



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
Voltage curve		Sinusoidal or distorted
Measurable line frequency / Full-scale value	Hz	65
Measuring procedure / for voltage measurement		TRMS
MTBF	y	169.7
Reference code / acc. to DIN 40719 extended according to IEC 204-2 / acc. to IEC 750		P

Voltage		
Measurable current / 1 / with 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(s) / maximum	V·A	32
• without expansion module(s) / typical	V·A	11
Active power consumption		
• with expansion module(s) / typical	W	11
• without expansion module(s) / typical	W	5.5
Relative symmetrical tolerance / of the supply voltage	%	10

Protection class		
Operating resource protection class		
• when installed		II

Electricity		
Short-time current resistance (I_{cw}) / limited to 1 s		
• Rated value	A	100
Measurable current / 2 / with AC		
• Rated value	A	5

Suitability		
Suitability for use		Installation in stationary control panels in closed rooms

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, 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		
<ul style="list-style-type: none"> • 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
Number of interfaces / acc. to Fast Ethernet		1
Design of cable / connectable / Twisted pair		Yes
Product function / at the Ethernet interface		
<ul style="list-style-type: none"> • auto-MDI(X) • Autonegotiation • serial gateway 		Yes Yes Yes
Protocol		
<ul style="list-style-type: none"> • at the Ethernet interface / is supported • is supported 		MODBUS TCP MODBUS TCP
Transfer rate		
<ul style="list-style-type: none"> • minimum 	kbit/s	10 000
<ul style="list-style-type: none"> • maximum 	kbit/s	100 000
<ul style="list-style-type: none"> • 1 / for Ethernet 	Mbit/s	10
<ul style="list-style-type: none"> • 2 / for Ethernet 	Mbit/s	100

Fault limits

Reference condition / for metering accuracy		Acc. to IEC61557-12
Formula for relative total measurement inaccuracy		
<ul style="list-style-type: none"> • for measured variable reactive energy 		Class 2 according to IEC61557-12 and/or IEC62053-23
<ul style="list-style-type: none"> • for measured variable output 		+/- 0,5 %
<ul style="list-style-type: none"> • for measured variable output factor 		+/- 2 %
<ul style="list-style-type: none"> • for measured variable voltage 		+/- 0,2 %
<ul style="list-style-type: none"> • for measured variable current 		+/- 0,2 %
<ul style="list-style-type: none"> • for measured variable THD 		+/- 2 %
<ul style="list-style-type: none"> • 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		
---	--	--

<ul style="list-style-type: none"> • initial value for signal<1>-recognition 	V	19
<ul style="list-style-type: none"> • for DC / Rated value 	V	24
<ul style="list-style-type: none"> • for DC / maximum 	V	30
<ul style="list-style-type: none"> • 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
Design of the electrical connection / at the digital outputs		screw-type terminals
Design of the electrical connection / at the digital inputs		screw-type terminals
Input current / at digital input		
<ul style="list-style-type: none"> • for signal <1> 	mA	4
Output current		
<ul style="list-style-type: none"> • at digital output / with signal <0> / maximum 	mA	0.2
<ul style="list-style-type: none"> • at digital output / for signal <1> / maximum 	mA	27
<ul style="list-style-type: none"> • at digital output / for signal <1> / minimum 	mA	10
<ul style="list-style-type: none"> • at the digital outputs / for DC / limited to 100 ms / maximum 	mA	300
<ul style="list-style-type: none"> • at the digital outputs / for DC / maximum 	mA	100
Output delay / at digital output		
<ul style="list-style-type: none"> • for signal <0> to <1> / maximum 	ms	5
<ul style="list-style-type: none"> • 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		
<ul style="list-style-type: none"> • for signal <0> to <1> / maximum 	ms	5
<ul style="list-style-type: none"> • 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 resistance / for voltage measurement	M Ω	1.05
Measurable supply voltage		
<ul style="list-style-type: none"> • between (PE)N and L / with AC / minimum 	V	11.5
<ul style="list-style-type: none"> • 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	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 %
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

