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Data sheet 7KM3133-0BA00-3AA0



SENTRON, measuring device, 7KM PAC3100, LCD, L-L: 480 V, L-N: 277 V, 3-phase, Modbus RTU, active/reactive energy, class 1 acc. to IEC 61557-12 & 62053- 21, wide-range power sup. unit AC/DC, screw terminals

Model	
product brand name	SENTRON
Measurements	
measuring procedure	
● for voltage measurement	TRMS
● for current measurement	TRMS
type of measured value detection	complete
voltage curve	Sinusoidal or distorted
measurable line frequency	
● initial value	45 Hz
● full-scale value	65 Hz
operating mode for measured value detection automatic line frequency detection	Yes
operating mode for measured value detection	
● set at 50 Hz	No
● set to 60 Hz	No
Supply voltage	
design of the power supply	Wide-range power supply
type of voltage of the supply voltage	AC/DC
supply voltage at AC	100 ... 240 V
supply voltage at DC	110 ... 250 V
Degree of protection protection class	
protection class IP on the front	IP65
operating resource protection class when installed	II
Suitability	
suitability for operation	Installation in stationary panels in closed rooms
Product Functions	
product function	
● voltage measurement	Yes
● current measurement	Yes
● active power measurement	Yes
● reactive power measurement	Yes
● frequency measurement	Yes
Display and operation	
design of the display	LCD
height of the display	54 mm
width of the display	72 mm
color of the background of the display	white
illuminance of display backlight adjustable	No

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time-controlled reduction of the illuminance of display backlight possible	Yes
display contrast adjustable	Yes
national language on the display screen is supported	ger, en, fr, spa, ita, por, tur, chi
number of keys	4
Communication	
transfer rate minimum	4.8 kbit/s
transfer rate maximum	38.4 kbit/s
Fault limits	
reference condition for metering accuracy	according to IEC61557-12 (K55)
formula for relative total measurement inaccuracy	
● for measured variable voltage	+/- 1.0 %
● for measured variable current	+/- 1.0 %
● for measured variable active power	+/- 1 %
● for measured variable reactive power	+/- 3 %
● for measured variable output factor	+/- 1 %
● for measured variable active energy	Class 1 according to IEC 61557-12 and IEC62053-21
● for measured variable reactive energy	Class 3 according to IEC61557-12 and IEC62053-23
Inputs Outputs	
number of digital inputs	2
design of the switching input	Self-supplied
type of electrical connection at the digital inputs	screw-type terminals
operating conditions for digital inputs external voltage supply	No
input voltage at digital input at DC maximum	30 V
input current at digital input	
● initial value for signal<1>-recognition	2.5 mA
● full-scale value for signal<0> recognition	0.5 mA
number of digital outputs	2
type of switching output	bidirectional
digital output version	switching or pulse output function
operating voltage as output voltage at DC maximum permissible	30 V
type of electrical connection at the digital outputs	screw-type terminals
output current	
● at digital output with signal <0> maximum	0.2 mA
● at digital output for signal <1> maximum	27 mA
● at the digital outputs at DC limited to 100 ms maximum	130 mA
internal resistance at the digital outputs	55 Ω
standard for pulse emitter	according to IEC62053-31
pulse duration	
● initial value	30 ms
● full-scale value	500 ms
adjustable time period minimum	10 ms
switching frequency at digital output maximum	17 Hz
property of the output short-circuit proof	Yes
measuring category for digital signals	CATI
Measuring inputs	
measurable supply voltage between (PE)N and L at AC maximum rated value	277 V
measurable supply voltage between (PE)N and L at AC	
● minimum	11.5 V
● maximum	277 V
measurable supply voltage between the line conductors at AC maximum rated value	480 V
measurable supply voltage between the line conductors at AC	
● minimum	20 V
● maximum	480 V
voltage measuring range extension with external voltage transformers	yes

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line conductors and neutral conductors internal resistance for voltage measurement	0.84 MΩ
measuring category for voltage measurement	CAT III
measurable current	
● 1 at AC rated value	5 A
relative measurable current at AC	
● minimum	10 %
● maximum	120 %
current measuring range extension with external current transformers	Yes
zero point suppression for current measurement	10 mA
● for neutral conductor current	45 mA
apparent power consumption for current measurement	
● with measuring range 5 A per phase	0.5 V·A
measuring category for current measurement	CATIII
Connections	
type of connectable conductor cross-sections	
● at the measurement inputs for voltage solid	1x (0.5 ... 4 mm²), 2x (0.5 ... 2.5 mm²)
● at the measurement inputs for voltage finely stranded with core end processing	1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²)
● at the measurement inputs for voltage for AWG cables solid	2x 20 to 14
● at the measurement inputs for current solid	1x (0.5 ... 4 mm²), 2x (0.5 ... 2.5 mm²)
● at the measurement inputs for current finely stranded with core end processing	1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²)
● at the measurement inputs for current for AWG cables solid	2x 20 to 14
type of electrical connection	
● at the measurement inputs for voltage	screw-type terminals
● at the measurement inputs for current	screw-type terminals
Mechanical Design	
size of Power Monitoring Device	size 96
height	96 mm
width	96 mm
depth	56 mm
installation depth	51 mm
mounting position	vertical
Environmental conditions	
ambient temperature during operation	
● minimum	-10 °C
● maximum	55 °C
ambient temperature during storage	
● minimum	-25 °C
● maximum	70 °C
relative humidity at 25 °C without condensation during operation maximum	95 %
installation altitude at height above sea level maximum	2 000 m
degree of pollution	2
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"

