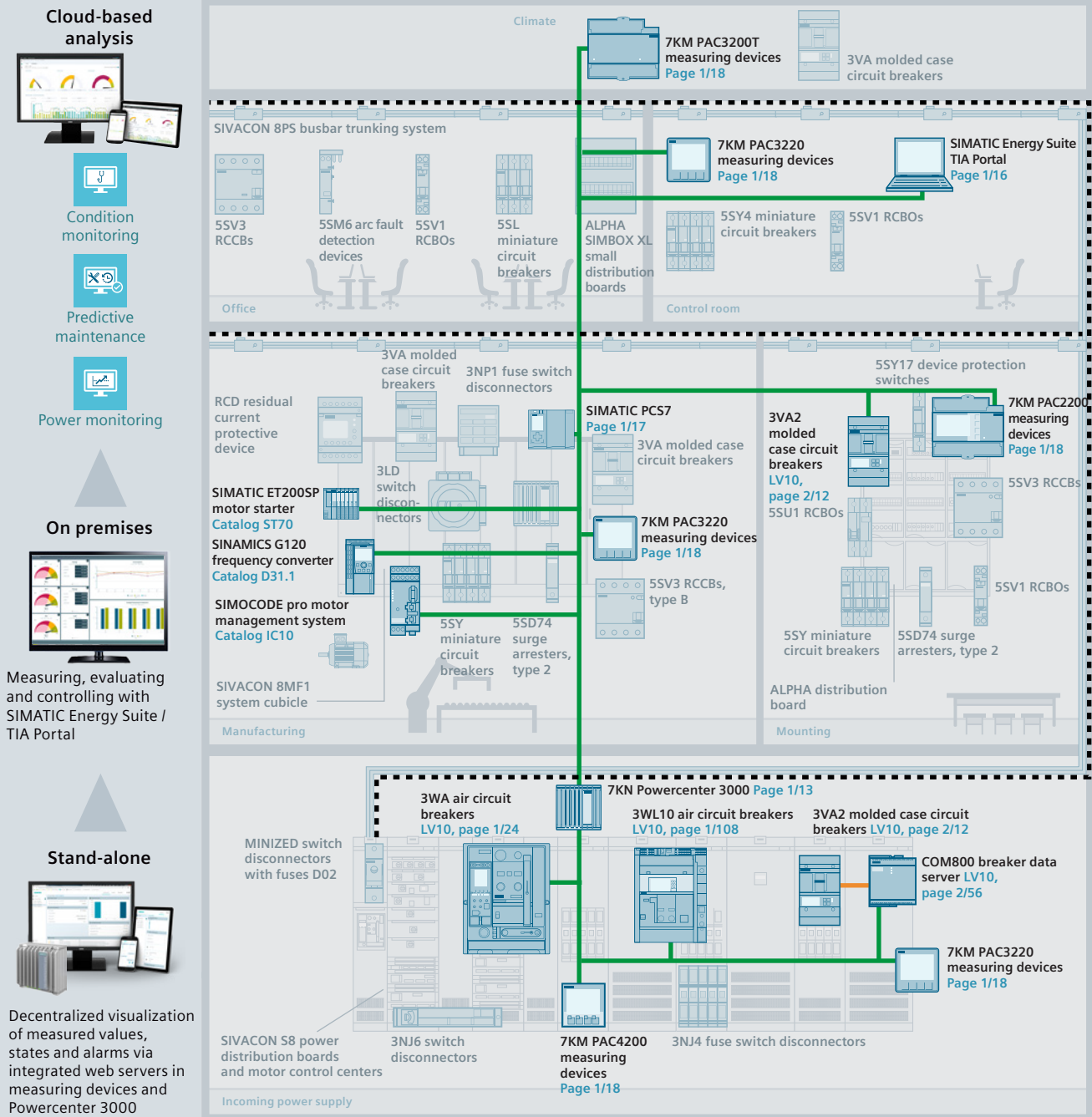
Search for new products by entering new in the text field of the search function







# Examples of digitalization in industry



# Introduction to the topic of digitalization and Industry 4.0

In industrial automation, the demand for communication capability, data transparency and flexibility is growing constantly. To enable industrial switchgear technology to meet this demand, the use of bus systems and intelligent switching devices is unavoidable.

## Digitalization

Switching, protection and measuring devices in power distribution systems can display important information on local visualization via integrated communication, e.g. in Powercenter, or transmit it to energy data management systems (EDMS), e.g. SENTRON powermanager, as well as to cloud systems and applications.

- Diagnostics management
- Fault management – Email alarm
- Maintenance management – predictive maintenance
- Cost center management

### 1. Visualization and plant transparency



- Greater operational reliability thanks to remote access to the plant.
- Plant visualization for central and simple access to all device information.

### 2. Digital documentation



- Uniform access to digital data and documentation.
- Provision of extensive CAx data for systems and components during planning and operation.
- Support in planning and process creation using SIMARIS planning tools, product and system configurators.

### 3. Power monitoring



- Fulfilling the ISO 50001 by detecting and transparently presenting the energy flows within energy distribution.

### 4. Optimization and retrofit



- Retrofitting solutions such as SEM3 offer a simple option for integrating energy monitoring into existing systems.
- Energy monitoring and plant transparency help you efficiently plan plant expansion.

### 5. Maintenance management



- Maintenance support, even remotely, by transparently presenting the status of a switchgear and controlgear assembly.

### 6. Emergency management



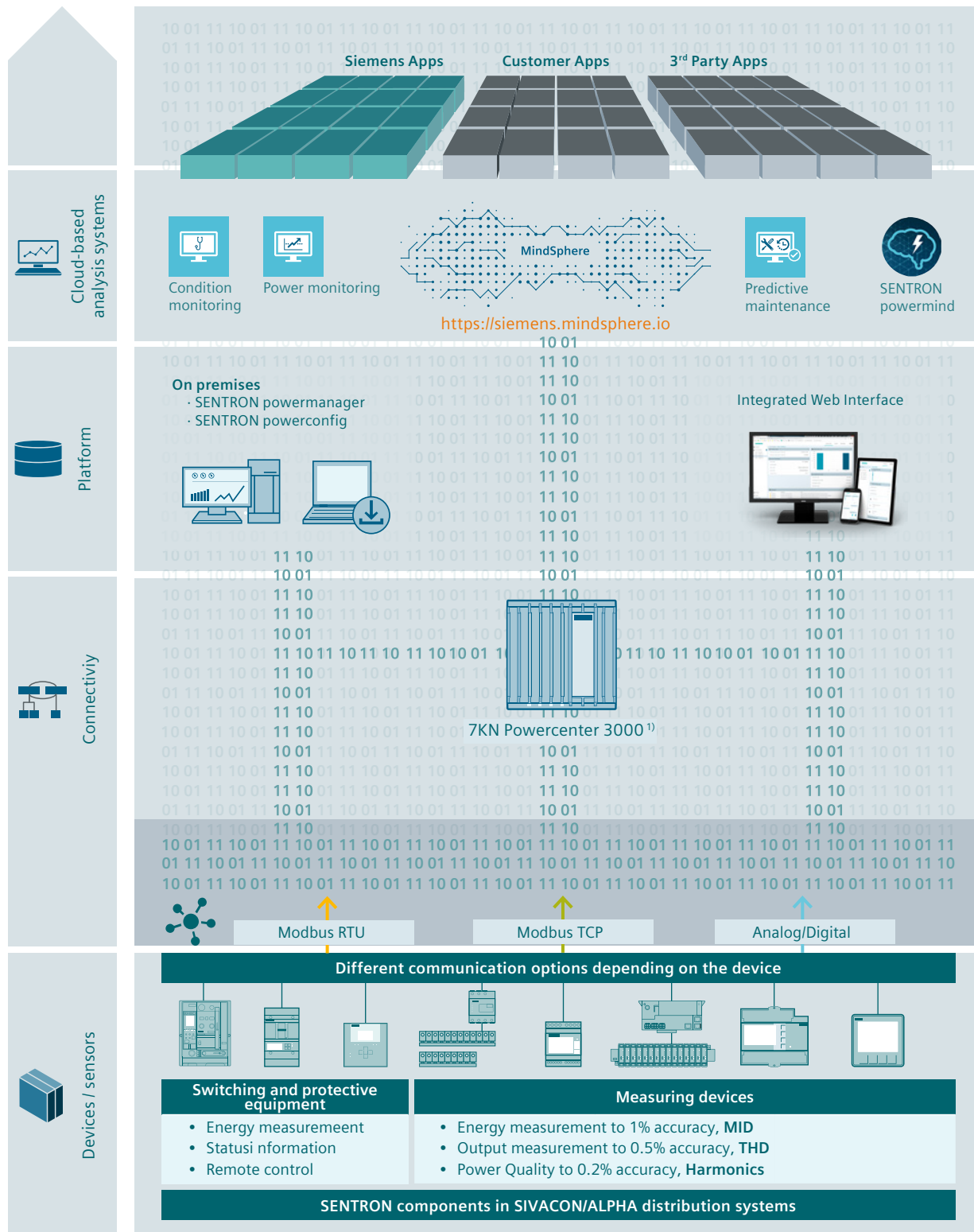
- Quick error localization which therefore leads to a minimization of outage times.

