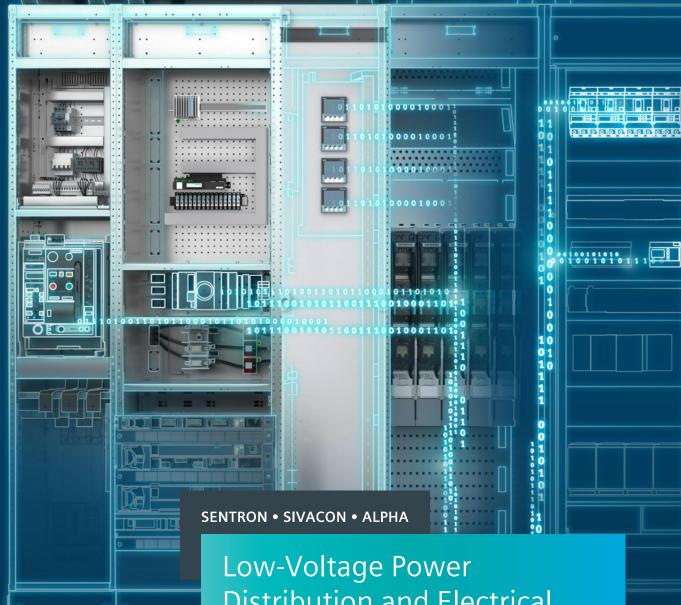
SIEMENS



Distribution and Electrical **Installation Technology**

Measuring Devices, Power Monitoring and Digitalization Solutions

Catalog **Extract** LV 10

Edition 04/2020

siemens.com/lowvoltage

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

Catalog LV 10 · 04/2020

THE CHIEF

You will find the latest edition and all future editions in the Siemens Industry Online Support at www.siemens.com/lowvoltage/catalogs

Refer to the Industry Mall for current prices 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.

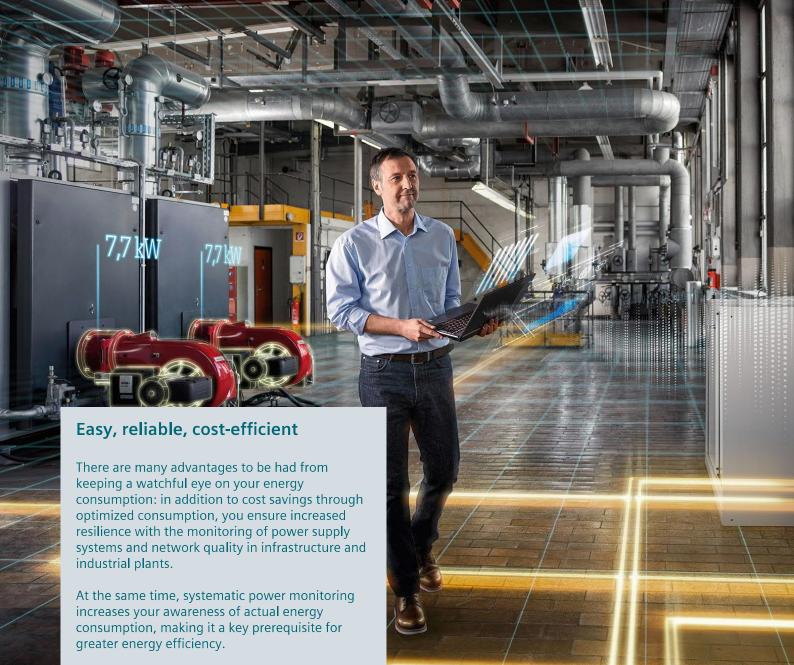
All illustrations are not binding.

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10

Low-Voltage Power Distribution and Electrical Installation Technology

	Introduction	_ 1/2
Protecting	Air Circuit Breakers	_ 1/1
	Molded Case Circuit Breakers	_ 2/1
	Miniature Circuit Breakers	_ 3/1
	Residual Current Protective Devices / Arc Fault Detection Devices (AFDDs)	_ 4/1
	Switching Devices	_ 5/1
	Overvoltage Protection Devices	_ 6/1
	Fuse Systems	_ 7/1
Protecting, Switching and Isolating	Switch Disconnectors	_ 8/1
Switching and Isolating	Transfer Switching Equipment and Load Transfer Switches	_ 9/1
Measuring and Monitoring	Measuring Devices, Power Monitoring and Digitalization Solutions	10/1
	Monitoring Devices	11/1
Distribution	Transformers, Power Supply Units and Socket Outlets	12/1
	Busbar Systems	13/1
	Terminal Blocks	14/1
	Power Distribution Boards, Motor Control Centers and Distribution Boards_	15/1
	Busbar Trunking Systems	16/1
	System Cubicles, System Lighting and System Air-Conditioning	17/1
	Annondix	Δ/1



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



A multitude of additional information ...