<ul style="list-style-type: none"> • Type of connectable conductor cross-section / at the digital inputs <ul style="list-style-type: none"> — for AWG conductors / solid — solid — finely stranded / with core end processing • Type of connectable conductor cross-section / at the digital outputs <ul style="list-style-type: none"> — for AWG conductors / solid — solid — finely stranded / with core end processing • Type of connectable conductor cross-section / at the inputs for supply voltage <ul style="list-style-type: none"> — for AWG conductors / solid — solid — finely stranded / with core end processing • Type of connectable conductor cross-section <ul style="list-style-type: none"> — at the measurement inputs for voltage 		<p>1x 24 ... 12</p> <p>1x (0.2 ... 2.5 mm²), 2x (0.2 ... 1.0 mm²)</p> <p>1x (0.25 ... 2.5 mm²), 2x (0.25 ... 1.0 mm²)</p> <p>1x 24 ... 12</p> <p>1x (0.2 ... 2.5 mm²), 2x (0.2 ... 1.0 mm²)</p> <p>1x (0.25 ... 2.5 mm²), 2x (0.25 ... 1.0 mm²)</p> <p>2x 20 to 14</p> <p>1x (0.5 ... 4 mm²), 2x (0.5 ... 2.5 mm²)</p> <p>1x (0.5 ... 2.5 mm²), 2 (0.5 ... 1.5 mm²)</p>
--	--	---

<ul style="list-style-type: none"> — for AWG conductors / solid — solid — finely stranded / with core end processing 	<ul style="list-style-type: none"> 2x 20 to 14 1x (0.5 ... 4 mm²), 2x (0.5 ... 2.5 mm²) 1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²)
<ul style="list-style-type: none"> — at the measurement inputs for current — for AWG conductors / solid — solid — finely stranded / with core end processing 	<ul style="list-style-type: none"> 2x 20 to 14 1x (0.5 ... 4 mm²), 2x (0.5 ... 2.5 mm²) 1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²)
Design of the electrical connection <ul style="list-style-type: none"> • at the inputs for supply voltage • at the measurement inputs for voltage • at the measurement inputs for current • of the fast Ethernet interface 	<ul style="list-style-type: none"> screw-type terminals screw-type terminals screw-type terminals RJ45 (8P8C)

Mechanical Design

Height	mm	96
Height		
<ul style="list-style-type: none"> • of the display 	mm	54
Width	mm	96
Width		
<ul style="list-style-type: none"> • of the display 	mm	72
Depth	mm	82
mounting position		vertical
Installation depth	mm	77
Installation depth / with expansion module(s) / maximum	mm	99
Mounting type		
<ul style="list-style-type: none"> • panel mounting 		Yes
Material thickness / of the control panel		
<ul style="list-style-type: none"> • maximum 	mm	4

Environmental conditions

Installation altitude / at height above sea level / maximum	m	2 000
Standard		
<ul style="list-style-type: none"> • for EMC for industrial sector 		IEC 61000-6-2
<ul style="list-style-type: none"> • for EMC against unloading 		IEC 61000-4-2
<ul style="list-style-type: none"> • for EMC against high-frequency electromagnetic fields 		IEC 61000-4-3
<ul style="list-style-type: none"> • for EMC against conducted LF disturbance variables (industry) 		IEC 61000-6-4
<ul style="list-style-type: none"> • for EMC against conducted disturbance variables via HF fields 		IEC 61000-4-6

<ul style="list-style-type: none"> • for EMC against magnetic fields with power engineering frequencies • for EMC against quick, transient electrical disturbances • for EMC against voltage drops and interruptions • for EMC against surge voltages • for free fall • for pulse emitter • for cyclic, environmental damp heat check • for environmental coldness check • for environmental dry heat check 		<p>IEC 61000-4-8</p> <p>IEC 61000-4-4</p> <p>IEC 61000-4-11</p> <p>IEC 61000-4-5</p> <p>IEC 60068-2-32</p> <p>according to IEC62053-31</p> <p>IEC 60068-2-30</p> <p>IEC 60068-2-1</p> <p>IEC 60068-2-2</p>
<p>Relative humidity / at 25 °C / without condensation / during operation</p> <ul style="list-style-type: none"> • minimum • maximum 	<p>%</p> <p>%</p>	<p>5</p> <p>95</p>
<p>Ambient temperature</p> <ul style="list-style-type: none"> • during operation / minimum • during operation / maximum • during storage / minimum • during storage / maximum 	<p>°C</p> <p>°C</p> <p>°C</p> <p>°C</p>	<p>-10</p> <p>55</p> <p>-25</p> <p>70</p>

