



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	DIN rail
operating mode for measured value detection	
• automatic line frequency detection	Yes
• set at 50 Hz	No
• set to 60 Hz	No
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
supply voltage frequency / rated value	
• minimum	45 Hz
• maximum	65 Hz
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

Current

measurable current	
• 1 / at AC / rated value	1 A
• 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	
• reactive power measurement	Yes
• frequency measurement	Yes
• pulse measurement	Yes
• 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
display can be inverted (positive <=> negative mode)	No
illuminance of display backlighting adjustable	No
time-controlled reduction of the illuminance of display backlighting possible	No
display contrast adjustable	No

Communication	
refresh time / at the interface	
<ul style="list-style-type: none"> • maximum 	1 s
number of interfaces / acc. to Fast Ethernet	1
type of electrical connection / of the fast Ethernet interface	RJ45 (8P8C)
design of cable / connectable / twisted pair	Yes

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
<ul style="list-style-type: none"> • formula for relative total measurement inaccuracy / for measured variable voltage 	+/- 0,2 %
<ul style="list-style-type: none"> • formula for relative total measurement inaccuracy / for measured variable current 	+/- 0,2 %
<ul style="list-style-type: none"> • formula for relative total measurement inaccuracy / for measured variable output 	+/- 0,5 %
<ul style="list-style-type: none"> • formula for relative total measurement inaccuracy / for measured variable output factor 	+/- 0,5 %
<ul style="list-style-type: none"> • formula for relative total measurement inaccuracy / for measured variable active energy 	Cl. 0.5 acc. to... IEC62053-22
<ul style="list-style-type: none"> • formula for relative total measurement inaccuracy / for measured variable reactive energy 	Class 2 according to IEC61557-12 and/or IEC62053-23
<ul style="list-style-type: none"> • formula for relative total measurement inaccuracy / for measured variable THD 	+/- 0.5 %

Inputs Outputs	
operating voltage / as output voltage / at DC / maximum permissible	250 V
type of electrical connection / at the digital outputs	screw-type terminals
digital output version	Continuous output, pulse output
number of digital outputs	2
type of switching output	solid state
output current	
<ul style="list-style-type: none"> • at digital output / for signal <1> / minimum 	100 mA
<ul style="list-style-type: none"> • at digital output / for signal <1> / maximum 	300 mA
<ul style="list-style-type: none"> • at the digital outputs / at DC / maximum 	100 mA
switching frequency / at digital output / maximum	10 Hz
pulse duration	
<ul style="list-style-type: none"> • initial value 	50 ms
<ul style="list-style-type: none"> • full-scale value 	3 600 000 ms
property of the output / short-circuit proof	Yes
internal resistance / at the digital outputs	35 Ω
measuring category / for digital signals	Cat. III

transfer rate	
<ul style="list-style-type: none"> • 1 / for fast Ethernet 	10 Mbit/s
<ul style="list-style-type: none"> • 2 / for fast Ethernet 	100 Mbit/s

Measuring inputs

measurable supply voltage	
<ul style="list-style-type: none"> • between (PE)N and L / at AC / maximum rated value 	400 V
<ul style="list-style-type: none"> • between the outer conductors / at AC / maximum rated value 	690 V
<ul style="list-style-type: none"> • between the outer conductors / at AC / maximum 	831 V
voltage measuring range extension / with external voltage transformers	Yes
outer conductors and neutral conductors internal resistance / for voltage measurement	6 MΩ
measuring category / for voltage measurement	CATIII
consumed active power / for current measurement / per phase	2.5 mW
measuring category / for current measurement	CATIII
relative measurable current / at AC	
<ul style="list-style-type: none"> • minimum 	1 %
<ul style="list-style-type: none"> • maximum 	200 %
apparent power consumption / for current measurement	
<ul style="list-style-type: none"> • with measuring range 5 A / per phase 	2 V·A
continuous current / at AC / maximum permissible	10 A
current measuring range extension / with external current transformers	Yes
zero point suppression / for current measurement	0 ... 10 %
<ul style="list-style-type: none"> • for neutral conductor current 	0.0 % to 10.0 % (from Vrated, Irated)
measuring procedure / for current measurement	TRMS

Connections

type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • at the measurement inputs for voltage / solid 	2.5 mm ²
<ul style="list-style-type: none"> • at the measurement inputs for voltage / finely stranded / with core end processing 	2.5 mm ²
<ul style="list-style-type: none"> • at the measurement inputs for voltage / at AWG conductors / solid 	Screw connection
<ul style="list-style-type: none"> • at the measurement inputs for current / at AWG conductors / solid 	Screw connection
type of electrical connection	
<ul style="list-style-type: none"> • at the inputs for supply voltage 	screw-type terminals
<ul style="list-style-type: none"> • at the measurement inputs for voltage 	screw-type terminals

- at the measurement inputs for current

screw-type terminals

Mechanical Design

mounting type / panel mounting	No
mounting position	vertical
net weight	753 g

Environmental conditions

installation altitude / at height above sea level / maximum	2 000 m
standard	
<ul style="list-style-type: none"> • for EMC for industrial sector 	IEC 61000-6-2
<ul style="list-style-type: none"> • for EMC against unloading 	IEC 61000-4-2 - 6 kV contact discharge; 8 kV air discharge
<ul style="list-style-type: none"> • for EMC against high frequency fields 	IEC 61000-4-3 80 MHz up to 3 GHz, 10 Vm
<ul style="list-style-type: none"> • for EMC against conducted LF disturbance variables (industry) 	IEC 61000-6-4
<ul style="list-style-type: none"> • for EMC against conducted disturbance variables via HF fields 	IEC 61000-4-6; 2008; 0.15 MHz - 80 MHz
<ul style="list-style-type: none"> • for EMC against magnetic fields with power engineering frequencies 	IEC 61000-4-8, Class IV
<ul style="list-style-type: none"> • for EMC against quick, transient electrical disturbances 	IEC 61000-4-4 Class 3; 2 kV, 5 KHz
<ul style="list-style-type: none"> • for EMC against voltage drops and interruptions 	IEC 61000-4-11; 2004-03
<ul style="list-style-type: none"> • for EMC against surge voltages 	IEC 61000-4-5 installation class 2, 2 kV/1 kV,
<ul style="list-style-type: none"> • for free fall 	IEC 60068-2-31
<ul style="list-style-type: none"> • for cyclic, environmental damp heat check 	IEC 60068-2-78 Test Ca
<ul style="list-style-type: none"> • for environmental coldness check 	IEC 60068-2-1 Test Ad
<ul style="list-style-type: none"> • for environmental dry heat check 	IEC 60068-2-2 Test Bd
ambient temperature / during operation	
<ul style="list-style-type: none"> • minimum 	-25 °C
<ul style="list-style-type: none"> • maximum 	55 °C
ambient temperature / during storage	
<ul style="list-style-type: none"> • minimum 	-40 °C
<ul style="list-style-type: none"> • maximum 	70 °C
relative humidity / at 25 °C / without condensation / during operation	
<ul style="list-style-type: none"> • minimum 	75 %
<ul style="list-style-type: none"> • maximum 	95 %

Certificates

certificate of suitability	
<ul style="list-style-type: none"> • as EC declaration of conformity 	EN 61000-6-2 and EN 61000-6-4 for EMC guideline
<ul style="list-style-type: none"> • as approval for USA 	UL - File E228586, Vol. X1: A1



EG-Konf.

[Manufacturer Declaration](#)

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>