Information + ordering



(i) 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

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



Your product in detail

The Siemens Industry Online Support portal provides comprehensive information

www.siemens.com/lowvoltage/product-support

- Technical basic information SENTRON power monitoring and digital solutions (109769851)
- Brochure Reliable, sustainable, and efficient -TÜV-certified power monitoring system in accordance with ISO 50001 (109744679)
- Brochure SENTRON portfolio for power monitoring (109744725)

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



Siemens YouTube channel

Our video range

• Power monitoring (general) bit.ly/2IZ9QqC



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
- powermanager / powerconfig 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.

... can be found in our online services

Commissioning + operation



Configuration software

powerconfig

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

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

- Operating instructions
- Certificates

Engineering data for CAD or CAE systems are available in the CAx Download Manager at 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

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

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

■■ Manuals

Manuals are available for downloading in Siemens Industry Online Support at

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

- 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

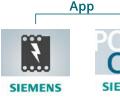
www.siemens.com/lowvoltage/product-support (109764480)

Power monitoring

Software

Local monitoring systems







Web-Interface integriert

7KT PAC1200

powerconfig

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 10/21	from page 10/10	

Measuring devices and circuit breakers

circuit breakers

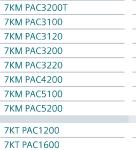
Measuring devices for industrial applications





Measuring devices for buildings and





7KM PAC2200

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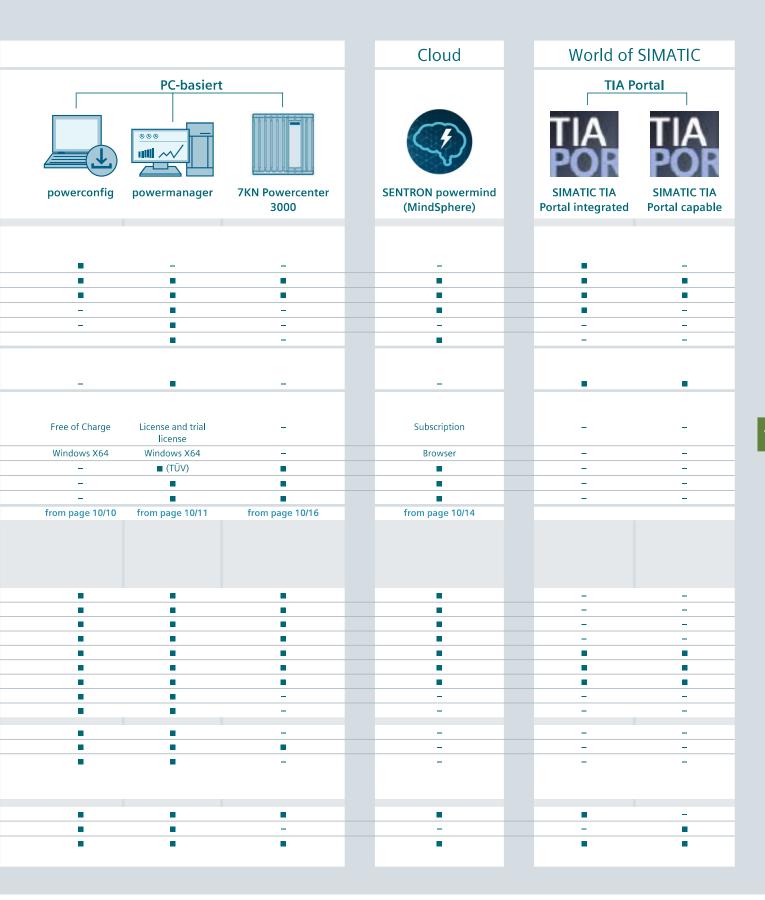
3WL	
3WL10 / 3VA27	
3VA ETU5/8	