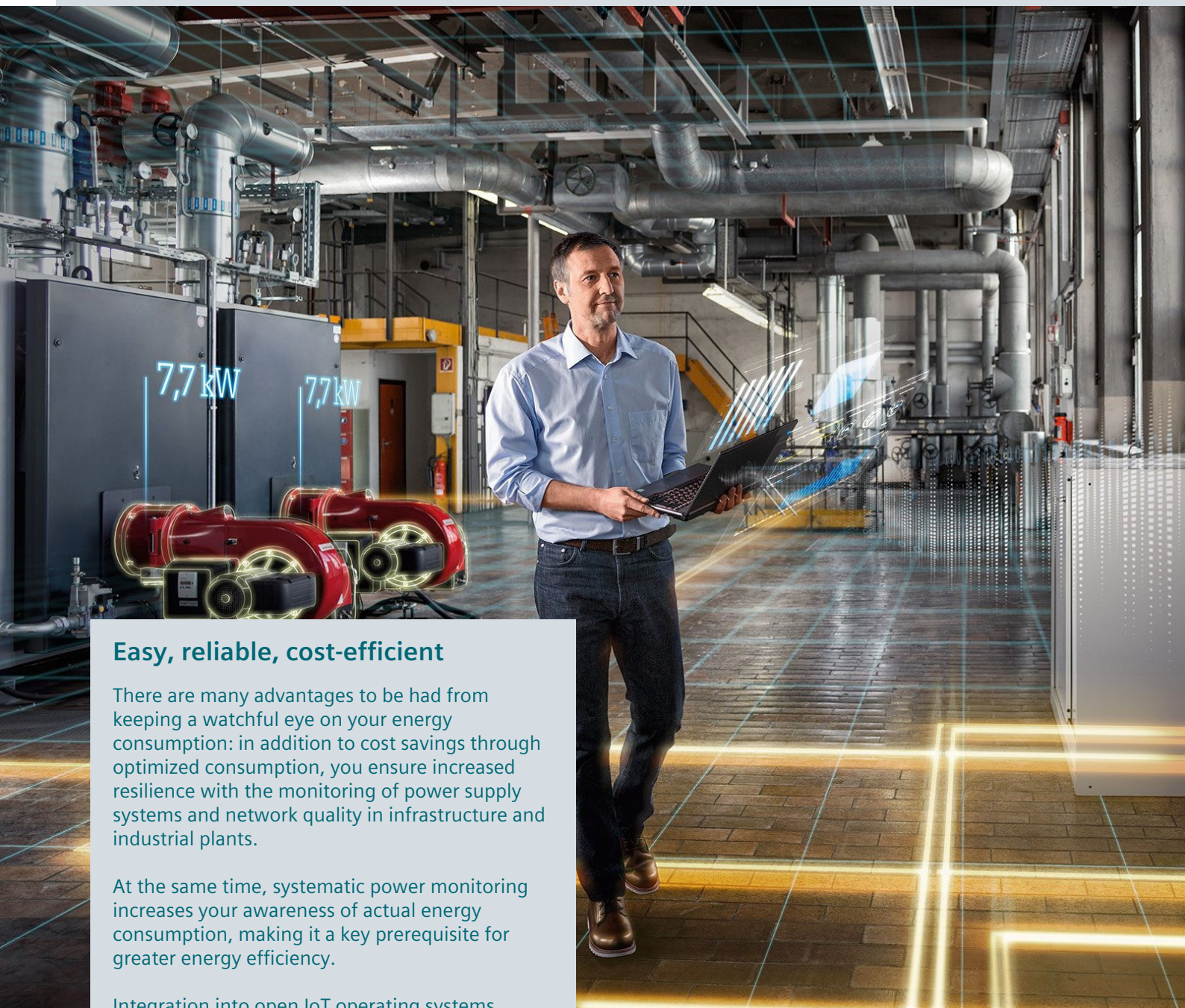
### 7. Cybersecurity



- Protection from unauthorized access and manipulation to switchgear and controlgear assemblies and devices ensures integrity, availability and confidentiality.



<sup>1)</sup> Modbus TCP



## 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.

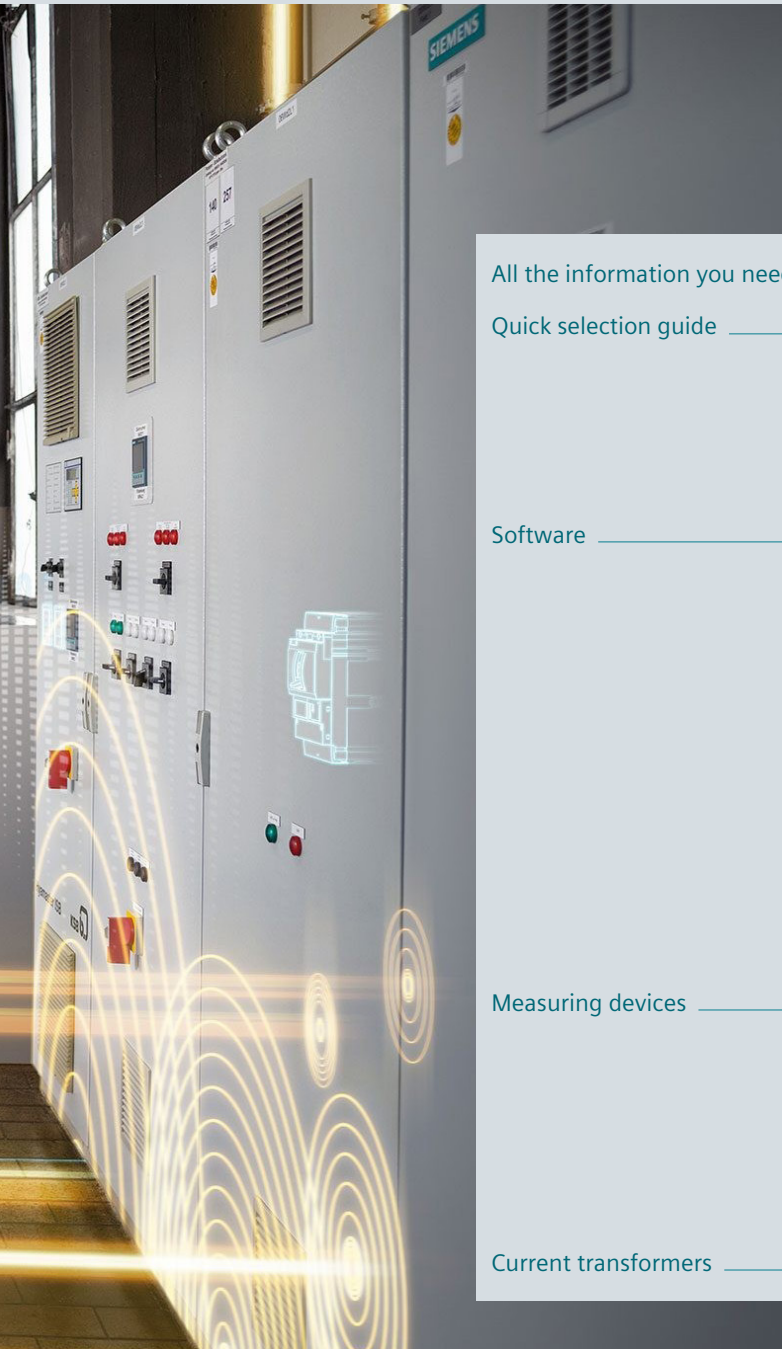
Integration into open IoT operating systems such as MindSphere results in even greater optimization potential.

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

1



All the information you need	1/2
Quick selection guide	1/4
Power monitoring	1/4
Hardware components	1/6
Accessories	1/8
Software	1/10
SENTRON powerconfig	1/10
SENTRON powermanager V3	1/11
SENTRON powermanager V4	1/12
7KN Powercenter	1/13
SENTRON powermind <b>new</b>	1/14
SIMATIC Energy Suite	1/16
SIMATIC Modbus/TCP SENTRON PAC	1/16
PAC/3WL/3VA SIMATIC PCS 7 library	1/17
Measuring devices	1/18
7KM PAC measuring devices	1/18
7KT PAC measuring devices	1/22
SEM3 multichannel current measuring system	1/24
Time and pulse counters	1/26
Current transformers	1/28

# A multitude of additional information ...

## Information + ordering

### All the important things at a glance

#### Information to get you started

For information about measuring devices, power monitoring and digitalization solutions, please visit our websites  
[www.siemens.com/powermonitoring](http://www.siemens.com/powermonitoring)  
[www.siemens.com/lowvoltage/digitalization](http://www.siemens.com/lowvoltage/digitalization)

### Contact persons in your region

#### We are there when you need us

You can find your local contacts at  
[www.siemens.com/lowvoltage/contact](http://www.siemens.com/lowvoltage/contact)

### Your product in detail

The Siemens Industry Online Support portal provides comprehensive information  
[www.siemens.com/lowvoltage/product-support](http://www.siemens.com/lowvoltage/product-support)

- Technical basic information – SENTRON power monitoring and digital solutions ([109769851](http://www.siemens.com/lowvoltage/product-support))
- Brochure – Reliable, sustainable, and efficient – TÜV-certified power monitoring system in accordance with ISO 50001 ([109744679](http://www.siemens.com/lowvoltage/product-support))
- Brochure – SENTRON portfolio for power monitoring ([109744725](http://www.siemens.com/lowvoltage/product-support))

The relevant tender specifications can be found at  
[www.siemens.com/lowvoltage/tenderspecifications](http://www.siemens.com/lowvoltage/tenderspecifications)

### Our video range

#### Siemens YouTube channel

- Power monitoring (general)  
[bit.ly/2lZ9QqC](https://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](http://sie.ag/2kTH9Lz)
- Digitalization solutions [sie.ag/2olliNi](http://sie.ag/2olliNi)
- Library for SIMATIC [sie.ag/2kpbwcs](http://sie.ag/2kpbwcs)
- SENTRON powermanager / SENTRON powerconfig  
[sie.ag/2kTJjuF](http://sie.ag/2kTJjuF)

Direct forwarding to the individual products in the Industry Mall by clicking on the Article No. in the catalog or by entering this web address incl. Article No.  
[www.siemens.com/product?Article No.](http://www.siemens.com/product?Article No.)



# ... can be found in our online services

## Commissioning + operation

### Configuration software

#### SENTRON powerconfig

The combined commissioning and service tool for communication-capable measuring devices and circuit breakers from the SENTRON portfolio.

