SIEMENS

Show actual product details

Data sheet 7KM5412-6CA00-1EA8

SENTRON, measuring device and power quality recorder, 7KM PAC5200, Standard mounting rail enclosure without display, L-L: 690 V, L-N: 400 V, MODBUS TCP, apparent / active / reactive energy / cos phi, harmonics: 2nd - 40th, THD, Cl. 0.5 acc. to IEC61557- 12 or Cl. 0.5S acc. to IEC62053-22

Model		
product brand name		SENTRON
Design of the product		Advanced
Type of measured value detection		complete

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	ms	50
• Full-scale value	ms	3 600 000
Voltage curve		Sinusoidal or distorted
Measurable line frequency / initial value	Hz	45
Measurable line frequency / Full-scale value	Hz	65
Measuring procedure / for voltage measurement		TRMS

Voltage

Measurable current / 1 / at AC / Rated value	A	1
Measuring procedure / for current measurement		TRMS

Supply voltage

Supply voltage frequency / rated value		
• minimum	Hz	45
• maximum	Hz	65
Type of voltage / of the supply voltage		AC/DC
Measuring category / for supply voltage		CATIII
Apparent power consumption		
• with expansion module / maximum	V·A	6
• without expansion module / typical	V·A	6
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

Short-time current resistance (Icw) / limited to 1 s / rated value	A	100
Measurable current / 2 / at AC / Rated value	A	10

Suitability

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

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	s	1
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
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> / maximum	mA	300
• at digital output / for signal <1> / minimum	mA	100
• at the digital outputs / at DC / maximum	mA	100
Operating voltage / as output voltage / at DC / maximum permissible	V	250
Property of the output / Short-circuit proof		Yes
Internal resistance / at the digital outputs	Ω	35
Measuring category / for digital signals		Cat. III
Switching frequency / at digital output / maximum	Hz	10
Transfer rate / 1 / for fast Ethernet	Mbit/s	10
Transfer rate / 2 / for fast Ethernet	Mbit/s	100

Measuring inputs

Outer conductors and neutral conductors internal resistance / for voltage measurement	MΩ	6
Measurable supply voltage		

• between (PE)N and L / at AC / minimum	V	6.5
• between (PE)N and L / at AC / maximum	V	831
• between (PE)N and L / at AC / maximum rated value	V	400
• between the outer conductors / at AC / minimum	V	831
• between the outer conductors / at AC / maximum	V	831
• between the outer conductors / at AC / maximum rated value	V	690
Voltage measuring range extension / with external voltage transformers		Yes
Measuring category / for voltage measurement		CATIII
Supply voltage / between the outer conductors / at AC / maximum permissible	V	831
Consumed active power / for current measurement / per phase	mW	2.5
Continuous current / at AC / maximum permissible	A	10
Current measuring range extension / with external current transformers		Yes
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	V·A	2

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

Mounting position		vertical
Mounting type / panel mounting		No
Net weight	g	754

Environmental conditions

Degree of pollution		2
Installation altitude / at height above sea level / maximum	m	2 000

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	°C	-25
• during operation / maximum	°C	55
• during storage / minimum	°C	-40
• during storage / maximum	°C	70

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

General Product Approval	Declaration of Conformity
EAC	CE EG-Konf.

Further information

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

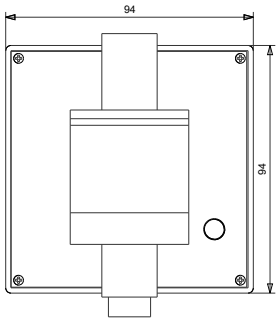
Industry Mall (Online ordering system)
https://eb.automation.siemens.com/mall/en/WW/Catalog/Product/7KM5412-6CA00-1EA8

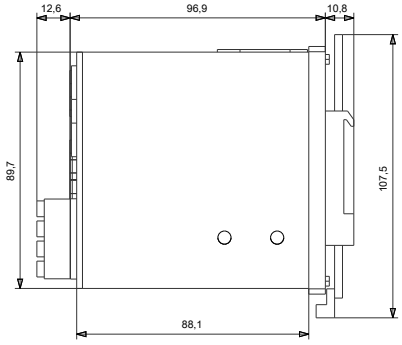
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
http://support.automation.siemens.com/WW/view/en/7KM5412-6CA00-1EA8/all