-	-	_	-
-		_	

- Function available
- □ Available with limited functionality

SEM3

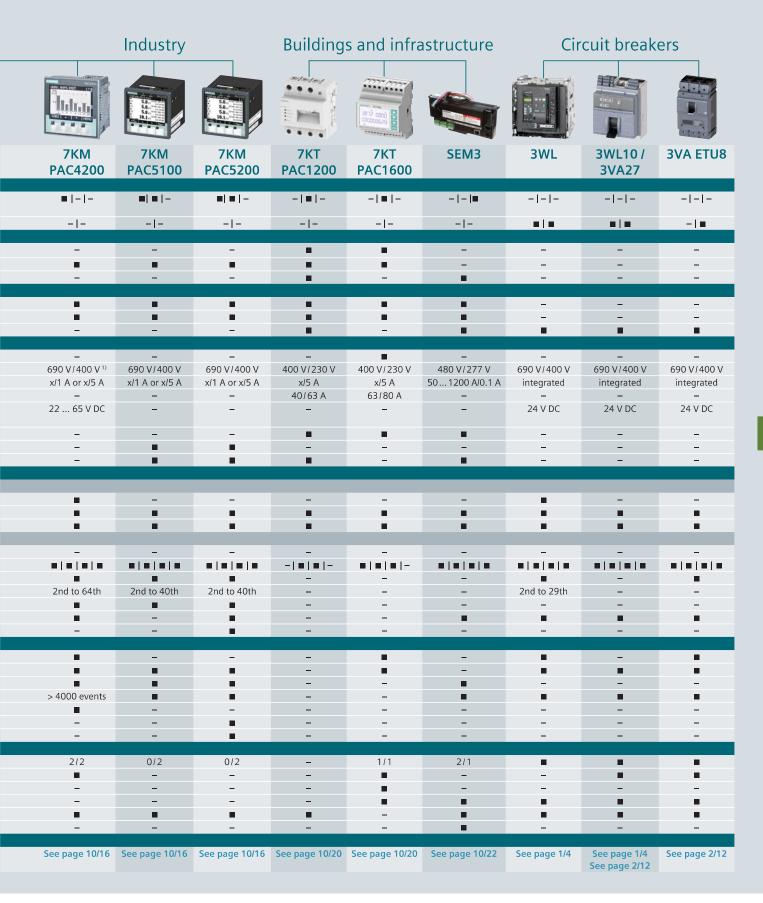
Function not available



Hardware components

Industry

			\$59 60 NORMHINE \$50 25 498 has 2 465 has	231.6, 231.6,	238.	231.6, 231.6,	
			150	231.6	230	231.6	
	7KM PAC2200	7KM PAC3200T	7KM PAC3100	7KM PAC3120 new	7KM PAC3200	7KM PAC3220	
Installation type	17102200		17105100	aran a	17105200	The state of the s	
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	100 1/10771/	-	-	-	-	-	
Max. input voltage L-L/L-N	480 V/277 V	480 V/277 V	480 V/276 V	690 V/400 V	690 V / 400 V 1)	690 V/400 V	
Transformer connection version	x/1 A or x/5 A	x/1 A or x/5 A	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	-	_	- -	- -	- 22 CE V DC	
DC power supply unit with extra-low voltage version	_	-	-	22 65 V DC	22 65 V DC	22 65 V DC	
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	
Apparent Active Reactive energy cos φ			- = = -				
Distortion factor THD (voltage, current)	-		-		■ (THD indication)		
Harmonics (voltage, current)	-	-	_	-	-	-	
Phase angle/phase chart	_	-	_	-	_	-	
Load profile recording	-	-	-	-	-	-	
Flicker acc. to IEC 61000-4-15	_	-	-	-	-	-	
Thoron door to 120 o 1000 T To							
Monitoring functions							
		-	-				
Monitoring functions Operating hours counter Limit monitoring	-	:	- -	-:	:	:	
Monitoring functions Operating hours counter Limit monitoring Logic functions	- -	:	- - -	:	÷	:	
Monitoring functions Operating hours counter Limit monitoring Logic functions Event log	-	_	- - -	_	:		
Monitoring functions Operating hours counter Limit monitoring Logic functions Event log Gateway function	• - - -	•	- - - -	•	:		
Monitoring functions Operating hours counter Limit monitoring Logic functions Event log Gateway function Reporting acc. to EN 50160	• - - - -	- - -	-		-	- - -	
Monitoring functions Operating hours counter Limit monitoring Logic functions Event log Gateway function Reporting acc. to EN 50160 Integrated fault recorder	-	- -	- - - -	-	• • • • •	- -	
Monitoring functions Operating hours counter Limit monitoring Logic functions Event log Gateway function Reporting acc. to EN 50160 Integrated fault recorder Integrated communication interfaces	-	-	- - -	-	- - - -	- - - - -	
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	- - - - - -	- - - - -	- - - 2/2	- - - - -	- - - - -	- - - - -	
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 SO-Interface	-	- - - - -	- - -	- - - - - 2/2	- - - -	- - - - - 212	
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 SO-Interface M-Bus	-	1/1	- - - 2/2	2/2	- - - - -	- - - - - 2/2	
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 S0-Interface M-Bus RS485 (Modbus RTU)	-	1/1	- - - 2/2	2/2	1/1	2/2 - - -	
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 SO-Interface M-Bus RS485 (Modbus RTU) Ethernet with Modbus TCP	-	1/1	- - - 2/2	2/2	- - - - -	- - - - - 2/2	
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 SO-Interface M-Bus RS485 (Modbus RTU) Ethernet with Modbus TCP BACnet	-	1/1	- - - 2/2	2/2	1/1	2/2 - - -	
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 SO-Interface M-Bus RS485 (Modbus RTU) Ethernet with Modbus TCP	-	1/1	- - - 2/2	2/2	1/1	2/2 - - -	