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

Free download SENTRON powerconfig mobile via:  
[App Store](#) und [Play Store](#)

### Your product in detail

The Siemens Industry Online Support portal provides detailed technical information

[www.siemens.com/lowvoltage/product-support](http://www.siemens.com/lowvoltage/product-support)

- Operating instructions
- Certificates

Engineering data for CAD or CAE systems are available in the CAX Download Manager at  
[www.siemens.com/lowvoltage/cax](http://www.siemens.com/lowvoltage/cax)

### The fast track to the experts

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/lowvoltage/support-request](http://www.siemens.com/lowvoltage/support-request)

We offer a comprehensive portfolio of services.  
You can find your local contacts at  
[www.siemens.com/lowvoltage/contact](http://www.siemens.com/lowvoltage/contact)

You can find further information on services at  
[www.siemens.com/service-catalog](http://www.siemens.com/service-catalog)

### Manuals

Manuals are available for downloading in Siemens Industry Online Support at

[www.siemens.com/lowvoltage/manuals](http://www.siemens.com/lowvoltage/manuals)

- Configuration manual – Measuring devices and power monitoring ([45315973](#))
- Equipment manual – 7KT PAC1600 energy meter ([109759827](#))
- Equipment manual – 7KT PAC1600 multimeter ([109760293](#))
- System manual – 7KT multichannel current measuring system ([109483442](#))
- Equipment manual – PAC2200 measuring device ([109746835](#))
- Equipment manual – SENTRON PAC3200 power monitoring device ([26504150](#))
- Equipment manual – PAC3200T measuring device ([109746833](#))
- System manual – SENTRON PAC4200 power monitoring devices ([34261595](#))
- Equipment manual – PAC3100 measuring device ([37881976](#))
- Equipment manual – SENTRON PAC5100/5200 7KM5212/5412 ([109477872](#))
- Equipment manual – 7KM PAC3120 and 7KM PAC3220 ([109767307](#))
- Communication manual – SENTRON PAC5100/5200 7KM5212/5412 ([109477870](#))
- Communication manual – 3VA with IEC and UL certification ([98746267](#))
- SEM3™ – Embedded Micro Metering Module™ ([109748928](#))
- Equipment manual – 7KN Powercenter 3000 ([109763838](#))
- Quick Installation Guide – 7KN POWERCENTER 3000 ([109766001](#))

### Training and tutorials

Our training courses can be found at  
[www.siemens.com/sitrain-lowvoltage](http://www.siemens.com/sitrain-lowvoltage)

- Power monitoring with SENTRON (WT-LVAEM)
- Energy management – Basic training (LV-EMSENTB)
- Energy management – Training for experts (LV-EMSENTE)
- Communication with SENTRON components (LV-COM)

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



### The fast way to get you to our online services

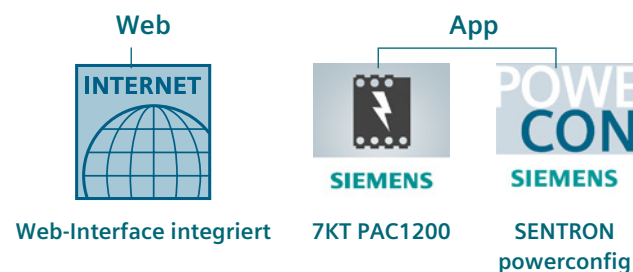
This page provides you with comprehensive information and links on measuring devices, power monitoring and digitalization solutions

[www.siemens.com/lowvoltage/product-support](http://www.siemens.com/lowvoltage/product-support) ([109764480](#))

# Power monitoring

## Software

### Local monitoring systems



### Functions for power monitoring

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	Free of Charge
System requirements	Browser	Android, iOS	Android, iOS
Suitable according to ISO 50001	–	–	–
Connection of non-Siemens devices	–	–	–
Integrated cloud interface	–	–	–
More information		from page 1/23	from page 1/10

## Measuring devices and circuit breakers

### Measuring devices for industrial applications



7KM PAC1020	–	–	–
7KM PAC2200 / PAC2200 CLP	■	–	–
7KM PAC3200T	■	–	–
7KM PAC3120	–	–	–
7KM PAC3220	■	–	■
7KM PAC4200	■	–	■
7KM PAC5100	■	–	–
7KM PAC5200	■	–	–

### Measuring devices for buildings and infrastructure



7KT PAC1200	■	■	–
7KT PAC1600	–	–	–
SEM3	■	–	–

### Circuit breakers



3WL	–	–	■
3WL10 / 3VA27	–	–	–
3VA ETU5/8	–	–	■

### Other Modbus devices



–	–	■
---	---	---

PC-basiert



SENTRON  
powerconfig

SENTRON  
powermanager

7KN Powercenter  
3000

[illegible]

## Cloud

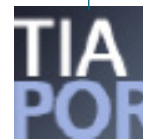


**SENTRON powermind  
(MindSphere)**

	-
	■
	■
	■
	-
	■
	-
Subscription	
Browser	
	■
	■
	■
from page 1/14	
	-
	■
	■
	■
	■
	■
	-
	-
	-
	-
	-
	■
	-
	■
	■

## World of SIMATIC

TIA Portal



**SIMATIC TIA**  
Portal integrated

**SIMATIC TIA**  
**Portal capable**

# Hardware components

1

## Industry



7KM  
PAC1020  
new

7KM  
PAC2200

7KM  
PAC2200 CLP  
new

7KM  
PAC3200T

7KM  
PAC3120

7KM  
PAC3220

### Installation type

Front mounting   Standard mounting 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 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	-	-	-	-	DC 22 ... 65 V	DC 22 ... 65 V
Single-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	-	60 days	60 days	60 days	60 days	60 days
Apparent   Active   Reactive energy   cos φ	-   ■   ■   -	■   ■   ■   -	■   ■   ■   -	■   ■   ■   -	■   ■   ■   -	■   ■   ■   -
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 communication interfaces

Digital inputs/digital outputs	1/1	1/1	1/1	1/1	2/2	2/2
SD-Interface	■	■	■	■	■	■
M-Bus	-	■	-	-	-	-
RS485 (Modbus RTU)	■	■	-	-	■	-
Ethernet with Modbus TCP	-	■	■	■	-	■
BACnet	-	-	-	-	-	-

#### More information

Catalog LV 14 – 11/2020	See page 1/18	See page 1/18	See page 1/18	See page 1/18	See page 1/18	See page 1/18
Catalog LV 10 – 10/2020						



## Circuit breakers



### 3VA ETU8

LV 10, page 2/12

# Accessories

## Communication modules












7KM Switched Ethernet  
PROFINET / Modbus TCP




7KM PROFIBUS DP

7KM RS485  
Modbus RTU




### Industry

	7KM PAC1020 <b>new</b>	—	—	—
	7KM PAC2200	—	—	—
	7KM PAC2200 CLP <b>new</b>	—	—	—
	7KM PAC3200T	—	—	—
	7KM PAC3120	—	—	—
	7KM PAC3220	■	■	■
	7KM PAC4200	■	■	■
	7KM PAC5100	—	—	—
	7KM PAC5200	—	—	—

### Buildings and infrastructure

	7KT PAC1200	—	—	—
	7KT PAC1600	—	—	—
	SEM3	—	—	—

### Circuit breakers

	3WL	—	—	—
	3WL10 / 3VA27	—	—	—
	3VA ETU5/8	■	■	■

## Expansion modules



## Current transformers



1

**7KM PAC  
4DI/2DO**

**7KM PAC  
I(N), I(Diff), analog**

**4NC  
Current transformers**

**7KT  
Current transformers**

**3NJ calibrated  
current transformers**

–	–	■	■	■
–	–	■	■	■
–	–	–	–	■
–	–	■	■	■
–	–	■	■	■
■	■	■	■	■
■	■	■	■	■
–	–	■	■	■
–	–	■	■	■
–	–	–	–	–
–	–	■	■	■
–	–	–	–	–
–	–	–	–	–
–	–	–	–	–
–	–	–	–	–



# SENTRON powerconfig

## Configuration software for commissioning and maintenance

SENTRON powerconfig is available free of charge at [www.siemens.com/powerconfig](http://www.siemens.com/powerconfig)

You can find more information on the Internet at [www.siemens.com/sentron](http://www.siemens.com/sentron)

Free download SENTRON powerconfig mobile via:

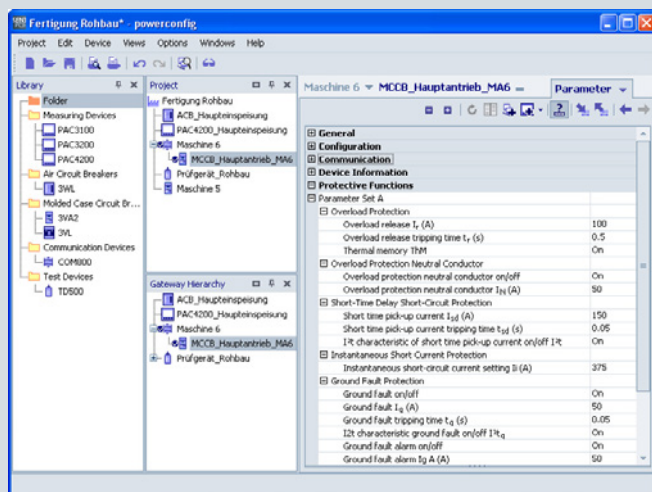


App Store

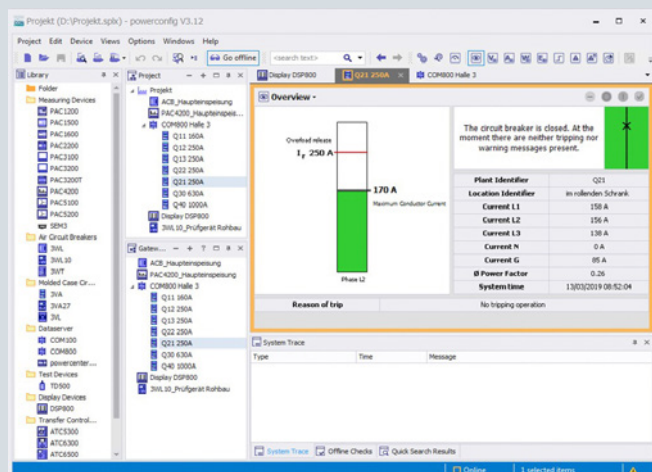


Play Store

- Software tool for the efficient commissioning and diagnostics of communication-capable SENTRON components
- Supports all PAC measuring devices incl. expansion modules, 3WL/3VA circuit breakers and further communication-capable components, e.g. ATC6300
- Service functions:
  - Firmware updates
  - Switching of language packs for 7KM PAC measuring devices
- General range of functions:
  - Facilitates the parameterization of the devices
  - 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 counters
- Additional functional scope with 7KM PAC4200 and 3VA:
  - Readout of data stored in the device (events, load profile history, daily energy counters)
  - Saving in csv format



Setting of parameter values



Display of the circuit breaker state

Maschine 6 ▾

MCCB\_Hauptantrieb\_MA6 ▾

Current ▾

←

→

Instantaneous Current

	Actual Value	Minima	Maxima
L1	80 A	0 A - 23/09/2013 13:21:34	100 A - 23/09/2013 13:21:34

