



SENTRON PAC3200; 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		basic
Product type designation		PAC3200
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

<b>Voltage curve</b>		Sinusoidal or distorted
<b>Measurable line frequency / initial value</b>	Hz	45
<b>Measurable line frequency / Full-scale value</b>	Hz	65
<b>Measuring procedure / for voltage measurement</b>		RMS
<b>MTBF</b>	y	185.8
<b>Equipment marking / acc. to DIN 40719 extended according to IEC 204-2 / acc. to IEC 750</b>		P

### Voltage

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

### Supply voltage

<b>Supply voltage frequency / Rated value</b>		
• minimum	Hz	65
• maximum	Hz	45
<b>Type of voltage / of the supply voltage</b>		AC/DC
<b>Measuring category / for supply voltage</b>		CATIII
<b>Apparent power consumption</b>		
• with expansion module / maximum	V·A	8
• without expansion module / typical	V·A	6
<b>Relative symmetrical tolerance / of the supply voltage</b>	%	10

### Protection class

<b>Protection class IP</b>		
• on the front		IP65
• Rear side		IP20
<b>Operating resource protection class / when installed</b>		II

### Electricity

<b>Short-time current resistance (I<sub>cw</sub>) / limited to 1 s / Rated value</b>	A	100
<b>Measurable current / 2 / at AC / Rated value</b>	A	5

### Suitability

<b>Suitability for operation</b>		Installation in stationary control panels in closed rooms
<b>Adjustable time period / minimum</b>	ms	10

### Product function

<b>Product function</b>		
• reactive power measurement		Yes
• frequency measurement		Yes
• pulse measurement		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, chi
Horizontal image resolution		128
Vertical screen resolution		96

Communication		
Refresh time / at the interface		
<ul style="list-style-type: none"> <li>• minimum</li> </ul>	s	0.33
<ul style="list-style-type: none"> <li>• maximum</li> </ul>	s	1
Design of cable / connectable / Twisted pair		Yes
Protocol		
<ul style="list-style-type: none"> <li>• at the Ethernet interface / is supported</li> <li>• is supported</li> </ul>		MODBUS TCP SEABus TCP / MODBUS TCP (switchable)
Transfer rate		
<ul style="list-style-type: none"> <li>• minimum</li> </ul>	kbit/s	10 000
<ul style="list-style-type: none"> <li>• maximum</li> </ul>	kbit/s	10 000

Fault limits		
Reference condition / for metering accuracy		Acc. to IEC62053-22 and IEC62053-23
Formula for relative total measurement inaccuracy		
<ul style="list-style-type: none"> <li>• for measured variable reactive energy</li> </ul>		Class 2 according to IEC61557-12 and/or IEC62053-23
<ul style="list-style-type: none"> <li>• for measured variable output</li> </ul>		+/- 0,5 %
<ul style="list-style-type: none"> <li>• for measured variable output factor</li> </ul>		+/- 0,5 %
<ul style="list-style-type: none"> <li>• for measured variable voltage</li> </ul>		+/- 0,3 %
<ul style="list-style-type: none"> <li>• for measured variable current</li> </ul>		+/- 0,2 %
<ul style="list-style-type: none"> <li>• for measured variable active energy</li> </ul>		Cl. 0.5 acc. to... IEC62053-22

Inputs Outputs		
Input voltage / at digital input		
<ul style="list-style-type: none"> <li>• initial value for signal&lt;1&gt;-recognition</li> </ul>	V	13
<ul style="list-style-type: none"> <li>• at DC / Rated value</li> </ul>	V	24
<ul style="list-style-type: none"> <li>• Full-scale value for signal&lt;0&gt; recognition</li> </ul>	V	8
Number of digital outputs		1
Number of digital inputs		1
Digital output version		switching or pulse output function
Input current / at digital input		
<ul style="list-style-type: none"> <li>• for signal &lt;1&gt;</li> </ul>	mA	7
Output current		
<ul style="list-style-type: none"> <li>• at digital output / with signal &lt;0&gt; / maximum</li> </ul>	mA	0.2

• at digital output / for signal <1> / maximum	mA	27
• at the digital outputs / at DC / maximum	mA	100
<b>Output delay / at digital output</b>		
• for signal <0> to <1> / maximum	ms	5
• for signal <1> to <0> / maximum	ms	5
<b>Operating voltage / as output voltage / at DC / maximum permissible</b>	V	30
<b>Property of the output / Short-circuit proof</b>		Yes
<b>Input delay time / at digital input</b>		
• for signal <0> to <1> / maximum	ms	5
• for signal <1> to <0> / maximum	ms	5
<b>Internal resistance / at the digital outputs</b>	Ω	55
<b>Measuring category / for digital signals</b>		CATII
<b>Switching frequency / at digital output / maximum</b>	Hz	17
<b>Transfer rate / 1 / for fast Ethernet</b>	Mbit/s	10

