Data sheet



SENTRON PAC4200; LCD; 96X96MM POWER MONITORING DEVICE PANEL MOUNT TYPE FOR MEASUREMENT OF ELECTR. VALUES VAUX: 110-340VDC / 95-240VAC VIN: MAX.690/400V; 45-65HZ AMPIN: X/1A OR X/5A AC COMPRESSION TYPE TERMINALS

Model	
product brand name	SENTRON
Product designation	multimeter
Design of the product	compact
Product type designation	PAC4200
Type of measured value detection	complete
Design of the power supply	Wide-range power supply

General technical data		
Cutout width	mm	92
Cutout height	mm	92
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	30
Full-scale value	ms	500
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
MTBF	у	169.7
Equipment marking / acc. to DIN 40719 extended according to IEC 204-2 / acc. to IEC 750		Р

oltage Measurable current / 1 / with AC / Rated value	۸	1
	Α	1
Measuring procedure / for current measurement		TRMS
upply 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	32
 without expansion module / typical 	V·A	11
Active power consumption		
 with expansion module / typical 	W	11
 without expansion module / typical 	W	5.5
Relative symmetrical tolerance / of the supply voltage	%	10
rotection class		
Protection class IP		
• on the front		IP65
• Rear side		IP20
Operating resource protection class / when installed		II
lectricity		
Short-time current resistance (Icw) / limited to 1 s / Rated value	А	100
Measurable current / 2 / with AC / Rated value	Α	5
uitability		
Suitability for operation		Installation in stationary control panels in closed rooms
Adjustable time period / minimum	ms	10
roduct 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
- c.ago mododiomon		
Current measurement		Yes

Display and operation		
Design of the display	LCD, graphical, monochrome	
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	

Communication		
Refresh time / at the interface		
for instantaneous values / typical	ms	200
Number of active connections / at the Ethernet interface		3
Number of logical ports / at the Ethernet interface / is supported		2
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	kbit/s	10 000
• maximum	kbit/s	100 000
• 1 / for Ethernet	Mbit/s	10
• 2 / for Ethernet	Mbit/s	100

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	V	19
• for DC / Rated value	V	24
• for DC / maximum	V	30
 Full-scale value for signal<0> recognition 	V	10
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 outputs		screw-type terminals
Type of electrical connection / at the digital inputs		screw-type terminals
Input current / at digital input		
• for signal <1>	mA	4
Output current		
at digital output / with signal <0> / maximum	mA	0.2
at digital output / for signal <1> / maximum	mA	27
at digital output / for signal <1> / minimum	mA	10
 at the digital outputs / for DC / limited to 100 ms / maximum 	mA	300
• at the digital outputs / for DC / maximum	mA	100
Output delay / at digital output		
• for signal <0> to <1> / maximum	ms	5
• for signal <1> to <0> / maximum	ms	5
Operating conditions for digital inputs / external voltage supply		Yes
Operating voltage / as output voltage / for DC / maximum permissible	V	30
Property of the output / Short-circuit proof		Yes
Input delay time / at digital input		
• for signal <0> to <1> / maximum	ms	5
• for signal <1> to <0> / maximum	ms	5
Internal resistance / at the digital outputs	Ω	55
Measuring category / for digital signals		CATI
Switching frequency / at digital output / maximum	Hz	20
Transfer rate / 1 / for fast Ethernet	Mbit/s	100
Measuring inputs		
Outer conductors and neutral conductors internal	ΜΩ	1.05
resistance / for voltage measurement		
Measurable supply voltage	V	44.5
• between (PE)N and L / with AC / minimum	V	11.5
between (PE)N and L / with AC / maximum	V	480

 between (PE)N and L / with AC / maximum rated value 	V	400
 between the outer conductors / with AC / minimum 	V	20
 between the outer conductors / with AC / maximum 	V	828
 between the outer conductors / with 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 / with AC / maximum permissible	V	831
Continuous current / with AC / maximum permissible	Α	10
Current measuring range extension / with external		Yes
current transformers		
Measuring category / for current measurement		CATIII
Zero-point suppression / for current measurement		0 10 %
Relative measurable current / with AC		
• minimum	%	1
• maximum	%	120
Apparent power consumption / for current measurement		
with measuring range 1 A / per phase	mVA	4
• with measuring range 5 A / per phase	mVA	115
Connections		
 Type of connectable conductor cross-section / at the digital inputs 		
— for AWG conductors / solid		1x 24 12
— solid		1x (0.2 2.5 mm2), 2x (0.2 1.0 mm2)
— finely stranded / with core end processing		1x (0.25 2.5 mm2), 2x (0.25 1.0 mm2)
 Type of connectable conductor cross-section / at the digital outputs 		
— for AWG conductors / solid		1x 24 12
— solid		1x (0.2 2.5 mm2), 2x (0.2 1.0 mm2)
— finely stranded / with core end processing		1x (0.25 2.5 mm2), 2x (0.25 1.0 mm2)
 Type of connectable conductor cross-section / at the inputs for supply voltage 		
— for AWG conductors / solid		2x 20 to 14
— solid		1x (0.5 4 mm2), 2x (0.5 2.5 mm2)
finely stranded / with core end processing		1x (0.5 4 mm2), 2x (0.5 2.5 mm2)
Type of connectable conductor cross-section		(3.5 2.5 min2), 2 (3.5 1.5 min2)
 — at the measurement inputs for voltage 		

	0., 00 to 44
— for AWG conductors / solid	2x 20 to 14
— solid	1x (0.5 4 mm²), 2x (0.5 2.5 mm²)
— finely stranded / with core end	1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)
processing	
— at the measurement inputs for current	
— for AWG conductors / solid	2x 20 to 14
— solid	1x (0.5 4 mm2), 2x (0.5 2.5 mm2)
— finely stranded / with core end	1x (0.5 2.5 mm2), 2x (0.5 1.5 mm2)
processing	
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	

Mechanical Design		
Height	mm	96
Height / of the display	mm	54
Width	mm	96
Width		
of the display	mm	72
Depth	mm	82
mounting position		vertical
Installation depth	mm	77
Installation depth / with expansion module / maximum	mm	99
Mounting type / panel mounting		Yes
Material thickness / of the control panel		
• maximum	mm	4

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
 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
Relative humidity / at 25 °C / without condensation /		
during operation		
• minimum	%	5
• maximum	%	95
Ambient temperature		
during operation / minimum	°C	-10
 during operation / maximum 	°C	55
during storage / minimum	°C	-25
during storage / maximum	°C	70

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"
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
Equipment marking / acc. to DIN EN 61346-2		Р

General Product Approval EMC Declaration of other Conformity



CB









other

other

Confirmation



PROFINET-Certification

Profibus

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/7KM42120BA003AA0

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

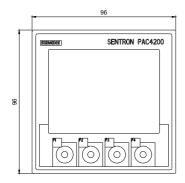
http://support.automation.siemens.com/WW/view/en/7KM42120BA003AA0/all

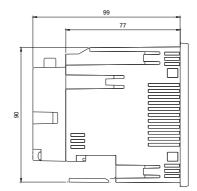
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...) http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=7KM42120BA003AA0

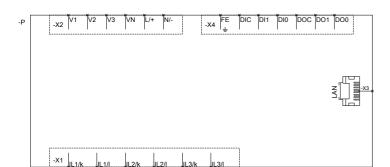
CAx-Online-Generator

http://www.siemens.com/cax

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







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