Maschine 6 ▾

MCCB\_Hauptantrieb\_MA6 ▾

Voltage ▾

←

→

Instantaneous Voltage L-N

	Actual value
L1-N	231 V

Maschine 6 ▾

MCCB\_Hauptantrieb\_MA6 ▾

Power ▾

←

→

Instantaneous Power

	Active Power	Apparent Power	Reactive Power	Power Factor
L1	18.24 kW	18.51 kVA	3144 var	0.98
L2	18.23 kW	18.49 kVA	3125 var	0.98
L3	18.22 kW	18.48 kVA	3100 var	0.98
Σ	54.69 kW	55.48 kVA	9369 var	0.98

Values of Instantaneous Measuring Interval

	Active Power	Apparent Power	Reactive Power
MIN	20.33 kW	20.33 kVA	0 var
MAX	56.26 kW	56.21 kVA	27.68 kvar
Σ		0 VA	
Σ Import	0 W		0 var
Σ Export	0 W		0 var

Values of Last Measuring Interval

	Active Power	Apparent Power	Reactive Power
MIN	48.09 kW	48.09 kVA	0 var
MAX	55.55 kW	55.51 kVA	27.68 kvar
Ø		28.30 kVA	
Ø Import	28.30 kW		0 var
Ø Export	0 W		0 var
Σ		28.00 kVA	

Display of actual measured quantities

# SENTRON powermanager V3

## PC-based power monitoring software



### New in SENTRON powermanager 3.6

- Support of new devices:
  - PAC3120
  - PAC3220 with firmware V2.1

1

Version	Description	Article No.
<b>powermanager V3.5</b>		
Basic Package	Full product license for up to 10 devices, installation for client/server, web access	3ZS2711-0CC30-0YA0
Trial license	Full product license limited to 60 days for up to 10 devices, incl. "Expert" and "Web" option packs Available free of charge at <a href="https://support.industry.siemens.com/cs/ww/en/view/64850998">https://support.industry.siemens.com/cs/ww/en/view/64850998</a>	
<b>V3.x device expansions</b>		
Device Pack (20)	Device expansion license for up to 20 devices	3ZS2711-0CC30-0YD0
Device Pack (50)	Device expansion license for up to 50 devices	3ZS2712-0CC30-0YD0
Device Pack (100)	Device expansion license for up to 100 devices	3ZS2713-0CC30-0YD0
Device Pack (200)	Device expansion license for up to 200 devices	3ZS2714-0CC30-0YD0
Device Pack (500)	Device expansion license for up to 500 devices	3ZS2715-0CC30-0YD0
Device Pack (1000)	Device expansion license for up to 1000 devices	3ZS2716-0CC30-0YD0
<b>Option packs</b>		
"Expert" option pack	Option for creating/presenting any number of freely configured images	3ZS2710-2CC20-0YH0
"Client (5)" option pack	Expansion for up to 5 clients	3ZS2710-3CC00-0YD0
"Distributed Systems (2)" option pack	Option for the connection of 2 autonomous powermanager systems for the exchange of measured values and alarms	3ZS2718-1CC00-0YH0
"Distributed Systems (5)" option pack	Option for the connection of 5 autonomous powermanager systems for the exchange of measured values and alarms	3ZS2718-2CC00-0YH0
"Distributed Systems (10)" option pack	Option for the connection of 10 autonomous powermanager systems for the exchange of measured values and alarms	3ZS2718-3CC00-0YH0
"OPC UA Server" option pack	Option pack for data exchange with other processing platforms via OPC UA	3ZS2710-4CC30-0YD0
<b>Update powermanager V2.0 to V3.0</b>		
Update license	From V2.0 Lean to V3.x (10)	3ZS2711-0CC30-0YE0
Update license	From V2.0 Standard to V3.x (50)	3ZS2712-0CC30-0YE0
Update license	From V2.0 Maximum to V3.x (100)	3ZS2713-0CC30-0YE0
Update license	From V2.0 Maximum to V3.x (200)	3ZS2714-0CC30-0YE0

# SENTRON powermanager V4

## PC-based power monitoring software



### SENTRON powermanager V4.2

SENTRON powermanager V4 is based on a new 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. Unlike with V4.1, PAC3120 and PAC3220 are now also supported.

Two additional graphical options can now be used to create customer-specific graphics. The „Graphics Editor 60 Days“ option is limited to 60 days of use and is aimed at end users who want to create graphics during the setup phase. While the „Engineering License“ option is valid for 1 year and is aimed at Siemens partners such as control cabinet builders who create SENTRON powermanager applications for end users; the option is enabled via a „dongle“.

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.

The migration of existing SENTRON powermanager V3.x projects will be supported as of a future SENTRON powermanager version.

You can find more information on the Internet at [www.siemens.com/powermanager](https://www.siemens.com/powermanager)

You can find training courses on the Internet at [www.siemens.com/sittrain-lowvoltage](https://www.siemens.com/sittrain-lowvoltage)

Version	Description	Article No.
<b>powermanager V4.2</b>		
Extended Package	Full product license for up to 10 devices, installation for client/server, web access	7KN2710-2CE40-0YCO
Trial license	Full product license limited to 60 days for up to 10 devices, incl. all functions; software download via SIOS Portal <a href="https://support.industry.siemens.com/cs/ww/en/view/109771760">https://support.industry.siemens.com/cs/ww/en/view/109771760</a> A free license for one-time use (limited to 60 days) must also be requested via <a href="mailto:powermanagerlicence.de@siemens.com">powermanagerlicence.de@siemens.com</a>	
<b>Device expansions</b>		
Device Pack (20)	Device expansion license for up to 20 devices	7KN2711-1CE40-0YCO
Device Pack (50)	Device expansion license for up to 50 devices	7KN2711-2CE40-0YCO
Device Pack (100)	Device expansion license for up to 100 devices	7KN2711-3CE40-0YCO
Device Pack (200)	Device expansion license for up to 200 devices	7KN2711-4CE40-0YCO
Device Pack (500)	Device expansion license for up to 500 devices	7KN2711-5CE40-0YCO
Device Pack (1000)	Device expansion license for up to 1000 devices	7KN2711-6CE40-0YCO
<b>Option packs</b>		
"Graphics Editor 60 Days" option pack	Option for creating/presenting any number of freely configured images, Validity period limited to 60 days	7KN2712-0CE40-0YCO
„Engineering License“ 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 <b>new</b>
"Client (2)" option pack	Expansion for up to 2 clients	7KN2712-1CE40-0YCO
"Client (5)" option pack	Expansion for up to 5 clients	7KN2712-2CE40-0YCO
"powermanager Server" option pack	Additionally, powermanager server license for distributed systems without devices, web, etc.	7KN2712-4CE40-0YCO
<b>System packages</b>		
System 1	Package comprising 1× powermanager Extended 1× PAC4200 1× PAC3120 1× RS485 modules	7KN2715-1CE40-0YCO
System 3	Package comprising 1× powermanager Extended 3× PAC3220	7KN2715-3CE40-0YCO
System 4	Package comprising 1× powermanager Extended 1× PAC4200 4× PAC1600 1× RS485 module	7KN2715-4CE40-0YCO
System 5	Package comprising 1× powermanager Extended 5× PAC2200 transformer measurement Modbus TCP	7KN2715-5CE40-0YCO

# 7KN Powercenter

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

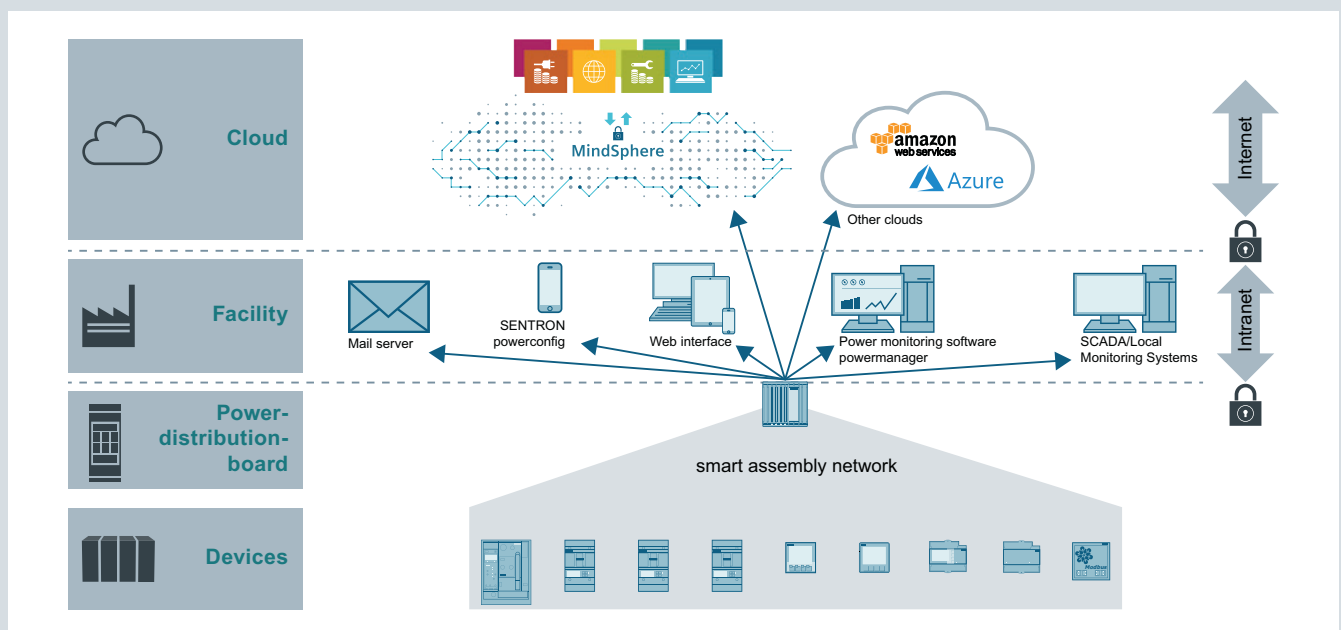
### 7KN Powercenter 3000

- Offers a range of interfaces for the digitalization of low-voltage power distribution
  - One web interface for a clear overview of all connected devices
  - Very simple communication with the SENTRON MindSphere application. See MindSphere Apps
  - Low-voltage power distribution data interface to MindSphere, the IoT operating system from Siemens
  - Communication interface via Modbus TCP for diverse applications, e.g. SENTRON powermanager
- Provision of the 15 min energy values over 14 months for the connected devices as a basis for energy management according to ISO 50001.
  - Periodic emails
  - Explicit emails
  - Explicitly stored as a csv file
- Event message via email and web interface
- Flexible IT security features for protection against unauthorized access
- Easy commissioning using powerconfig
- Compact design, 24 V DC supply