Measuring inputs		
<b>Outer conductors and neutral conductors internal resistance / for voltage measurement</b>	MΩ	1.05
<b>Measurable supply voltage</b>		
• between (PE)N and L / at AC / minimum	V	40
• between (PE)N and L / at AC / maximum	V	480
• between (PE)N and L / at AC / maximum rated value	V	400
• between the outer conductors / at AC / minimum	V	70
• between the outer conductors / at AC / maximum	V	831
• between the outer conductors / at AC / maximum rated value	V	690
<b>Voltage measuring range extension / with external voltage transformers</b>		Yes
<b>Measuring category / for voltage measurement</b>		CATIII
<b>Supply voltage / between the outer conductors / at AC / maximum permissible</b>	V	831
<b>Active power consumption / for current measurement / per phase</b>	mW	115
<b>Continuous current / at AC / maximum permissible</b>	A	10
<b>Current measuring range extension / with external current transformers</b>		Yes
<b>Measuring category / for current measurement</b>		CATIII
<b>Zero-point suppression / for current measurement</b>		0,1 ... 10 %
<b>Relative measurable current / at AC</b>		
• minimum	%	1
• maximum	%	120

## Connections

<ul style="list-style-type: none"> <li>• Type of connectable conductor cross-section / at the digital inputs <ul style="list-style-type: none"> <li>— for AWG conductors / solid</li> <li>— solid</li> <li>— finely stranded / with core end processing</li> </ul> </li> <li>• Type of connectable conductor cross-section / at the digital outputs <ul style="list-style-type: none"> <li>— for AWG conductors / solid</li> <li>— solid</li> <li>— finely stranded / with core end processing</li> </ul> </li> <li>• Type of connectable conductor cross-section / at the inputs for supply voltage <ul style="list-style-type: none"> <li>— for AWG conductors / solid</li> <li>— solid</li> <li>— finely stranded / with core end processing</li> </ul> </li> <li>• Type of connectable conductor cross-section <ul style="list-style-type: none"> <li>— at the measurement inputs for voltage <ul style="list-style-type: none"> <li>— for AWG conductors / solid</li> <li>— solid</li> <li>— finely stranded / with core end processing</li> </ul> </li> <li>— at the measurement inputs for current <ul style="list-style-type: none"> <li>— for AWG conductors / solid</li> <li>— solid</li> <li>— finely stranded / with core end processing</li> </ul> </li> </ul> </li> </ul>		<p>2x 24 ... 18</p> <p>1x (0.2 ... 2.5 mm<sup>2</sup>), 2x (0.2 ... 1.0 mm<sup>2</sup>)</p> <p>1x (0.25 ... 2.5 mm<sup>2</sup>), 2x (0.25 ... 1.0 mm<sup>2</sup>)</p> <p>2x 24 ... 18</p> <p>1x (0.2 ... 2.5 mm<sup>2</sup>), 2x (0.2 ... 1.0 mm<sup>2</sup>)</p> <p>1x (0.25 ... 2.5 mm<sup>2</sup>), 2x (0.25 ... 1.0 mm<sup>2</sup>)</p> <p>2x 20 to 14</p> <p>1x (0.5 ... 4 mm<sup>2</sup>), 2x (0.5 ... 2.5 mm<sup>2</sup>)</p> <p>1x (0.5 ... 2.5 mm<sup>2</sup>), 2 (0.5 ... 1.5 mm<sup>2</sup>)</p> <p>2x 20 to 14</p> <p>1x (0.5 ... 4 mm<sup>2</sup>), 2x (0.5 ... 2.5 mm<sup>2</sup>)</p> <p>1x (0.5 ... 2.5 mm<sup>2</sup>), 2x (0.5 ... 1.5 mm<sup>2</sup>)</p> <p>2x 20 to 14</p> <p>1x (0.5 ... 4 mm<sup>2</sup>), 2x (0.5 ... 2.5 mm<sup>2</sup>)</p> <p>1x (0.5 ... 2.5 mm<sup>2</sup>), 2x (0.5 ... 1.5 mm<sup>2</sup>)</p>
<p><b>Type of electrical connection</b></p> <ul style="list-style-type: none"> <li>• of the fast Ethernet interface</li> </ul>		RJ45 (8P8C)

## Mechanical Design

<b>Height</b>	mm	96
Height / of the display	mm	54
<b>Width</b>	mm	96
<b>Width</b>		
• of the display	mm	72
<b>Depth</b>	mm	56
<b>mounting position</b>		vertical
<b>Installation depth</b>	mm	51
Mounting type / panel mounting		Yes

