Data sheet



SENTRON, measuring device, 7KM PAC4200, LCD, L-L: 690 V, L-N: 400 V, 5 A, 3-phase, Modbus TCP, optional Modbus RTU / PROFINET / PROFIBUS / DI/DO, apparent/active/reactive energy / cos phi, harmonics: 3.-31., THD, class 0.2 acc. to IEC61557-12 or cl. 0.2S acc. to IEC62053-22, wide-range pwr sup. unit AC/DC, screw terminals

Model	
Product brand name	SENTRON
Product designation	7KM PAC4200
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	
(cutout width)	92 mm
null	92 mm
Size of Power Monitoring Device / company-specific	size 96
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	30 ms
• Full-scale value	500 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		
MTBF	169.7 y		
Reference code / acc. to DIN 40719 extended	P		
according to IEC 204-2 / acc. to IEC 750			
Supply voltage			
Type of voltage / of the supply voltage	AC/DC		
Measuring category / for supply voltage	CATIII		
Apparent power consumption			
 with expansion module / maximum 	32 V·A		
 without expansion module / typical 	11 V·A		
Consumed active power			
• with expansion module / typical	11 W		
 without expansion module / typical 	5.5 W		
Relative symmetrical tolerance / of the supply voltage	10 %		
Protection class			
Protection class IP			
• on the front	IP65		
Rear side	IP20		
Operating resource protection class / when installed	II .		
Electricity			
Measurable current / 2 / at AC / Rated value	5 A		
Suitability			
Suitability for operation	Installation in stationary control panels in closed rooms		
Adjustable time period / minimum	10 ms		
Product function			
Product function			
 Illuminance of display backlighting adjustable 	Yes		
 Time-controlled reduction of the illuminance of display backlighting possible 	Yes		
 reactive power measurement 	Yes		
• frequency measurement	Yes		
• pulse measurement	Yes		
Display contrast adjustable	Yes		
voltage measurement	Yes		
Current measurement	Yes		
active power measurement	Yes		
Display and operation			

Design of the display	LCD	
Number of keys	4	
Color / of the background of the display	white	
National language / on the display screen / is supported	ger, en, fr, spa, ita, por, tur, rus, chi, pol	
Product function / Display can be inverted (positive <=> negative mode)	Yes	
Horizontal image resolution	128	
Vertical screen resolution	96	
Refresh time / on display		
• minimum	0.33 s	
• maximum	3 s	

Communication	
Number of active connections / at the Ethernet	3
interface	
Number of logical ports / at the Ethernet interface / is	2
supported	
Number of interfaces / acc. to Fast Ethernet	1
Design of cable / connectable / Twisted pair	Yes
Product function / at the Ethernet interface	
auto-MDI(X)	Yes
 Autonegotiation 	Yes
• serial gateway	Yes
Protocol	
• at the Ethernet interface / is supported	MODBUS TCP
• is supported	Modbus TCP
Transfer rate	
• minimum	10 000 kbit/s
• maximum	100 000 kbit/s
• 1 / for Ethernet	10 Mbit/s
• 2 / for Ethernet	100 Mbit/s

Fault limits	
Reference condition / for metering accuracy	Acc. to IEC61557-12
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 	+/- 2 %
 for measured variable voltage 	+/- 0,2 %
 for measured variable current 	+/- 0,2 %
• for measured variable THD	+/- 2 %
• for measured variable active energy	Class 0.2 according to IEC61557-12 and/or class 0.2S according to IEC62053-22

Inputs Outputs	
Input voltage / at digital input	
• initial value for signal<1>-recognition	19 V
• at DC / rated value	24 V
• at DC / maximum	30 V
 Full-scale value for signal<0> recognition 	10 V
Number of digital outputs	2
Number of digital inputs	2
Digital output version	switching or pulse output function
Type of switching output	solid state
Type of electrical connection	
at the digital inputs	screw-type terminals
at the digital outputs	screw-type terminals
Input current / at digital input	
• for signal <1>	4 mA
Output current	
• at digital output / with signal <0> / maximum	0.2 mA
• at digital output / for signal <1> / minimum	10 mA
• at digital output / for signal <1> / maximum	27 mA
at the digital outputs / at DC / limited to 100 ms/ maximum	300 mA
• at the digital outputs / at DC / maximum	100 mA
Output delay / at digital output	
• for signal <0> to <1> / maximum	5 ms
• for signal <1> to <0> / maximum	5 ms
Operating conditions for digital inputs / external voltage supply	Yes
Operating voltage / as output voltage / at DC / maximum permissible	30 V
Property of the output / Short-circuit proof	Yes
Input delay time / at digital input	
• for signal <0> to <1> / maximum	5 ms
• for signal <1> to <0> / maximum	5 ms
Internal resistance / at the digital outputs	55 Ω
Measuring category / for digital signals	CATI
Switching frequency / at digital output / maximum	20 Hz
Transfer rate	
• 1 / for fast Ethernet	100 Mbit/s
Measuring inputs	
Outer conductors and neutral conductors internal resistance / for voltage measurement	1.05 ΜΩ
Measurable supply voltage	