- Events from the devices are sent as emails
- 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 7KN Powercenter 3000.
- Web interface in up to 10 languages

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



Application areas 7KN Powercenter 3000



# SENTRON powermind **new**

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



1

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:

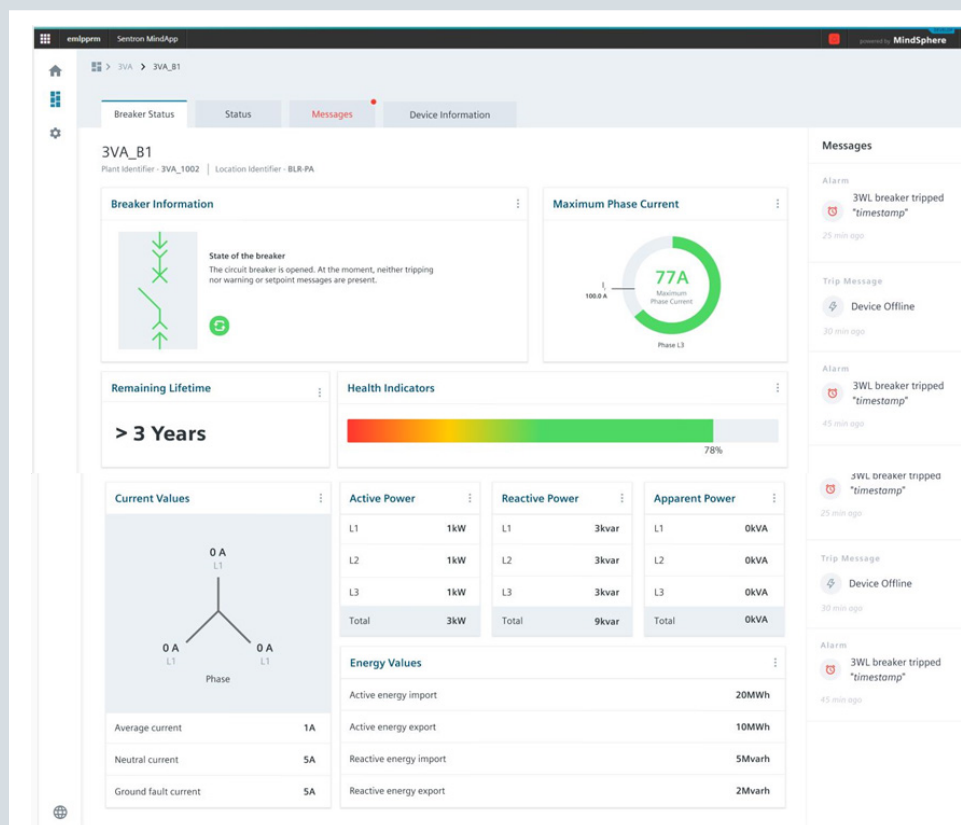
- Comparison of energy consumption on weekdays and weekend with percentage day-by-day representation of the distribution of energy consumption to identify unnecessary energy consumption
- Comparison of energy consumption and power import during a selected period as compared with a reference period to 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 the operator the following information and analyses:

- Status of the switching and protection devices, such as 3VA and 3WL
- Display of the maximum current value of an individual phase in relation to In
- Condition monitoring information about the condition of the contact system of each circuit breaker and also as an overview of all circuit breakers

You can find more information on the MindSphere Store at

[www.dex.siemens.com/mindsphere/applications](http://www.dex.siemens.com/mindsphere/applications)

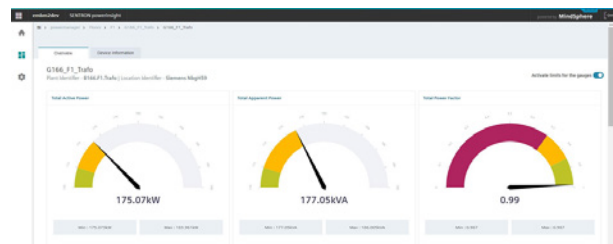
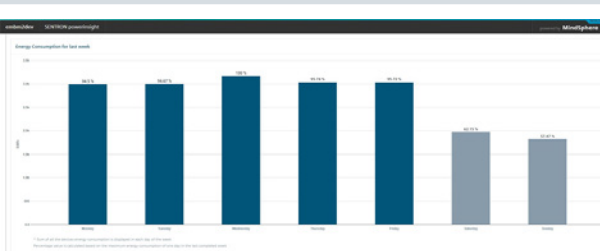


### Creating transparency

- Representation of device status/data, e.g. open, closed, tripped and maximum phase current, total power ...
- Notification on unusual deviations, for example, by email

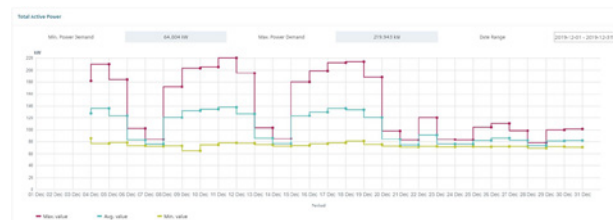
### Status display

- Information about the state of health of the device to take action proactively



### 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 saving measures



### 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

# 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](http://www.siemens.com/energysuite)

# SIMATIC Modbus/TCP SENTRON PAC

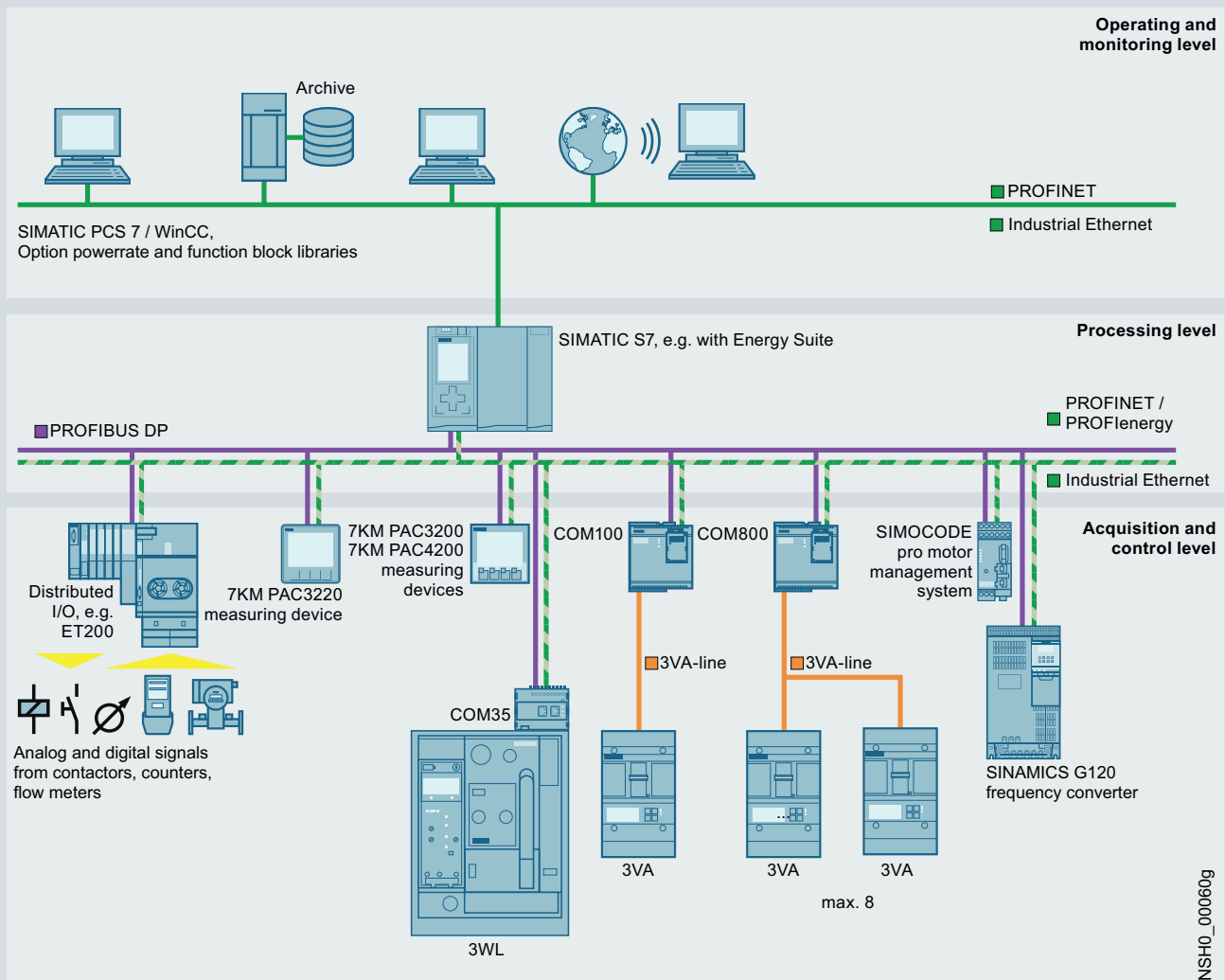
For 7KM PAC3200/4200 measuring devices

Use and version	Valid for	Type	Article No.
Communication via the integrated PN interface for reading values out of PAC 3200 and PAC PAC 4200 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

# PAC/3WL/3VA SIMATIC PCS 7 library

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

Application	Version	Type of delivery	Article No.
<b>PAC/3WL/3VA SIMATIC PCS 7 library</b>			
<ul style="list-style-type: none"> <li>AS blocks and faceplates for integrating the 3WL/3VA/3VL circuit breakers into SIMATIC PCS 7, V8.x or V9.0 SP2</li> <li>For each SIMATIC PCS 7 Operator Station of the single station/server version, a license containing the following is required:               <ul style="list-style-type: none"> <li>Engineering license for one SIMATIC PCS 7 Operator Station of the single station/server version</li> <li>Runtime license for one automation system (1 required per automation system, further AS runtime licenses can be ordered separately)</li> </ul> </li> </ul>	Engineering and runtime software, software class A, 2-language (English, German), single license for one installation	Software and electronic documentation on DVD, engineering and runtime license as Certificate of License	3ZS2787-1CC30-0YG0
<b>AS runtime license for PAC/3WL/3VA library for SIMATIC PCS 7</b>			
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