## Environmental conditions

<b>Installation altitude / at height above sea level / maximum</b>	m	2 000
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<b>Standard</b>		
<ul style="list-style-type: none"> <li>• for EMC for industrial sector</li> <li>• for EMC against unloading</li> <li>• for EMC against high frequency fields</li> <li>• for EMC against conducted LF disturbance variables (industry)</li> <li>• for EMC against conducted disturbance variables via HF fields</li> <li>• for EMC against magnetic fields with power engineering frequencies</li> <li>• for EMC against quick, transient electrical disturbances</li> <li>• for EMC against voltage drops and interruptions</li> <li>• for EMC against surge voltages</li> <li>• for free fall</li> <li>• for pulse emitter</li> <li>• for cyclic, environmental damp heat check</li> <li>• for environmental coldness check</li> <li>• for environmental dry heat check</li> </ul>		<p>IEC 61000-6-2 respectively IEC 61326-1:2005, table 2</p> <p>IEC 61000-4-2: 2001-04</p> <p>IEC 61000-4-3: 2006-02</p> <p>IEC 61000-6-4, Group 1 Klasse A / CISPR11 Gruppe 1 Klasse A FCC Part 15 Subpart B Class A</p> <p>IEC 61000-4-6: 2001-12</p> <p>IEC 61000-4-8: 2001-03</p> <p>IEC 61000-4-4: 2005-07</p> <p>IEC 61000-4-11: 2004-03</p> <p>IEC 61000-4-5: 2001-12</p> <p>IEC 60068-2-32: 1975 according to IEC62053-31</p> <p>IEC 60068-2-30</p> <p>IEC 60068-2-1</p> <p>IEC 60068-2-2</p>
<b>Relative humidity / at 25 °C / without condensation / during operation</b>		
<ul style="list-style-type: none"> <li>• minimum</li> <li>• maximum</li> </ul>	<p>%</p> <p>%</p>	<p>5</p> <p>95</p>
<b>Ambient temperature</b>		
<ul style="list-style-type: none"> <li>• during operation / minimum</li> <li>• during operation / maximum</li> <li>• during storage / minimum</li> <li>• during storage / maximum</li> </ul>	<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

<b>Certificate of suitability</b>		
<ul style="list-style-type: none"> <li>• as EC declaration of conformity</li> <li>• as approval for Canada</li> <li>• as approval for USA</li> </ul>		<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>
Equipment marking / acc. to DIN EN 61346-2		P

General Product Approval	Declaration of Conformity	other
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**CB**

CB



UL

**EAC**



EG-Konf.

[Bestätigungen](#)



Profibus

**other**

[PROFINET-Zertifizierung](#)

[Metrologische Zulassung](#)

**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/7KM21120BA003AA0>

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

<http://support.automation.siemens.com/WW/view/en/7KM21120BA003AA0/all>

**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)**

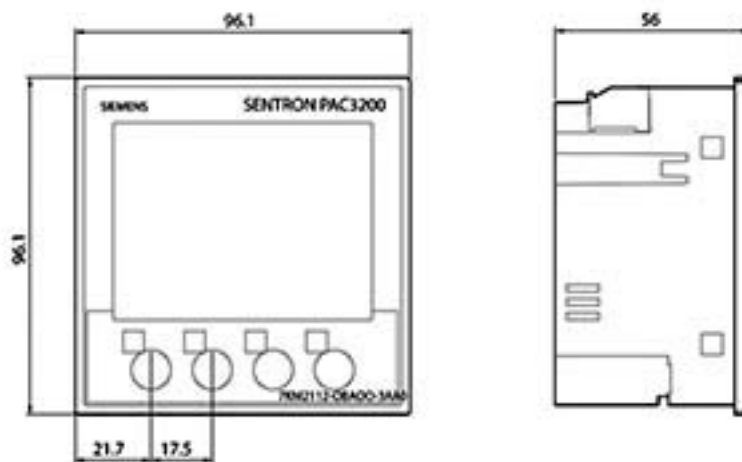
[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=7KM21120BA003AA0](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=7KM21120BA003AA0)

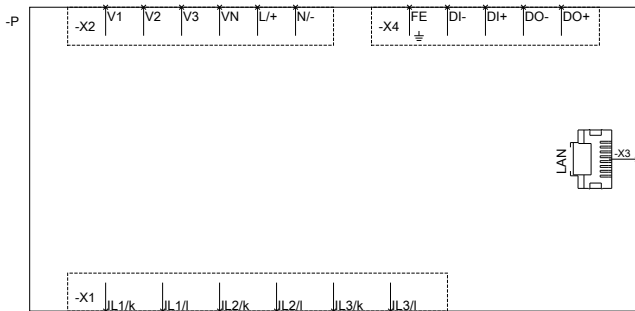
**CAX-Online-Generator**

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

**Tender specifications**

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





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last modified:

22.09.2015