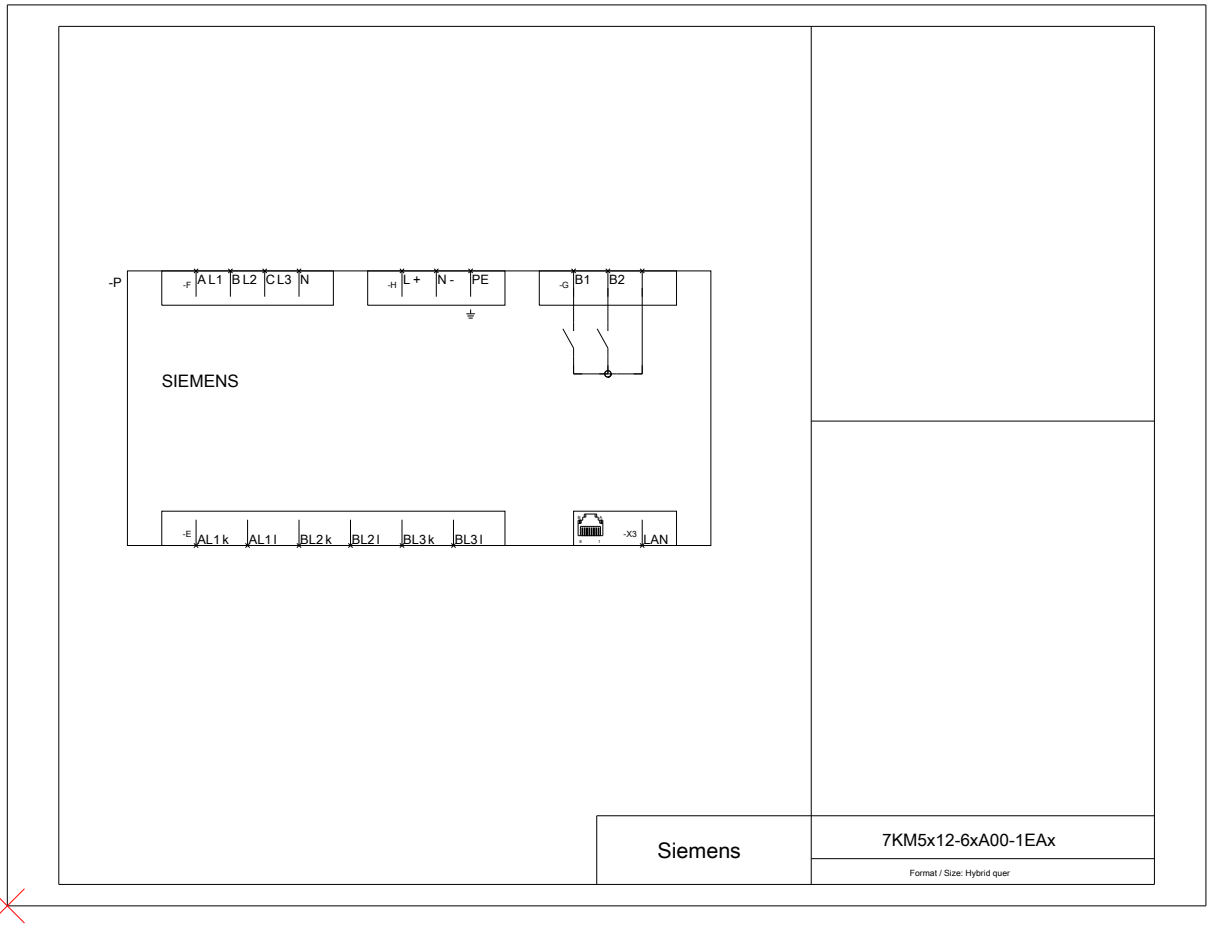
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=7KM5412-6CA00-1EA8

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

Tender specifications
http://ausschreibungstexte.siemens.com/tiplv







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