# 7KM PAC measuring devices

## Basic units

1



Connections	Power supply	Display	Interface	MID	PTB-A50.7	7KM PAC1020	7KM PAC2200 / PAC2200 CLP	7KM PAC3200T
<b>Transformer measurement</b>								
Screw terminals	Self-powered	With	M-Bus	With	Without	–	7KM2200-2EA30-1GA1	–
				Without	Without	–	7KM2200-2EA30-1CA1	–
				With	Without	–	7KM2200-2EA30-1HA1	–
				Without	Without	–	7KM2200-2EA30-1DA1	–
			Modbus TCP	With	With	–	7KM2200-2EA00-1JB1 <b>new</b>	–
				Without	Without	–	7KM2200-2EA30-1JA1	–
				Without	Without	–	7KM2200-2EA30-1EA1	–
		AC/DC wide-voltage power supply unit	Modbus RTU	Without	Without	7KM1020-0BA01-1DA0 <b>new</b>	–	–
			Modbus TCP	Without	Without	–	–	–
	DC power supply unit with extra-low voltage	With	Modbus TCP	Without	Without	–	–	7KM3200-OCA01-1AA0
			Modbus RTU	Without	Without	–	–	–
Ring cable lug connection	AC/DC wide-voltage power supply unit	With	Modbus TCP	Without	Without	–	–	–
<b>Direct measurement</b>								
Screw terminals	Self-powered	With	M-Bus	With	Without	–	7KM2200-2EA40-1GA1	–
				Without	Without	–	7KM2200-2EA40-1CA1	–
				With	Without	–	7KM2200-2EA40-1HA1	–
				Without	Without	–	7KM2200-2EA40-1DA1	–
			Modbus TCP	With	With	–	7KM2200-2EA40-1JB1 <b>new</b>	–
				Without	Without	–	7KM2200-2EA40-1JA1	–
				Without	Without	–	7KM2200-2EA40-1EA1	–
				Without	Without	–	7KM2200-2EA40-1EA1	–

### Further technical specifications

		7KM1020-..	7KM2200-..	7KM3200-..	7KM3120-0..	7KM3120-1..
<b>Basic data</b>						
Installation		Front mounting	Standard mounting rail		Front mounting	
Mounting width		–	6 TE		–	
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 %
<b>Measuring inputs</b>						
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	–	–	







1

7KM PAC3120		7KM PAC3220		7KM PAC4200		7KM PAC5100		7KM PAC5200	
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
7KM3120-0BA01-1DA0	-	-	-	-	-	-	-	-	-
-	7KM3220-0BA01-1DA0	7KM4212-0BA00-3AA0	7KM5212-6BA00-1EA2	7KM5412-6BA00-1EA2					
-	-	-	7KM5212-6CA00-1EA8	7KM5412-6CA00-1EA8					
-	7KM3220-1BA01-1EA0	7KM4211-1BA00-3AA0	-	-					
7KM3120-1BA01-1EA0	-	-	-	-					
-	-	7KM4212-0BA00-2AA0	-	-					
-	-	-	-	-					
-	-	-	-	-					
-	-	-	-	-					
-	-	-	-	-					
-	-	-	-	-					
7KM3220-0..		7KM3220-1..	7KM4212-..	7KM4211-..	7KM5212-	7KM5412			
Front mounting						Front mounting / Standard mounting 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				
-									






# 7KM PAC measuring devices

## Accessories

1

		7KM PAC1020	7KM PAC3120 7KM PAC3220 7KM PAC4200
7KM PAC TMP2 standard mounting rail adapter			
	<ul style="list-style-type: none"><li>Two-tier adapter for mounting a measuring device on a standard mounting rail</li><li>Front display</li><li>For manual intervention</li></ul>		
		7KM9900-0XA00-0AA0	
7KM PAC TMP mounting plate			
	<ul style="list-style-type: none"><li>Adapter for mounting a measuring device on standard mounting rail</li><li>Display faces backwards towards standard mounting rail</li><li>Readout and evaluation of measurements solely via mains operation</li></ul>		
		7KM9900-0YA00-0AA0	
Compact holder			
	<ul style="list-style-type: none"><li>Device holder for 7KM PAC3100 /3120/3200/3220/4200</li><li>10 holders for 5 PAC devices</li><li>For seamless side-by-side mounting of the devices (without spaces)</li></ul>		
		7KM9900-0GA00-0AA0	
Spare parts 7KM PAC			
	<ul style="list-style-type: none"><li>Spare parts comprising:<ul style="list-style-type: none"><li>Device holders for panel mounting (2X)</li><li>Screw terminal for connection of voltage inputs</li><li>Screw terminal for connection of current inputs</li><li>Terminal block inputs/outputs for 7KM PAC3100/4200</li><li>Terminal block inputs/outputs for 7KM PAC3200</li><li>RS485 terminal blocks for 7KM PAC3100</li></ul></li></ul>		
		—	7KM9900-0SA00-0AA0

## Expansion and communication modules

	7KM PAC3220 7KM PAC4200	COM100/800 (3VA)
<b>7KM Switched Ethernet PROFINET communication module</b>		
 <ul style="list-style-type: none"> <li>• Latest PROFINET switching properties</li> <li>• S2 system redundancy for operation in H systems</li> <li>• CiR Configuration in Run</li> <li>• Firmware update via the modules for PAC4200 and PAC3220</li> </ul>		
	7KM9300-0AE02-0AA0	
<b>7KM PROFIBUS DP communication module</b>		
	7KM9300-0AB01-0AA0	
<b>7KM RS485 communication module</b>		
	7KM9300-0AM00-0AA0 <sup>1)</sup>	
<b>7KM PAC 4DI/2DO expansion module</b>		
	7KM9200-0AB00-0AA0	—
<b>7KM PAC I(N), I(Diff), analog expansion module</b>		
 <ul style="list-style-type: none"> <li>• To add the following functions to the measuring inputs: <ul style="list-style-type: none"> <li>– N conductor measurement</li> <li>– Two analog inputs, also for measuring non-electrical quantities such as temperature, water or air pressure</li> <li>– Residual current measurement via type A or type B summation current transformers</li> </ul> </li> </ul>		
	7KM9200-0AD00-0AA0	—

<sup>1)</sup> Suitable for 7KM PAC4200 (especially for the Modbus TCP/RTU Gateway)

Residual-current transformers for 7KM PAC I(N), I(Diff), analog expansion module, [see LV 10, page 11/1](#)

# 7KT PAC measuring devices

## Basic unit PAC1600



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



## PAC1200 multichannel current measuring system



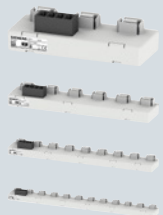
1

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

3

6

9

12

##### Article No.

7KT1233

7KT1236

7KT1238

7KT1242

#### Data manager with 7KT1260, sensors



##### Current $I_e$

40 A

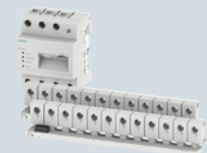
63 A

##### Article No.

7KT1254

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	—
1× data manager 7KT1260	2× 12-sensor bar 7KT1242	24× sensors 40 A 7KT1254	—	7KT1223

# SEM3 multichannel current measuring system

## Data manager

1



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

## Further technical specifications

SEM3

<b>Basic data</b>	
Installation	Screw mounting
<b>Measuring inputs</b>	
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

0.2%

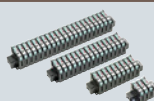
1%

#### Article No.

US2:SEM3PHAMETER

US2:SEM3PLAMETER

### Meter racks



#### Version

For 3 metering modules

For 9 metering modules

For 15 metering modules

For 21 metering modules

#### Article No.

US2:SEM3RACK3

US2:SEM3RACK9

US2:SEM3RACK15

US2:SEM3RACK21

### Connecting cables



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

#### Length

0.3 m

0.6 m

0.9 m

#### Article No.

US2:SEM3CAB12INCH

US2:SEM3CAB24INCH

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

100 mA

#### Transformer transmission ratio

50 : 0.1

125 : 0.1

250 : 0.1

400 : 0.1

600 : 0.1

800 : 0.1

1200 : 0.1

#### Article No.

US2:SEM3SCCT50

US2:SEM3SCCT125

US2:SEM3SCCT250

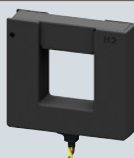
US2:SEM3SCCT400

US2:SEM3SCCT600

US2:SEM3SCCT800

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

100 mA

#### Transformer transmission ratio

50 : 0.1

125 : 0.1

250 : 0.1

400 : 0.1

600 : 0.1

800 : 0.1

1200 : 0.1

1600 : 0.1

2000 : 0.1

#### Article No.

7KT1280-5MA00

7KT1280-5MA01

7KT1280-5MA02

7KT1280-5MA03

7KT1280-5MA04

7KT1280-5MA05

7KT1280-5MA06

7KT1280-5MA07

7KT1280-5MA08

### DIN rail adapters



- 5 adapters for snapping onto standard mounting 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

# Time and pulse counters

## Mechanical counting mechanisms

1



Display	Resetting	Rated frequency	Rated control supply voltage $U_c$	48 × 48 mm	72 × 72 mm	–
<b>Time counter</b>						
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
<b>Pulse counter</b>						
0000000	Without	–	12 ... 24 V DC	–	–	7KT5811
		50/60 Hz	24 V AC	–	–	7KT5812
			230 V AC	–	–	7KT5814

### Further technical specifications

	7KT55..	7KT56..	7KT58..
<b>Basic data</b>			
Installation	Front mounting		Standard mounting rail
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

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 switchboards 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



1

Display	Resetting	Rated frequency	Rated control supply voltage U <sub>c</sub>	
<b>Time counter</b>				
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
<b>Pulse counter</b>				
0000000	Electrical and mechanical	50/60 Hz	24 ... 240 V AC, 12 ... 150 V DC	7KT5833

### Further technical specifications

7KT58..