11.5 V
480 V
400 V
20 V
828 V
690 V
Yes
Yes
CATIII
831 V
10 A
CATIII
0 10 %
1 %
120 %
4 mVA
0.115 V·A
TRMS
1 A

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onnections	
Type of connectable conductor cross-sections	
• at the digital inputs / at AWG conductors / solid	1x 24 12
at the digital inputs / solid	1x (0.2 2.5 mm²), 2x (0.2 1.0 mm²)
 at the digital inputs / finely stranded / with core end processing 	1x (0.25 2.5 mm²), 2x (0.25 1.0 mm²)
 at the digital outputs / at AWG conductors / solid 	1x 24 12
• at the digital outputs / solid	1x (0.2 2.5 mm²), 2x (0.2 1.0 mm²)
 at the digital outputs / finely stranded / with core end processing 	1x (0.25 2.5 mm²), 2x (0.25 1.0 mm²)
 at the inputs for supply voltage / at AWG conductors / solid 	2x 20 to 14
at the inputs for supply voltage / solid	1x (0.5 4 mm²), 2x (0.5 2.5 mm²)

 at the measurement inputs for voltage / at AWG conductors / solid 	2x 20 to 14
• at the measurement inputs for voltage / solid	1x (0.5 4 mm²), 2x (0.5 2.5 mm²)
 at the measurement inputs for voltage / finely stranded / with core end processing 	1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)
 at the measurement inputs for current / at AWG conductors / solid 	2x 20 to 14
• at the measurement inputs for current / solid	1x (0.5 4 mm²), 2x (0.5 2.5 mm²)
 at the measurement inputs for current / finely stranded / with core end processing 	1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)
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	
(height)	96 mm
Height / of the display	54 mm
Width	96 mm
Width	
• of the display	72 mm
Depth	82 mm
(mounting position)	vertical
Installation depth	77 mm
Installation depth / with expansion module / maximum	99 mm
Mounting type / panel mounting	Yes
Material thickness / of the control panel	
• maximum	4 mm
(net weight)	543 g

Environmental conditions		
Degree of pollution	2	
Installation altitude / at height above sea level /	2 000 m	
maximum		
Standard		
 for EMC for industrial sector 	IEC 61000-6-2	
 for EMC against unloading 	IEC 61000-4-2	
 for EMC against high frequency fields 	IEC 61000-4-3	
 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	

for EMC against magnetic fields with power	IEC 61000-4-8
engineering frequencies	
 for EMC against quick, transient electrical disturbances 	IEC 61000-4-4
 for EMC against voltage drops and interruptions 	IEC 61000-4-11
 for EMC against surge voltages 	IEC 61000-4-5
• for free fall	IEC 60068-2-32
• for pulse emitter	according to IEC62053-31
• for cyclic, environmental damp heat check	IEC 60068-2-30
 for environmental coldness check 	IEC 60068-2-1
 for environmental dry heat check 	IEC 60068-2-2
Relative humidity / at 25 °C / without condensation /	
during operation	
• minimum	5 %
• maximum	95 %
Ambient temperature	
during operation / minimum	-10 °C
during operation / maximum	55 °C
 during storage / minimum 	-25 °C
during storage / maximum	70 °C

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Certificate of suitability	
 as EC declaration of conformity 	IEC 61010-1: 2001 (2nd Ed.) with Corr. 1, EN 61010-1: 2001 (2nd
	Ed.) and DIN EN 61010-1:2002 with "Berichtigung 1"
 as approval for Canada 	UL 61010-1, 2nd Ed. CAN/CSA-C22.2 NO. 61010-1-04
 as approval for USA 	UL 61010-1, 2nd Ed. CAN/CSA-C22.2 NO. 61010-1-04
Approval Australia	Yes
Approval Russia	Yes
Reference code	
• acc. to DIN EN 61346-2	P

	General Product	Declaration of Con-	other
	Approval	formity	
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Confirmation

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=7KM4212-0BA00-3AA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

https://support.industry.siemens.com/cs/ww/en/ps/7KM4212-0BA00-3AA0

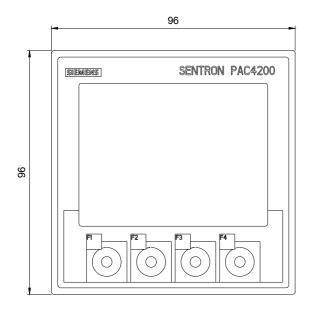
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...) http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=7KM4212-0BA00-3AA0

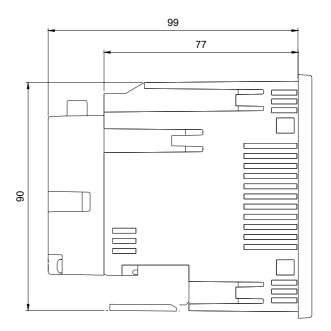
CAx-Online-Generator

http://www.siemens.com/cax

Tender specifications

http://www.siemens.com/specifications





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