Approvals Certificates

General Product Approval				EMV
Metrological Approval			Confirmation	

EMV	other	Environment

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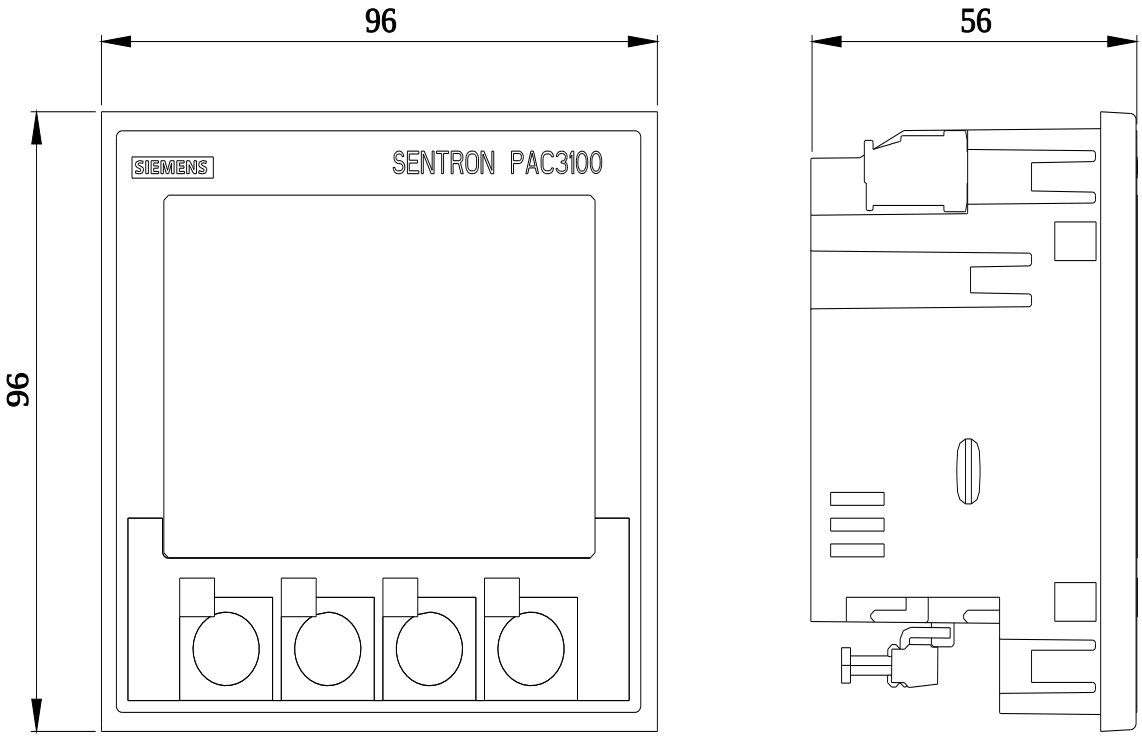
Confirmation

Environmental Confirmations

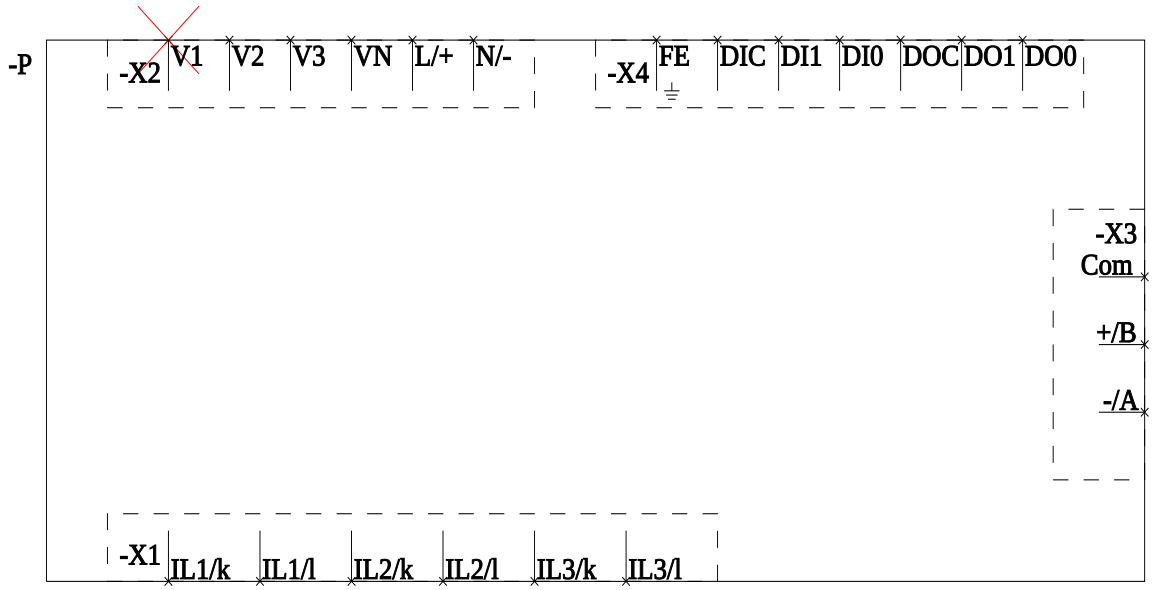
Environmental Confirmations

Further information

Information on the packaging
https://support.industry.siemens.com/cs/ww/en/view/109813875
Information for data generation and storage
https://support.industry.siemens.com/cs/ww/en/view/109995012
Information- and Downloadcenter (catalogues, leaflets,...)
https://www.siemens.com/energy-automation
Industry Mall (Online ordering system)
https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=7KM3133-0BA00-3AA0
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/7KM3133-0BA00-3AA0
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)
https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=7KM3133-0BA00-3AA0
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