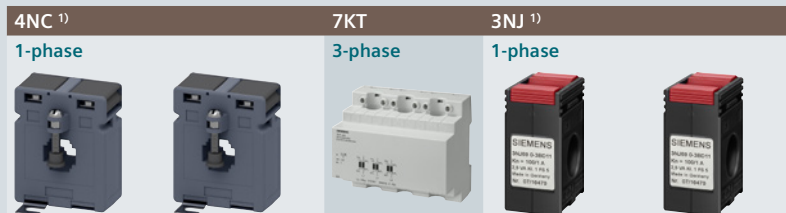
<b>Basic data</b>	
Installation	Standard mounting rail
Mounting width	2 MW
Display	LCD display



# Current transformers

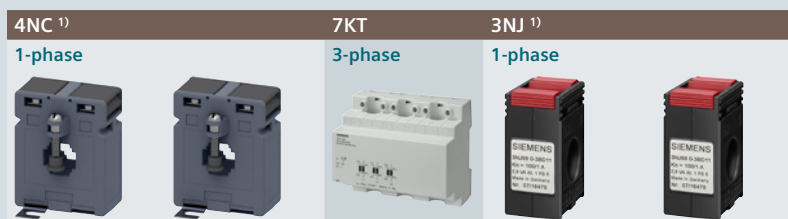
For measuring purposes

1



Size	Rated operational voltage U <sub>e</sub>	Rated primary current I <sub>pr</sub>	Rated power P <sub>n</sub>	I <sub>sr</sub> = 5 A	I <sub>sr</sub> = 1 A	I <sub>sr</sub> = 5 A	I <sub>sr</sub> = 5 A	I <sub>sr</sub> = 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								
1	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	3NJ6940-3BL13

<sup>1)</sup> Überstrom-Begrenzungsfaktor FS5



Size	Rated operational voltage $U_e$	Rated primary current $I_{pr}$	Rated power $P_n$	$I_{sf} = 5 A$	$I_{sf} = 1 A$	$I_{sf} = 5 A$	$I_{sf} = 5 A$	$I_{sf} = 1 A$
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	—	—	—
2	720 V	250 A	5 VA	4NC5123-2CE21	4NC5123-0CE21	—	—	—
		300 A	5 VA	4NC5222-2CE21	4NC5222-0CE21	—	—	—
		250 A	5 VA	4NC5223-2CE21	4NC5223-0CE21	—	—	—
		300 A	5 VA	4NC5224-2CE21	4NC5224-0CE21	—	—	—
3	720 V	400 A	5 VA	4NC5225-2CE21	4NC5225-0CE21	—	—	—
		400 A	5 VA	4NC5325-2CE21	4NC5325-0CE21	—	—	—
		500 A	5 VA	4NC5326-2CE21	4NC5326-0CE21	—	—	—
		600 A	5 VA	4NC5327-2CE21	4NC5327-0CE21	—	—	—
4	720 V	750 A	5 VA	4NC5330-2CE21	4NC5330-0CE21	—	—	—
		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

### Standard rail mounting



For transformer size	Article No.	Article No.	Article No.	Artikel-Nr.	Artikel-Nr.
1 and 5	4NC5923-5LT21	4NC5923-5LT21	—	—	—
2	4NC5925-5LT21	4NC5925-5LT21	—	—	—
3	4NC5930-5LT21	4NC5930-5LT21	—	—	—
4	4NC5940-5LT21	4NC5940-5LT21	—	—	—





# Appendix

A

Link directory .....	A/2
Conditions of sale and delivery .....	A/4
Article number index .....	A/6
Index .....	A/7
Notes .....	A/8



# Link directory

## Catalog LV 14

### General information

Information on low-voltage power distribution and electrical installation technology

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

Tender specifications

[www.siemens.com/lowvoltage/tenderspecifications](http://www.siemens.com/lowvoltage/tenderspecifications)

Conversion tool

[www.siemens.com/conversion-tool](http://www.siemens.com/conversion-tool)

Image database

[www.siemens.com/lowvoltage/picturedb](http://www.siemens.com/lowvoltage/picturedb)

CAX download manager

[www.siemens.com/lowvoltage/cax](http://www.siemens.com/lowvoltage/cax)

Newsletter system

[www.siemens.com/lowvoltage/newsletter](http://www.siemens.com/lowvoltage/newsletter)

Siemens YouTube channel

[www.youtube.com/Siemens](http://www.youtube.com/Siemens)

Brochures / catalogs

[www.siemens.com/lowvoltage/catalogs](http://www.siemens.com/lowvoltage/catalogs)

Operating instructions / manuals

[www.siemens.com/lowvoltage/manuals](http://www.siemens.com/lowvoltage/manuals)

Siemens Industry Online Support

[www.siemens.com/lowvoltage/product-support](http://www.siemens.com/lowvoltage/product-support)

Siemens Industry Online Support app

[www.siemens.com/support-app](http://www.siemens.com/support-app)

My Documentation Manager (MDM)

[www.siemens.com/lowvoltage/mdm](http://www.siemens.com/lowvoltage/mdm)

Configurators

[www.siemens.com/lowvoltage/configurators](http://www.siemens.com/lowvoltage/configurators)

Siemens Industry Mall – product catalog and online ordering system

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

Direct forwarding to the Industry Mall

[www.siemens.com/product?Article No.](http://www.siemens.com/product?Article No.)

Training

[www.siemens.com/sitrain-lowvoltage](http://www.siemens.com/sitrain-lowvoltage)

Local contacts

[www.siemens.com/lowvoltage/contact](http://www.siemens.com/lowvoltage/contact)

Technical Support

[www.siemens.com/lowvoltage/support-request](http://www.siemens.com/lowvoltage/support-request)

Information on services

[www.siemens.com/service-catalog](http://www.siemens.com/service-catalog)

Manual for the generation, transmission and distribution of electrical energy

[www.siemens.com/power-engineering-guide](http://www.siemens.com/power-engineering-guide)

Control panels for the North American market

[www.siemens.com/northamerican-standards](http://www.siemens.com/northamerican-standards)

Control panel building

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

Energy savings and amortization

[www.automation.siemens.com/sinasave](http://www.automation.siemens.com/sinasave)

Energy Suite

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

SITOP power supplies

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

Power distribution with Totally Integrated Power

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



## Information + ordering

### Technical overviews

Measuring devices, power monitoring and digitalization solutions [www.siemens.com/lowvoltage/product-support](http://www.siemens.com/lowvoltage/product-support) (109764480)

### All the important things at a glance

Measuring devices, power monitoring and digitalization solutions [www.siemens.com/powermonitoring](http://www.siemens.com/powermonitoring)  
[www.siemens.com/lowvoltage/digitalization](http://www.siemens.com/lowvoltage/digitalization)

### Your product in detail

Technical basic information – SENTRON power monitoring and digital solutions [www.siemens.com/lowvoltage/product-support](http://www.siemens.com/lowvoltage/product-support) (109769851)

Brochure – Reliable, sustainable, and efficient – TÜV-certified power monitoring system in accordance with ISO 50001 [www.siemens.com/lowvoltage/product-support](http://www.siemens.com/lowvoltage/product-support) (109744679)

Brochure – SENTRON portfolio for power monitoring [www.siemens.com/lowvoltage/product-support](http://www.siemens.com/lowvoltage/product-support) (109744725)

### Our video range

Power monitoring (general) [bit.ly/2lZ9QqC](https://bit.ly/2lZ9QqC)

### Everything you need for your order

Measuring devices and power monitoring [sie.ag/2kTH9Lz](http://sie.ag/2kTH9Lz)

Digitalization solutions [sie.ag/2olliNi](http://sie.ag/2olliNi)

Library for SIMATIC [sie.ag/2kpbwcs](http://sie.ag/2kpbwcs)

SENTRON powermanager / SENTRON powerconfig [sie.ag/2kTJjuF](http://sie.ag/2kTJjuF)

## Commissioning + operation

### Configuration software

SENTRON powerconfig configuration software [www.siemens.com/powerconfig](http://www.siemens.com/powerconfig)

### Manuals

Communication manual – 3VA with IEC and UL certification [www.siemens.com/lowvoltage/manuals](http://www.siemens.com/lowvoltage/manuals) (98746267)

Communication manual – SENTRON PAC5100/5200 7KM5212/5412 [www.siemens.com/lowvoltage/manuals](http://www.siemens.com/lowvoltage/manuals) (109477870)

Configuration manual – Measuring devices and power monitoring [www.siemens.com/lowvoltage/manuals](http://www.siemens.com/lowvoltage/manuals) (45315973)

Equipment manual – 7KM PAC3120 and 7KM PAC3220 [www.siemens.com/lowvoltage/manuals](http://www.siemens.com/lowvoltage/manuals) (109767307)

Equipment manual – 7KN Powercenter 3000 [www.siemens.com/lowvoltage/manuals](http://www.siemens.com/lowvoltage/manuals) (109763838)

Equipment manual – 7KT PAC1600 energy meter [www.siemens.com/lowvoltage/manuals](http://www.siemens.com/lowvoltage/manuals) (109759827)

Equipment manual – 7KT PAC1600 multimeter [www.siemens.com/lowvoltage/manuals](http://www.siemens.com/lowvoltage/manuals) (109760293)

Equipment manual – PAC2200 measuring device [www.siemens.com/lowvoltage/manuals](http://www.siemens.com/lowvoltage/manuals) (109746835)

Equipment manual – PAC3100 measuring device [www.siemens.com/lowvoltage/manuals](http://www.siemens.com/lowvoltage/manuals) (37881976)

Equipment manual – PAC3200T measuring device [www.siemens.com/lowvoltage/manuals](http://www.siemens.com/lowvoltage/manuals) (109746833)

Equipment manual – SENTRON PAC3200 power monitoring device [www.siemens.com/lowvoltage/manuals](http://www.siemens.com/lowvoltage/manuals) (26504150)

Equipment manual – SENTRON PAC5100/5200 7KM5212/5412 [www.siemens.com/lowvoltage/manuals](http://www.siemens.com/lowvoltage/manuals) (109477872)

Quick Installation Guide – 7KN POWERCENTER 3000 [www.siemens.com/lowvoltage/manuals](http://www.siemens.com/lowvoltage/manuals) (109766001)

