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

92 mm
92 mm
size 96
Yes
No
No
30 ms
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
Supply voltage frequency / rated value	
• minimum	45 Hz
• maximum	65 Hz
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
Current	
Measurable current	
• 1 / at AC / Rated value	1 A
• 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	1.05 ΜΩ
resistance / for voltage measurement	
Measurable supply voltage	
between (PE)N and L / at AC / minimum	11.5 V
between (PE)N and L / at AC / maximum	480 V
• between (PE)N and L / at AC / maximum rated	400 V
value	
between the outer conductors / at AC /	20 V
minimum	
 between the outer conductors / at AC / 	828 V
maximum	000.17
between the outer conductors / at AC / maximum rated yelling	690 V
maximum rated value	Yes
Voltage measuring range extension / with external voltage transformers	1 53
Current measuring range extension / with external	Yes
current transformers	
Measuring category / for voltage measurement	CATIII
Supply voltage / between the outer conductors / at	831 V
AC / maximum permissible	
Continuous current / at AC / maximum permissible	10 A
Measuring category / for current measurement	CATIII
Zero-point suppression / for current measurement	0 10 %
Relative measurable current / at AC	
• minimum	1 %
• maximum	120 %
Apparent power consumption / for current	
measurement	
with measuring range 1 A / per phase	4 mVA
with measuring range 5 A / per phase	0.115 V·A
Measuring procedure / for current measurement	TRMS
Connections	
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	06 mm
Height / of the display	96 mm
Height / of the display	54 mm
Width	96 mm
Width	

of the display	72 mm
Depth	82 mm
Installation depth	77 mm
Installation depth / with expansion module / maximum	99 mm
Mounting type / panel mounting	Yes
Mounting position	vertical
Material thickness / of the control panel	
• maximum	4 mm
Net weight	543 g

Environmental conditions	
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 engineering frequencies 	IEC 61000-4-8
 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
Ambient temperature / during operation	
• minimum	-10 °C
• maximum	55 °C
Ambient temperature / during storage	
• minimum	-25 °C
• maximum	70 °C

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
as approval for USA
Approval Australia
Approval Russia
Reference code
acc. to DIN EN 61346-2
UL 61010-1, 2nd Ed. CAN/CSA-C22.2 NO. 61010-1-04
UL 61010-1, 2nd Ed. CAN/CSA-C22.2 NO. 61010-1-04
Yes
Yes

General Product	Declaration of Con-	other
Approval	formity	





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

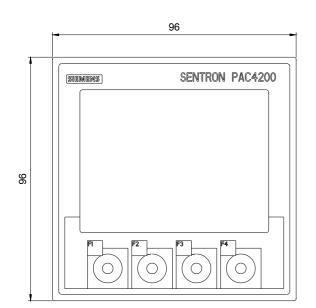
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...) http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=7KM4212-0BA00-3AA0

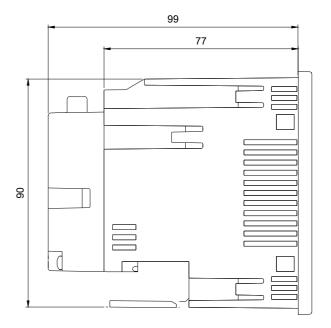
CAx-Online-Generator

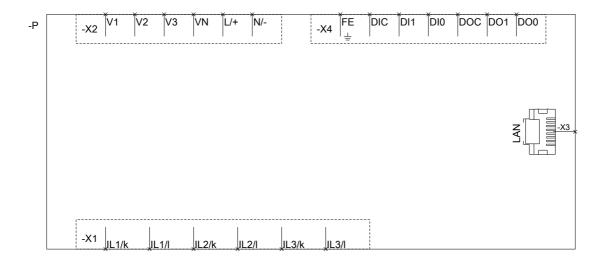
http://www.siemens.com/cax

Tender specifications

http://www.siemens.com/specifications







210 X 0323 Y O 11 0 1