Accessories

Communication modules

Industry		7KM Switched Ethernet PROFINET / Modbus TCP	7KM PROFIBUS DP	7KM RS485 Modbus RTU
industry	7KM PAC2200	-	-	-
	7KM PAC3200T	-	-	-
498. 485. 158.	7KM PAC3100	-	-	-
201.6 201.6 201.6	7KM PAC3120 new	-	-	-
28 28 23 23	7KM PAC3200			•
231.8 231.8 231.8	7KM PAC3220 new	•		•
Hidraly	7KM PAC4200	•		•
	7KM PAC5100	-	-	-
	7KM PAC5200	-	-	-
Buildings and in	frastructure			
	7KT PAC1200	-	-	-
ni me DON	7KT PAC1600	-	-	-
	SEM3	-	-	-
Circuit breakers				
	3WL	-	-	-
	3WL10 / 3VA27	-	-	-
alors .	3VA ETU5/8	•	•	•

Current transformers





Expansion modules





· · · · · · · · · · · · · · · · · · ·	-A'C		
7KM PAC 4DI/2DO	7KM PAC I(N), I(Diff), analog	4NC Current transformers	7KT Current transformers
-	-		
-	-		
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powerconfig

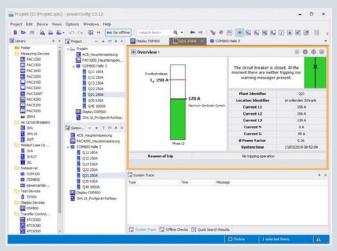
PC-based software for commissioning and maintenance

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

You can find more information on the Internet at www.siemens.com/sentron

- PC-based 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

Setting of parameter values



Display of the circuit breaker state

Free download SENTRON powerconfig mobile via:

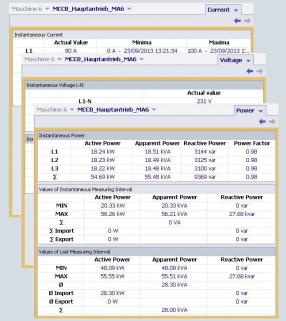




App Store

Play Store

- 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



Display of actual measured quantities

powermanager V3

PC-based power monitoring software

New in powermanager 3.6

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



Version	Description	Article No.
powermanager V3.5		
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 https://support.industry.siemens.com/cs/ww/en/view/64850998	
V3.x device expansions		
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
Option packs		
"Expert" option pack	Option for creating/presenting any number of freely configured images	3ZS2710-2CC20-0YH
"Client (5)" option pack	Expansion for up to 5 clients	3ZS2710-3CC00-0YD0
"Distributed Systems (2)"	Option for the connection of 2 autonomous powermanager systems	3ZS2718-1CC00-0YH
option pack	for the exchange of measured values and alarms	
'Distributed Systems (5)"	Option for the connection of 5 autonomous powermanager systems	3ZS2718-2CC00-0YH
option pack	for the exchange of measured values and alarms	
"Distributed Systems (10)"	Option for the connection of 10 autonomous powermanager systems	3ZS2718-3CC00-0YH
option pack	for the exchange of measured values and alarms	
OPC UA Server" option pack	Option pack for data exchange with other processing platforms via OPC UA	3ZS2710-4CC30-0YD
Update powermanager V2.0 to	V3.0	
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
System packages		
System 1	Package comprising	3ZS2812-5CC20-0AY0
	1× powermanager Basic Package	
	1× PAC4200 (+ RS485 module) and	
	1× PAC3100	
System 3	Package comprising	3ZS2813-2CC20-0YA
	1× powermanager Basic Package	
	3× PAC 3200	2762042 76620 0044
System 4	Package comprising	3ZS2812-7CC20-0YA
	1× powermanager Basic Package	
	1× PAC4200 4× PAC1600	
	1× RS485 module	
System 5	Package comprising	3ZS2812-8CC20-0YA
system 5	1× powermanager Basic Package	3232012 OCC20-01AC
	5× PAC2200 transformer measurement Modbus TCP	

powermanager V4 new

PC-based power monitoring software



SENTRON powermanager V4.2

SENTRON powermanager V4.1 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.

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

You can find more information on the Internet at www.siemens.com/powermanager

You can find training courses on the Internet at www.siemens.com/sitrain-lowvoltage

Version	Description	Article No.
powermanager V4.1		
Extended Package	Full product license for up to 10 devices, installation for client/server, web access Download via SIOS Portal https://support.industry.siemens.com	7KN2710-2CE40-0YC0
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" option pack	Option for creating/presenting any number of freely configured images	7KN2712-0CE40-0YC0
"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
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

7KN Powercenter new

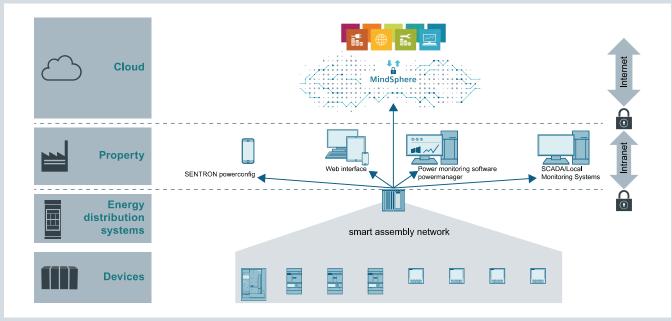
Edge/IoT-based data acquisition and visualization for low-voltage power distribution

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. 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.
- 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

You can find more information on the Internet at www.siemens.com/powermonitoring

Mounting	Interfaces	Protocols	Article No.
Standard rail mounting	2× 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

SENTRON powermind permits cloud-based visualization of data from your power distribution system. The following views are available as part of this application:

- Current power consumptions and power factor
- Historical energy values and power demand (with comparison function) in load curves and bar charts

This solution is especially aimed at small and mid-size enterprises to provide transparency in the power distribution system. No specific domain know-how is required. It is also used as the basis for a power audit or certification according to ISO 50001. This user-friendly application allows even inexperienced and new users to analyze and optimize the energy and power consumption.