SEM3™ – Embedded Micro Metering Module™ [www.siemens.com/lowvoltage/manuals](http://www.siemens.com/lowvoltage/manuals) (109748928)

System manual – 7KT multichannel current measuring system [www.siemens.com/lowvoltage/manuals](http://www.siemens.com/lowvoltage/manuals) (109483442)

System manual – SENTRON PAC4200 power monitoring devices [www.siemens.com/lowvoltage/manuals](http://www.siemens.com/lowvoltage/manuals) (34261595)

### Training and tutorials

Power monitoring with SENTRON [www.siemens.com/sitrain-lowvoltage](http://www.siemens.com/sitrain-lowvoltage) (WT-LVAEM)

Energy management – Basic training [www.siemens.com/sitrain-lowvoltage](http://www.siemens.com/sitrain-lowvoltage) (LV-EMSENTB)

Energy management – Training for experts [www.siemens.com/sitrain-lowvoltage](http://www.siemens.com/sitrain-lowvoltage) (LV-EMSENTE)

Communication with SENTRON components [www.siemens.com/sitrain-lowvoltage](http://www.siemens.com/sitrain-lowvoltage) (LV-COM)

# Conditions of sale and delivery

## 1. General Provisions

By using this catalog you can purchase products (hardware, software and services) described therein from Siemens Aktiengesellschaft subject to the following Terms and Conditions of Sale and Delivery (hereinafter referred to as „T&C“). Please note that the scope, the quality and the conditions for supplies and services, including software products, by any Siemens entity having a registered office outside Germany, shall be subject exclusively to the General Terms and Conditions of the respective Siemens entity. The following T&C apply exclusively for orders placed with Siemens Aktiengesellschaft, Germany.

### 1.1 For customers with a seat or registered office in Germany

For customers with a seat or registered office in Germany, the following terms and conditions apply subordinate to T&C:

- for products, which include specific terms and conditions in the description text, these specific terms and conditions shall apply and subordinate thereto,
- for installation work the „General Conditions for Erection Works – Germany“<sup>1)</sup> („Allgemeine Montagebedingungen – Deutschland“ (currently only available in German)) and/or
- for stand-alone software products and software products forming a part of a product or project, the „General License Conditions for Software Products for Automation and Drives for Customers with a Seat or registered Office in Germany“<sup>1)</sup> and/or
- for consulting services the „General Terms and Conditions for Consulting Services of the Division DF – Germany“<sup>1)</sup> and/or
- for other supplies and/or services the „General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry“<sup>1)</sup>. In case such supplies and/or services should contain Open Source Software, the conditions of which shall prevail over the „General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry“<sup>1)</sup>, a notice will be contained in the scope of delivery in which the applicable conditions for Open Source Software are specified. This shall apply mutatis mutandis for notices referring to other third party software components.

### 1.2 For customers with a seat or registered office outside Germany

For customers with a seat or registered office outside Germany, the following terms and conditions apply subordinate to T&C:

- for products, which include specific terms and conditions in the description text, these specific terms and conditions shall apply and subordinate thereto,
- for services the „International Terms & Conditions for Services“<sup>1)</sup> supplemented by „Software Licensing Conditions“<sup>1)</sup> and/or
- for consulting services the „General Terms and Conditions for Consulting Services of the Division DF – Germany“<sup>1)</sup> and/or
- for other supplies of hard- and software the „International Terms & Conditions for Products“<sup>1)</sup> supplemented by „Software Licensing Conditions“<sup>1)</sup>

### 1.3 For customers with master or framework agreement

To the extent our supplies and/or services offered are covered by an existing master or framework agreement, the terms and conditions of that agreement shall apply instead of T&C.

## 2. Additional Terms and Conditions

The dimensions are in mm. In Germany, according to the German law on units in measuring technology, data in inches apply only to devices for export.

Illustrations are not binding.

Insofar as there are no remarks on the individual pages of this catalog – especially with regard to data, dimensions and weights given – these are subject to change without prior notice.

## 3. Export Regulations

We shall not be obligated to fulfill any agreement if such fulfillment is prevented by any impediments arising out of national or international foreign trade or customs requirements or any embargoes and/or other sanctions.

Export may be subject to license. We shall indicate in the delivery details whether licenses are required under German, European and US export lists.

Our products are controlled by the U.S. Government (when labeled with „ECCN“ unequal „N“) and authorized for export only to the country of ultimate destination for use by the ultimate consignee or end-user(s) herein identified. They may not be resold, transferred, or otherwise disposed of, to any other country or to any person other than the authorized ultimate consignee or end-user(s), either in their original form or after being incorporated into other items, without first obtaining approval from the U.S. Government or as otherwise authorized by U.S. law and regulations.

The export indications can be viewed in advance in the description of the respective goods on the Industry Mall, our online catalog system. Only the export labels „AL“ and „ECCN“ indicated on order confirmations, delivery notes and invoices are authoritative.

Products labeled with „AL“ unequal „N“ are subject to European / national export authorization. Products without label, with label „AL:N“ / „ECCN:N“, or label „AL:9X9999“ / „ECCN: 9X9999“ may require authorization from responsible authorities depending on the final end-use, or the destination.

<sup>1)</sup> The text of the Terms and Conditions of Siemens AG can be downloaded at [https://mall.industry.siemens.com/legal/ww/en/terms\\_of\\_trade\\_en.pdf](https://mall.industry.siemens.com/legal/ww/en/terms_of_trade_en.pdf)

If you transfer goods (hardware and/or software and/or technology as well as corresponding documentation, regardless of the mode of provision) delivered by us or works and services (including all kinds of technical support) performed by us to a third party worldwide, you must comply with all applicable national and international (re-)export control regulations.

If required for the purpose of conducting export control checks, you (upon request by us) shall promptly provide us with all information pertaining to the particular end customer, final disposition and intended use of goods delivered by us respectively works and services provided by us, as well as to any export control restrictions existing in this relation.

The products listed in this catalog may be subject to European/German and/or US export regulations. Any export requiring approval is therefore subject to authorization by the relevant authorities.

Errors excepted and subject to change without prior notice.

# Article number index

Article No.	Page
<b>3N</b>	
3NJ69	1/28
3ZS27	1/11, 1/17
<b>4N</b>	
4NC51	1/28–1/29
4NC52	1/28–1/29
4NC53	1/28–1/29
4NC54	1/28–1/29
4NC59	1/29
<b>6A</b>	
6AV66	1/16
<b>7K</b>	
7KM10	1/19
7KM22	1/19
7KM31	1/19
7KM32	1/19
7KM42	1/19
7KM52	1/19
7KM54	1/19
7KM92	1/21
7KM93	1/21
7KM99	1/20
7KN13	1/13
7KN27	1/12
7KT12	1/23, 1/25, 1/29
7KT16	1/22
7KT15	1/26–1/27
7KT90	1/26
<b>US</b>	
US2	1/24–1/25

# Index

Keyword	Page
<b>0–9</b>	
7KM PAC measuring devices	1/18–1/22
7KT PAC measuring devices	1/22
7KN Powercenter	1/13
<b>A</b>	
Accessories	1/8
Appendix	A/1
Article number index	A/6
<b>C</b>	
Conditions of sale and delivery	A/4
<b>E</b>	
Examples of digitalization in industry	I/5
Examples of digitalization in infrastructure	I/6
<b>H</b>	
Hardware components	1/6
<b>I</b>	
Index	A/7
Introduction to the topic of digitalization and Industry 4.0	I/6
<b>L</b>	
Link directory	A/2
<b>M</b>	
Measuring Devices	1/1
<b>N</b>	
Notes	A/8–A/10
<b>P</b>	
PAC/3WL/3VA SIMATIC PCS 7 library	1/17
Power monitoring	1/4
<b>S</b>	
SEM3 multichannel current measuring system	1/24
SETRON powerconfig	1/10
SETRON powermanager V3	1/11
SETRON powermanager V4	1/12
SETRON powermind	1/14
SIMATIC Energy Suite	1/16
SIMATIC Modbus/TCP SETRON PAC	1/16
Current transformers	1/28
<b>T</b>	
The fast route to the product	I/2
Time and pulse counters	1/26



## A

A

# Notes

A

# Catalogs and further information



## LV 10 Low-Voltage Power Distribution and Electrical Installation Technology SENTRON • SIVACON • ALPHA

Protection, Switching, Measuring and  
Monitoring Devices, Switchboards and  
Distribution Systems

PDF (E86060-K8280-A101-B2-7600)



## LV 14 Power Monitoring Made Simple SENTRON

E86060-K1814-A101-A7-7600



## LV 18 Air Circuit Breakers and Molded Case Circuit Breakers with UL Certification SENTRON

PDF (E86060-K8280-E347-A5-7600)



## ET D1 Switches and Socket Outlets DELTA

PDF



## IC 10 Industrial Controls SIRIUS

E86060-K1010-A101-B1-7600



## Industry Mall Information and Ordering Platform on the Internet:

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



## Siemens TIA Selection Tool for the selection, configuration and ordering of TIA products and devices

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



## Training for Industry SITRAIN

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

The catalogs listed above and additional catalogs are  
available in PDF format at Siemens Industry Online Support  
[www.siemens.com/lowvoltage/catalogs](http://www.siemens.com/lowvoltage/catalogs)

Further information on low-voltage power distribution  
and electrical installation technology is available on the  
Internet at [www.siemens.com/lowvoltage](http://www.siemens.com/lowvoltage)

## Get more information

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

Published by  
Siemens AG

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

Smart Infrastructure  
Electrical Products  
Siemensstraße 10  
93055 Regensburg, Germany

100 Technology Drive  
Alpharetta, GA 30005  
United States

Article No. E86060-K1814-A101-A7-7600  
Dispo 18301  
KG 1120 .5 AUM 48 En  
Printed in Germany  
© Siemens 2020

Subject to changes and errors. The information given in this catalog 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.

**Token fee: 2.00 €**

## Security information

Siemens provides products and solutions with industrial security functions that support the secure operation of plants, systems, machines and networks.

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

Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the Internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place.

For additional information on industrial security measures that may be implemented, please visit  
**<https://www.siemens.com/industrialsecurity>**

Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats.

To stay informed about product updates, subscribe to the Siemens Industrial Security RSS Feed under  
**<https://www.siemens.com/industrialsecurity>**