Certificates

<p>Certificate of suitability</p> <ul style="list-style-type: none"> • as EC declaration of conformity • as approval for Canada • as approval for USA • Approval Australia • Approval Russia 		<p>IEC 61010-1: 2001 (2nd Ed.) with Corr. 1, EN 61010-1: 2001 (2nd Ed.) and DIN EN 61010-1:2002 with "Berichtigung 1"</p> <p>UL 61010-1, 2nd Ed. CAN/CSA-C22.2 NO. 61010-1-04</p> <p>UL 61010-1, 2nd Ed. CAN/CSA-C22.2 NO. 61010-1-04</p> <p>Yes</p> <p>Yes</p>
<p>Reference code</p> <ul style="list-style-type: none"> • acc. to DIN EN 61346-2 		<p>P</p>

General Product Approval	EMC	Declaration of Conformity
--------------------------	-----	---------------------------

CB

CB



GOST



UL

EAC



C-TICK



EG-Konf.

other

[other](#)

[Confirmation](#)



Profibus

[PROFINET-Certification](#)

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/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, ...)

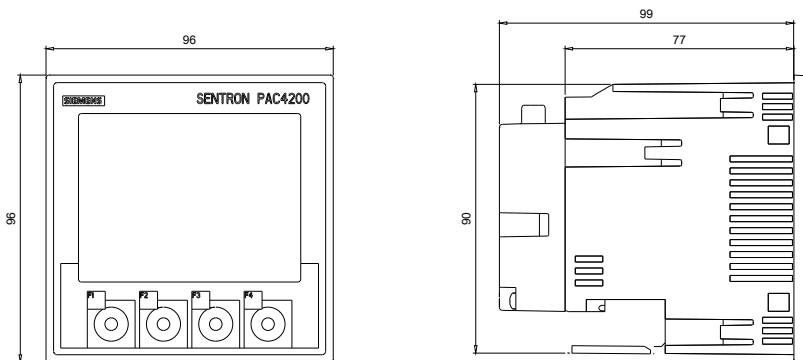
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=7KM42120BA003AA0

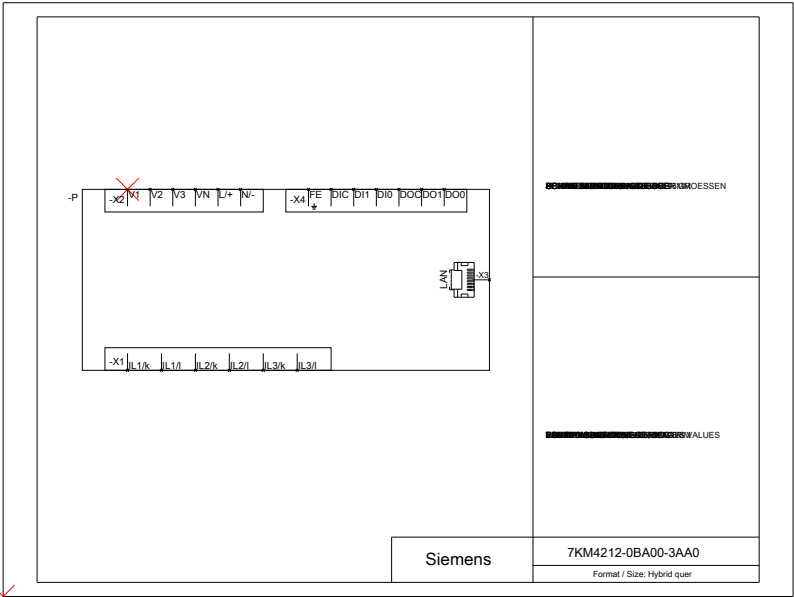
CAX-Online-Generator

<http://www.siemens.com/cax>

Tender specifications

<http://ausschreibungstexte.siemens.com/tiplv>





last modified:

01.12.2014