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

SIMATIC Energy Suite

For integrated energy management

Hiahliahts

- · 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

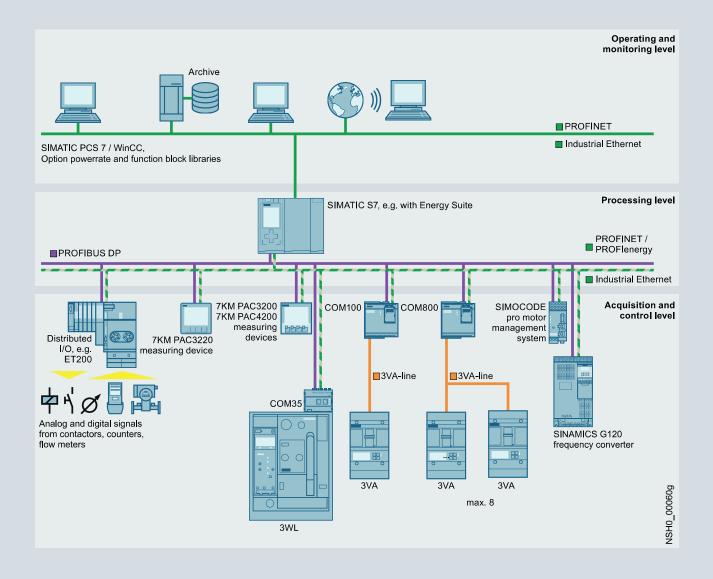
For 7KM PAC3200/4200 measuring devices

Use and version	Valid for	Туре	Article No.
Communication via the integrated	1 CPU and up to 20 SENTRON PACs	Modbus/TCP 20 SENTRON PAC	6AV6676-6MA30-0AX0
PN interface for reading values out	1 CPU and up to 100 SENTRON PACs	Modbus/TCP 100 SENTRON PAC	6AV6676-6MA30-1AX0
of PAC 3200 and PAC PAC 4200 devices, single license	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.
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 or V9.0 SP2 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 on DVD, engineering and runtime license as Certificate of License	3ZS2787-1CC30-0YG0
AS runtime license for PAC/3WL/3VA library for SIMATION	C 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



7KM PAC measuring devices

Basic units









Connec- tions	Power supply	Display	Inter- face	MID	7KM PAC2200	7KM PAC3200T	7KM PAC3100	7KM PAC3120 new
Transform	ner measureme	nt						
Screw	Self-powered	With	M-Bus	With	7KM2200-2EA30-1GA1	-	-	-
terminals	erminals			Without	7KM2200-2EA30-1CA1	-	-	-
			Modbus	With	7KM2200-2EA30-1HA1	-	-	-
			RTU	Without	7KM2200-2EA30-1DA1	-	-	-
			Modbus	With	7KM2200-2EA30-1JA1	-	-	-
			TCP	Without	7KM2200-2EA30-1EA1	-	-	-
	AC/DC wide- voltage power	With	Modbus RTU	Without	-	-	7KM3133-0BA00-3AA0	7KM3120-0BA01-1DA0
	supply unit		Modbus TCP	Without	-	-	-	-
		Without	Modbus TCP	Without	-	7KM3200-0CA01-1AA0	-	-
	DC power supply unit	With	Modbus TCP	Without	-	-	-	-
	with extra- low voltage		Modbus RTU	Without	-	-	-	7KM3120-1BA01-1EA0
Ring cable lug con- nection	AC/DC wide- voltage power supply unit	With	Modbus TCP	Without	-	-	-	-
Direct me	asurement							
Screw	Self-powered	With	M-Bus	With	7KM2200-2EA40-1GA1	-	-	-
terminals				Without	7KM2200-2EA40-1CA1	-	-	-
			Modbus	With	7KM2200-2EA40-1HA1	-	-	-
			RTU	Without	7KM2200-2EA40-1DA1	-	-	-
			Modbus	With	7KM2200-2EA40-1JA1	-	-	-
			TCP	Without	7KM2200-2EA40-1EA1	-	-	-

Further techni	cal specifications	7KM2200	7KM3200	7KM3133	7KM3120-0	7KM3120-1
Basic data						
Installation		Standard mounting rail		Front mounting		
Mounting width		6 MW		-		
Control panel instrum	ent	-		96 × 96 mm		
External auxiliary voltage	50/60 Hz AC	-	90 276 V	100 240 V ±10%	100 250 V ±10%	-
	DC	-	110 275 V	110 250 V ±10%		24 60 V ±20%
Measuring inputs						
Transformer connection	Secondary input current \mathbf{I}_{e}	x/1 A or x/5 A		x/5 A	x/1 A or x/5 A	
Direct connection	Input voltage U _e 3 AC 50/60 Hz	480/277 V			690/400 V	
	Rated current I _n	65 A	-			















