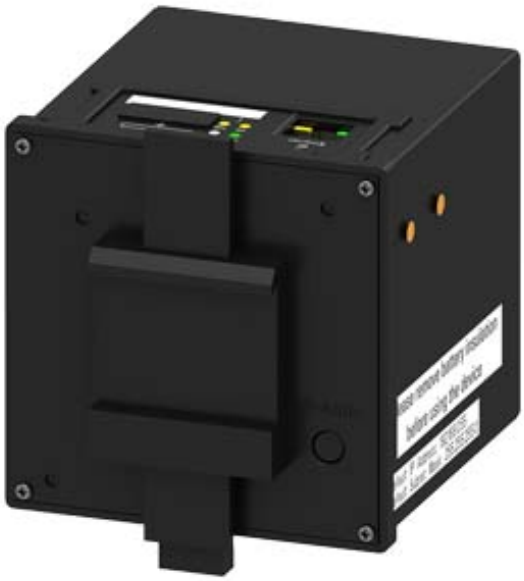
SIEMENS

Data sheet 7KM5212-6CA00-1EA8



SENTRON, measuring device, 7KM PAC5100, strd mount. rail encl. w/o display, L-L: 690 V, L-N: 400 V, 10 A, strd rail instr., 3-phase, Modbus TCP, apparent /active/reactive energy / cos phi, harmonics: 2. - 40., THD, class 0.5 acc. to IEC61557-12 or cl. 0.5S acc. to IEC62053-22, wide-range pwr sup. unit AC/DC, screw terminals

Model	
Product brand name	SENTRON
Product designation	7KM PAC5100
Design of the product	compact
Product type designation	Measuring instrument
Type of measured value detection	complete
Design of the power supply	Wide-range power supply

General technical data	
Size of Power Monitoring Device / company-specific	DIN rail
Operating mode for measured value detection	
• automatic line frequency detection	Yes
• set at 50 Hz	No
• set to 60 Hz	No
Pulse duration	
• initial value	50 ms
• Full-scale value	3 600 000 ms
Voltage curve	Sinusoidal or distorted
Measurable line frequency / initial value	45 Hz

Measurable line frequency / Full-scale value	65 Hz
Measuring procedure / for voltage measurement	TRMS

Supply voltage

Type of voltage / of the supply voltage	AC/DC
Measuring category / for supply voltage	CATIII
Apparent power consumption	
• with expansion module / maximum	6 V·A
• without expansion module / typical	6 V·A
Relative symmetrical tolerance / of the supply voltage	20 %

Protection class

Protection class IP	
• on the front	IP20
• Rear side	IP20
Operating resource protection class / when installed	II

Electricity

Measurable current / 2 / at AC / Rated value	10 A

Suitability

Suitability for operation	Standard mounting rail device
Adjustable time period / minimum	50 ms

Product function

Product function	
• Illuminance of display backlighting adjustable	No
• Time-controlled reduction of the illuminance of display backlighting possible	No
• reactive power measurement	Yes
• frequency measurement	Yes
• pulse measurement	Yes
• Display contrast adjustable	No
• voltage measurement	Yes
• Current measurement	Yes
• active power measurement	Yes

Display and operation

Design of the display	Standard mounting rail enclosure without display
Number of keys	4
Color / of the background of the display	white
National language / on the display screen / is supported	de, en
Product function / Display can be inverted (positive <=> negative mode)	No

Communication

Refresh time / at the interface	
• maximum	1 s
Number of interfaces / acc. to Fast Ethernet	1
Design of cable / connectable / Twisted pair	Yes
Protocol	
• is supported	Modbus TCP

Fault limits

Reference condition / for metering accuracy	according to IEC 62053-22, IEC 62053-23, IEC 62586-1, Class S, IEC 61000-4-30, IEC 61000-4-7, IEC 61000-4-15
Formula for relative total measurement inaccuracy	
• for measured variable reactive energy	Class 2 according to IEC61557-12 and/or IEC62053-23
• for measured variable output	+/- 0,5 %
• for measured variable output factor	+/- 0,5 %
• for measured variable voltage	+/- 0,2 %
• for measured variable current	+/- 0,2 %
• for measured variable THD	+/- 0.5 %
• for measured variable active energy	Cl. 0.5 acc. to... IEC62053-22

