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Data sheet 7KM3133-0BA00-3AA0

SENTRON PAC3100; LCD; 96X96MM POWER MONITORING DEVICE PANEL MOUNT TYPE FOR MEASUREMENT OF ELECTR. VALUES UC: 110-250VDC / 100-240VAC UE: MAX.480/277V; 45-65HZ IE: X/5A AC TERMINAL CONNECTION

Model		
product brand name		SENTRON
Product designation		multimeter
Design of the product		basic
Product type designation		PAC3100
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

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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
Equipment marking / acc. to DIN 40719 extended according to IEC 204-2 / acc. to IEC 750		P

Voltage

Measurable current / 1 / at AC / Rated value	A	5
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		
• without expansion module / typical	V·A	10
Relative symmetrical tolerance / of the supply voltage	%	10

Protection class

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

Electricity

Short-time current resistance (Icw) / limited to 1 s / Rated value	A	100

Suitability

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

Product function

Product function		
• Illuminance of display backlighting adjustable		No
• Time-controlled reduction of the illuminance of display backlighting possible		Yes
• reactive power measurement		Yes
• frequency measurement		Yes
• pulse measurement		No
• Display contrast adjustable		Yes
• voltage measurement		Yes
• Current measurement		Yes

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• 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
Product function / Display can be inverted (positive <=> negative mode)		Yes
Horizontal image resolution		128
Vertical screen resolution		96

Communication		
Protocol		
• is supported		MODBUS RTU
Transfer rate		
• minimum	kbit/s	4.8
• maximum	kbit/s	38.4

Fault limits		
Reference condition / for metering accuracy		according to IEC61557-12 (K55)
Formula for relative total measurement inaccuracy		
• for measured variable reactive energy		Class 3 according to IEC61557-12 and IEC62053-23
• for measured variable reactive power		+/- 3 %
• for measured variable output		+/- 1.0 %
• for measured variable output factor		+/- 1 %
• for measured variable voltage		+/- 1.0 %
• for measured variable current		+/- 1.0 %
• for measured variable active energy		Class 1 according to IEC 61557-12 and IEC62053-21
• for measured variable active power		+/- 1 %

Inputs Outputs		
Input voltage / at digital input		
• at DC / maximum	V	30
Number of digital outputs		2
Number of digital inputs		2
Digital output version		switching or pulse output function
Type of switching output		bidirectional
Design of the switching input		Self-supplied
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		
• initial value for signal<1>-recognition	mA	2.5
• Full-scale value for signal<0> recognition	mA	0.5

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• for signal <1> / minimum	mA	2.5
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 / at DC / limited to 100 ms / maximum	mA	130
• at the digital outputs / at DC / maximum	mA	30
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		No
Operating voltage / as output voltage / at 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	30
• for signal <1> to <0> / maximum	ms	30
Internal resistance / at the digital outputs	Ω	55
Load resistance / at digital input		
• initial value for signal<0>-recognition	Ω	100 000
• Full-scale value for signal<1> recognition	Ω	1 000
Measuring category / for digital signals		CATI
Switching frequency / at digital output / maximum	Hz	17

Measuring inputs

Outer conductors and neutral conductors internal resistance / for voltage measurement	MΩ	0.84
Measurable supply voltage		
• between (PE)N and L / at AC / minimum	V	11.5
• between (PE)N and L / at AC / maximum	V	277
• between (PE)N and L / at AC / maximum rated value	V	277
• between the outer conductors / at AC / minimum	V	20
• between the outer conductors / at AC / maximum	V	480
• between the outer conductors / at AC / maximum rated value	V	480
Voltage measuring range extension / with external voltage transformers		Yes
Measuring category / for voltage measurement		CATIII

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Supply voltage / between the outer conductors / at AC / maximum permissible	V	576
Active power consumption / for current measurement / per phase	mW	500
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		10 mA
• for neutral conductor current		45 mA
Relative measurable current / at AC		
• minimum	%	0.2
• maximum	%	120
Apparent power consumption / for current measurement		
• with measuring range 5 A / per phase	V·A	0.5

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 ... 2.5 mm2), 2 (0.5 ... 1.5 mm2)
• Type of connectable conductor cross-section		
— at the measurement inputs for voltage		
— for AWG conductors / solid		2x 20 to 14
— 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 processing		1x (0.5 ... 2.5 mm2), 2x (0.5 ... 1.5 mm2)
Type of electrical connection		
• at the inputs for supply voltage		screw-type terminals
• at the measurement inputs for voltage		screw-type terminals

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• at the measurement inputs for current		screw-type terminals

Mechanical Design		
Height	mm	96
Height / of the display	mm	54
Width	mm	96
Width		
• of the display	mm	72
Depth	mm	56
mounting position		vertical
Installation depth	mm	51
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 respectively IEC 61326-1:2005, table 2
• for EMC against unloading		IEC 61000-4-2
• for EMC against high frequency fields		IEC 61000-4-3
• 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 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

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• during storage / minimum	°C	-25
• during storage / maximum	°C	70

Certificates

Certificate of suitability		
• 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
Equipment marking / acc. to DIN EN 61346-2		P

General Product Approval				EMC	Declaration of Conformity
CB	GOST	UL	EAC	C-TICK	EG-Konf.

other

Bestätigungen

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/7KM31330BA003AA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
http://support.automation.siemens.com/WW/view/en/7KM31330BA003AA0/all

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=7KM31330BA003AA0

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

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

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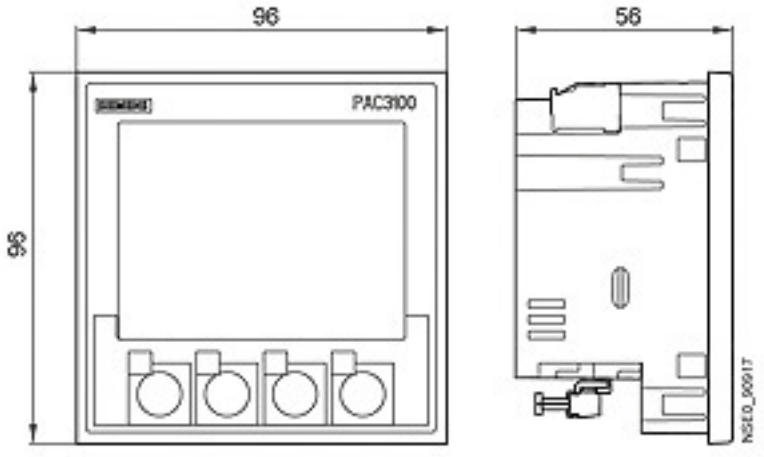

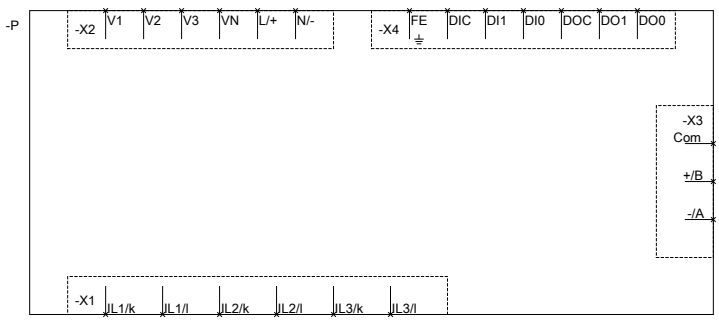

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