7KM PAC3200	7KM PAC3220 new	7KM PAC4200	7KM PAC5100	7KM PAC5200
-	_	_	-	-
-	-	-	-	-
-	-	_	-	-
-	_	_	-	-
-	_	_	-	-
_	_	_	_	_
-	_	_	-	-
7KM2112-0BA00-3AA0	7KM3220-0BA01-1DA0	7KM4212-0BA00-3AA0	7KM5212-6BA00-1EA2	7KM5412-6BA00-1EA2
-	-	_	7KM5212-6CA00-1EA8	7KM5412-6CA00-1EA8
7KM2111-1BA00-3AA0	7KM3220-1BA01-1EA0	7KM4211-1BA00-3AA0	_	-
7KM2112-0BA00-2AA0	-	7KM4212-0BA00-2AA0	_	-
-	_	_	-	_
-	-	_	-	-
-	-	-	-	-
-	-	_	-	_
-	-	_	-	-
=	-	_	-	_

7KM2112	7KM2111	7KM3220-0	7KM3220-1	7KM4212	7KM4211	7KM5212-	7KM5412
Front mounting						Front mounting/standard	d mounting rail
-							
96 × 96 mm							
95 240 V ±10%	-	100 250 V ±10%	-	95 240 V ±10%		110 230 V ±10%	
110 340 V ±10%	22 65 V ±10%	100 250 V ±10%	24 60 V ±20%	110 340 V ±10%		24 250 V ±10%	
x/1 A or x/5 A							
690/400 V	400/230 V	690/400 V			500/289 V	690/400 V	
-							

7KM PAC measuring devices

Accessories

7KM PAC3100 7KM PAC3120 7KM PAC3200 7KM PAC3220 7KM PAC4200

7KM PAC TMP2 standard mounting rail adapter



- Two-tier adapter for mounting a measuring device on a standard mounting rail
- Front display
- For manual intervention

7KM9900-0XA00-0AA0

7KM PAC TMP mounting plate



- Adapter for mounting a measuring device on standard mounting rail
- Display faces backwards towards standard mounting rail
- Readout and evaluation of measurements solely via mains operation

7KM9900-0YA00-0AA0





- Device holder for 7KM PAC3100 /3120/3200/3220/4200
- 10 holders for 5 PAC devices
- For seamless side-by-side mounting of the devices (without spaces)

7KM9900-0GA00-0AA0

Spare parts 7KM PAC



- Spare parts comprising:
 - Device holders for panel mounting (2X)
 - 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

Expansion and communication modules

		7KM PAC3200	7KM PAC3220 7KM PAC4200	COM100/800 (3VA)
7KM Switched E	thernet 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 			
7KM PROFIBUS I	DP communication module			
7KM RS485 com	munication module			

·······			7KM9300-0AM00-0AA0)
7KM PAC 4DI/2	DO expansion module			
."				
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			

 $^{^{\:\:1)}\:}$ Suitable for 7KM PAC4200 (especially for the Modbus TCP/RTU Gateway)

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

7KT PAC measuring devices

Basic unit PAC1600



Connections	Version	Power supply	Display	Interface	MID	7KT PAC1600
Transformer meas	surement					
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:	With	_	Without	7KT1681
		100 240 V AC, 110 250 V DC 50/60Hz		Modbus RTU	Without	7KT1682
Direct measureme	ent					
Screw terminals	1-phase	Self-powered	With	h 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



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
- Land	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 bund l e	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



Connections	Version	Power supply	Display	Interface	MID	
Transformer meas	urement					
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



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	LIS2-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	LISD-SEMBCARBEINCH

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

	5	9	
	Output signal	Transformer transmission ratio	Article No.
100 mA	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 new



- 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 ne



Article No.

US2:SEM3DINKIT

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
	60 Hz		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		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		7KT55	7KT56	7KT58	
Cover					
	Size		Article No.	Article No.	Article No.
	55 × 55 mm		7KT9020	-	-
Sealing ring for co	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



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	7КТ58
Basic data	
Installation	Standard mounting rail
Mounting width	2 MW
Display	LCD display

Current transformers

For measuring purposes



				2	2	
Size	Rated operational voltage U _e	Rated primary current I _{pr}	Rated power P _n	I _{sr} = 5 A	I _{sr} = 1 A	I _{sr} = 5 A
Accuracy	class 0.2					
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	-	-



				2	2	
Size	Rated operational voltage U _e	Rated primary current l _{pr}	Rated power P _n	I _{sr} = 5 A	I _{sr} = 1 A	I _{sr} = 5 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

Standard rail mounting For transformer size 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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