SIEMENS

Show actual product details

Data sheet 7KM5412-6BA00-1EA2

SENTRON, measuring device and power quality recorder, 7KM PAC5200, LCD, 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		
Cutout width	mm	94
Cutout height	mm	94
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	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		IP40
• 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		Installation in stationary control panels in closed rooms
Adjustable time period / minimum	ms	50
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		de, en
Product function / Display can be inverted (positive <=> negative mode)		Yes
Horizontal image resolution		128
Vertical screen resolution		96

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 61000-4-23
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		
Height	mm	96
Height / of the display	mm	54

Width	mm	96
Width		
• of the display	mm	72
Depth	mm	147.9
Mounting position		vertical
Installation depth	mm	102.9
Mounting type / panel mounting		Yes
Net weight	g	809

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

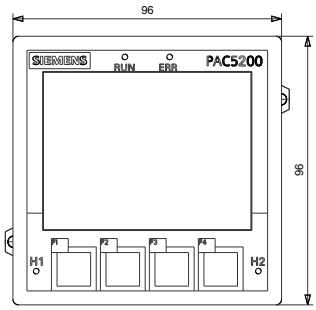
Industry Mall (Online ordering system)
https://eb.automation.siemens.com/mall/en/WW/Catalog/Product/7KM5412-6BA00-1EA2

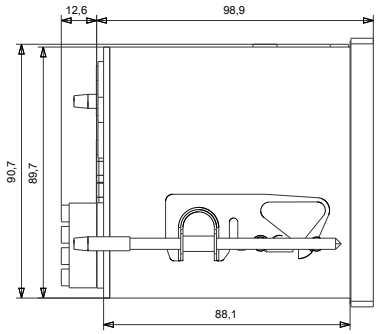
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
http://support.automation.siemens.com/WW/view/en/7KM5412-6BA00-1EA2/all

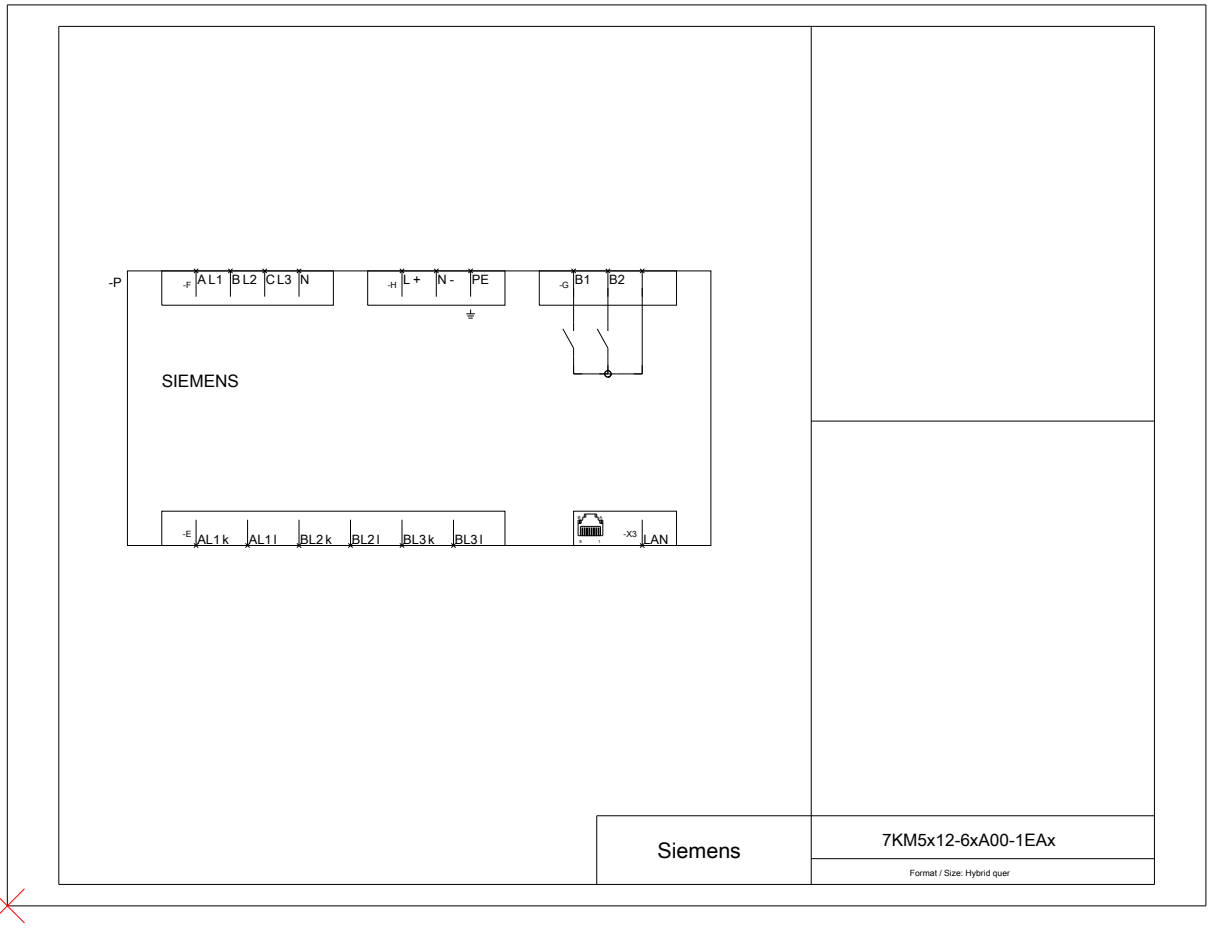
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=7KM5412-6BA00-1EA2

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

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







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