Inputs Outputs

Number of digital outputs	2
Digital output version	Continuous output, pulse output
Type of switching output	solid state
Type of electrical connection	
• at the digital outputs	screw-type terminals
Output current	
• at digital output / for signal <1> / minimum	100 mA
• at digital output / for signal <1> / maximum	300 mA
• at the digital outputs / at DC / maximum	100 mA
Operating voltage / as output voltage / at DC / maximum permissible	250 V
Property of the output / Short-circuit proof	Yes
Internal resistance / at the digital outputs	35 Ω
Measuring category / for digital signals	Cat. III
Switching frequency / at digital output / maximum	10 Hz
Transfer rate	
• 1 / for fast Ethernet	10 Mbit/s
• 2 / for fast Ethernet	100 Mbit/s

Measuring inputs

Outer conductors and neutral conductors internal resistance / for voltage measurement	6 MΩ
Measurable supply voltage	
• between (PE)N and L / at AC / maximum rated value	400 V

• between the outer conductors / at AC / maximum	831 V
• between the outer conductors / at AC / maximum rated value	690 V
Voltage measuring range extension / with external voltage transformers	Yes
Current measuring range extension / with external current transformers	Yes
Measuring category / for voltage measurement	CATIII
Supply voltage / between the outer conductors / at AC / maximum permissible	831 V
Consumed active power / for current measurement / per phase	2.5 mW
Continuous current / at AC / maximum permissible	10 A
Measuring category / for current measurement	CATIII
Zero-point suppression / for current measurement	0 ... 10 %
• for neutral conductor current	0.0 % to 10.0 % (from Vrated, Irated)
Relative measurable current / at AC	
• minimum	1 %
• maximum	200 %
Apparent power consumption / for current measurement	
• with measuring range 5 A / per phase	2 V·A
Measuring procedure / for current measurement	TRMS
Measurable current / 1 / at AC / Rated value	1 A

Connections

Type of connectable conductor cross-sections	
• at the measurement inputs for voltage / at AWG conductors / solid	Screw connection
• at the measurement inputs for voltage / solid	2.5 mm²
• at the measurement inputs for voltage / finely stranded / with core end processing	2.5 mm²
• at the measurement inputs for current / at AWG conductors / solid	Screw connection
Type of electrical connection	
• at the inputs for supply voltage	screw-type terminals
• at the measurement inputs for voltage	screw-type terminals
• at the measurement inputs for current	screw-type terminals
• of the fast Ethernet interface	RJ45 (8P8C)

Mechanical Design

(mounting position)	vertical
Mounting type / panel mounting	No
(net weight)	753 g

Environmental conditions	
Degree of pollution	2
Installation altitude / at height above sea level / maximum	2 000 m
Standard	
• for EMC for industrial sector	IEC 61000-6-2
• for EMC against unloading	IEC 61000-4-2 - 6 kV contact discharge; 8 kV air discharge
• for EMC against high frequency fields	IEC 61000-4-3 80 MHz up to 3 GHz, 10 Vm
• for EMC against conducted LF disturbance variables (industry)	IEC 61000-6-4
• for EMC against conducted disturbance variables via HF fields	IEC 61000-4-6; 2008; 0.15 MHz - 80 MHz
• for EMC against magnetic fields with power engineering frequencies	IEC 61000-4-8, Class IV
• for EMC against quick, transient electrical disturbances	IEC 61000-4-4 Class 3; 2 kV, 5 KHz
• for EMC against voltage drops and interruptions	IEC 61000-4-11; 2004-03
• for EMC against surge voltages	IEC 61000-4-5 installation class 2, 2 kV/1 kV,
• for free fall	IEC 60068-2-31
• for cyclic, environmental damp heat check	IEC 60068-2-78 Test Ca
• for environmental coldness check	IEC 60068-2-1 Test Ad
• for environmental dry heat check	IEC 60068-2-2 Test Bd
Relative humidity / at 25 °C / without condensation / during operation	
• minimum	75 %
• maximum	95 %
Ambient temperature	
• during operation / minimum	-25 °C
• during operation / maximum	55 °C
• during storage / minimum	-40 °C
• during storage / maximum	70 °C

Certificates	
Certificate of suitability	
• as EC declaration of conformity	EN 61000-6-2 and EN 61000-6-4 for EMC guideline
• as approval for USA	UL - File E228586, Vol. X1: A1

Declaration of Conformity	other
	Manufacturer Declaration

CE
EG-Konf.

Further information

Information- and Downloadcenter (Catalogs, Brochures,…)
http://www.siemens.com/lowvoltage/catalogs

Industry Mall (Online ordering system)
https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=7KM5212-6CA00-1EA8

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/7KM5212-6CA00-1EA8

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=7KM5212-6CA00-1EA8

CAx-Online-Generator
http://www.siemens.com/cax

Tender specifications
http://www.siemens.com/specifications