SIEMENS

Data sheet 7KM4211-1BA00-3AA0

SENTRON, measuring device, 7KM PAC4200, LCD, L-L: 500 V, L-N: 289 V, 5 A, 3-phase, Modbus TCP, optionally Modbus RTU / PROFINET / PROFIBUS / DI/DQ, apparent / active / reactive energy / cos phi, harmonics: 2nd - 64th, THD, Class 0.2 acc. to IEC 61557-12 or Class 0.2 s acc. to IEC 62053-22, extra-low-voltage power supply unit 22 to 65 V +-10% (DC) screw terminals

Model	
product brand name	SENTRON
product designation	Measuring device for power system quality measurement
design of the product	compact
product type designation	7KM PAC4200
Measurements	
measuring procedure	
● for voltage measurement	TRMS
● for current measurement	TRMS
type of measured value detection	complete
voltage curve	Sinusoidal or distorted
measurable line frequency	
● initial value	45 Hz
● full-scale value	65 Hz
operating mode for measured value detection automatic line frequency detection	Yes
operating mode for measured value detection	
● set at 50 Hz	No
● set to 60 Hz	No
Supply voltage	
design of the power supply	Extra-low voltage power supply unit
type of voltage of the supply voltage	DC
supply voltage at DC	22 ... 65 V
Degree of protection protection class	
protection class IP on the front	IP65
operating resource protection class when installed	II
Suitability	
suitability for operation	Installation in stationary panels in closed rooms
Product Functions	
product function	
● voltage measurement	Yes
● current measurement	Yes
● active power measurement	Yes
● reactive power measurement	Yes
● frequency measurement	Yes
Display and operation	
design of the display	LCD
height of the display	54 mm
width of the display	72 mm

color of the background of the display	white
illuminance of display backlight adjustable	Yes
time-controlled reduction of the illuminance of display backlight possible	Yes
display contrast adjustable	Yes
national language on the display screen is supported	ger, en, fr, spa, ita, por, tur, rus, chi, pol
number of keys	4
Communication	
transfer rate minimum	10 000 kbit/s
transfer rate maximum	100 000 kbit/s
number of interfaces according to Fast Ethernet	1
type of electrical connection of the fast Ethernet interface	RJ45 (8P8C)
protocol at the Ethernet interface is supported	MODBUS TCP
transfer rate 1 for Ethernet	10 Mbit/s
transfer rate 2 for Ethernet	100 Mbit/s
Fault limits	
reference condition for metering accuracy	according to IEC61557-12
formula for relative total measurement inaccuracy	
● for measured variable voltage	+/- 0.2 %
● for measured variable current	+/- 0.2 %
● for measured variable output factor	+/- 2 %
● for measured variable active energy	Class 0.2 according to IEC61557-12 and/or class 0.2S according to IEC62053-22
● for measured variable reactive energy	Class 2 according to IEC61557-12 and/or IEC62053-23
● for measured variable THD	+/- 2 %
Inputs Outputs	
number of digital inputs	2
type of electrical connection at the digital inputs	screw-type terminals
operating conditions for digital inputs external voltage supply	Yes
input voltage at digital input at DC maximum	30 V
number of digital outputs	2
type of switching output	solid state
digital output version	switching or pulse output function
operating voltage as output voltage at DC maximum permissible	30 V
type of electrical connection at the digital outputs	screw-type terminals
output current	
● at digital output with signal <0> maximum	0.2 mA
● at digital output for signal <1> maximum	27 mA
● at the digital outputs at DC limited to 100 ms maximum	300 mA
internal resistance at the digital outputs	55 Ω
standard for pulse emitter	according to IEC62053-31
pulse duration	
● initial value	30 ms
● full-scale value	500 ms
adjustable time period minimum	10 ms
switching frequency at digital output maximum	20 Hz
property of the output short-circuit proof	Yes
measuring category for digital signals	CATI
Measuring inputs	
measurable supply voltage between (PE)N and L at AC maximum rated value	289 V
measurable supply voltage between (PE)N and L at AC	
● minimum	11.5 V
● maximum	346 V
measurable supply voltage between the line conductors at AC maximum rated value	500 V
measurable supply voltage between the line conductors at AC	
● minimum	20 V

● maximum	600 V
voltage measuring range extension with external voltage transformers	yes
line conductors and neutral conductors internal resistance for voltage measurement	1.05 MΩ
measuring category for voltage measurement	CAT III
measurable current	
● 1 at AC rated value	1 A
● 2 at AC rated value	5 A
relative measurable current at AC	
● minimum	10 %
● maximum	120 %
current measuring range extension with external current transformers	Yes
zero point suppression for current measurement	0 ... 10 %
apparent power consumption for current measurement	
● with measuring range 1 A per phase	4 mVA
● with measuring range 5 A per phase	0.115 VA
measuring category for current measurement	CATIII
Connections	
type of connectable conductor cross-sections	
● 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 voltage for AWG cables 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)
● at the measurement inputs for current for AWG cables solid	2x 20 to 14
type of electrical connection	
● at the measurement inputs for voltage	screw-type terminals
● at the measurement inputs for current	screw-type terminals
Mechanical Design	
fastening method DIN-rail mounting	No
size of Power Monitoring Device	size 96
height	96 mm
width	96 mm
depth	82 mm
installation depth	77 mm
net weight	537 g
mounting position	vertical
Environmental conditions	
ambient temperature during operation	
● minimum	-10 °C
● maximum	55 °C
ambient temperature during storage	
● minimum	-25 °C
● maximum	70 °C
relative humidity at 25 °C without condensation during operation maximum	95 %
installation altitude at height above sea level maximum	2 000 m
degree of pollution	2
Certificates	
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"
Approvals Certificates	
General Product Approval	

Metrological Approval | Confirmation

EMV	other	Dangerous goods	Environment
RCM	Confirmation	Dangerous goods information	Environmental Confirmations

Environment
Environmental Confirmations

Further information

Information on the packaging
https://support.industry.siemens.com/cs/ww/en/view/109813875
Information for data generation and storage
https://support.industry.siemens.com/cs/ww/en/view/109995012
Information- and Downloadcenter (catalogues, leaflets,...)
https://www.siemens.com/energy-automation
Industry Mall (Online ordering system)
https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=7KM4211-1BA00-3AA0
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/7KM4211-1BA00-3AA0
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)
https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=7KM4211-1BA00-3AA0
CAx-Online-Generator
https://www.siemens.com/cax
Tender specifications
https://www.siemens.com/specifications