



Power Monitoring Device Panel instrument for std electrical values Protocol:
Modbus RTU Single line LED Display Vaux: 95V to 240V AC x/1 or 5 A, Class 1

Measurements	
measuring procedure	
<ul style="list-style-type: none"> for voltage measurement for current measurement 	<p>True RMS</p> <p>True RMS</p>
type of measured value detection	complete
voltage curve	Sinusoidal or distorted
measurable line frequency	
<ul style="list-style-type: none"> initial value full-scale value 	<p>45 Hz</p> <p>65 Hz</p>
operating mode for measured value detection automatic line frequency detection	Yes
Supply voltage	
design of the power supply	SMPS power supply
type of voltage of the supply voltage	AC
Degree of protection protection class	
protection class IP on the front	IP54
protection class IP of the terminal	IP20
Suitability	
suitability for operation	Installation in stationary panels in closed rooms
Product Functions	
product function	
<ul style="list-style-type: none"> voltage measurement current measurement active power measurement reactive power measurement power factor measurement frequency measurement apparent energy/active energy/reactive energy 	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
Display and operation	
design of the display	LED
height of the display	24 mm
width of the display	71 mm
color of the background of the display	Black
national language on the display screen is supported	EN
number of keys	2
Communication	
transfer rate minimum	0.3 kbit/s
transfer rate maximum	19.2 kbit/s
Fault limits	
reference condition for metering accuracy	according to IEC61557-12, IEC62053-21, IEC62053-23

formula for relative total measurement inaccuracy	
<ul style="list-style-type: none"> • for measured variable voltage • for measured variable current • for measured variable apparent power • for measured variable active power • for measured variable reactive power • for measured variable output factor • for measured variable active energy • for measured variable reactive energy 	Class 0.5 acc. to IEC 61557-12 Class 0.5 acc. to IEC 61557-12 Class 1 as per IEC 61557-12 Class 1 acc. to IEC 61557-12 Class 2 as per IEC 61557-12 Class 1 as per IEC 61557-12 Class 1 according to IEC 61557-12 and IEC62053-21 Class 2 as per IEC 61557-12 and IEC 62053-23

Measuring inputs

measurable supply voltage between (PE)N and L at AC maximum rated value	240 V
measurable supply voltage between (PE)N and L at AC	
<ul style="list-style-type: none"> • minimum • maximum 	11 V 300 V
measurable supply voltage between the line conductors at AC maximum rated value	415 V
measurable supply voltage between the line conductors at AC	
<ul style="list-style-type: none"> • minimum • maximum 	19 V 519 V
voltage measuring range extension with external voltage transformers	Yes
line conductors and neutral conductors internal resistance for voltage measurement	1.12 MΩ
measuring category for voltage measurement	CAT III
measurable current	
<ul style="list-style-type: none"> • 1 at AC rated value • 2 at AC rated value 	1 A 5 A
relative measurable current at AC	
<ul style="list-style-type: none"> • minimum • maximum 	1 % 120 %
current measuring range extension with external current transformers	Yes
apparent power consumption for current measurement with measuring range 5 A per phase	3 VA
measuring category for current measurement	CAT III

Connections

type of electrical connection	
<ul style="list-style-type: none"> • at the measurement inputs for voltage • at the measurement inputs for current 	screw-type terminals screw-type terminals

Mechanical Design

fastening method standard rail mounting	No
size of Power Monitoring Device	size 96
height	99 mm
width	99 mm
depth	52 mm
installation depth	49 mm
cutout height	92 mm
cutout width	92 mm
net weight	2 280 g
mounting position	Vertical

Environmental conditions

ambient temperature during operation	
<ul style="list-style-type: none"> • minimum • maximum 	-10 °C 55 °C
ambient temperature during storage	
<ul style="list-style-type: none"> • minimum • maximum 	-20 °C 75 °C
relative humidity at 25 °C without condensation during operation maximum	85 %
installation altitude at height above sea level maximum	2 000 m
degree of pollution	2

Approvals Certificates

General Product Approval

other

Environment

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Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

Information- and Downloadcenter (catalogues, leaflets,...)

<http://www.siemens.com/energy-automation>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=7KT0307>

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

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

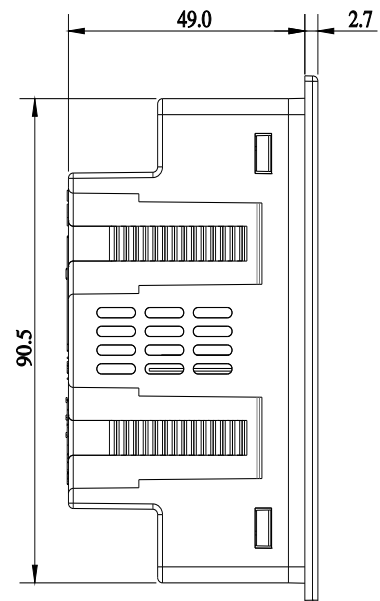
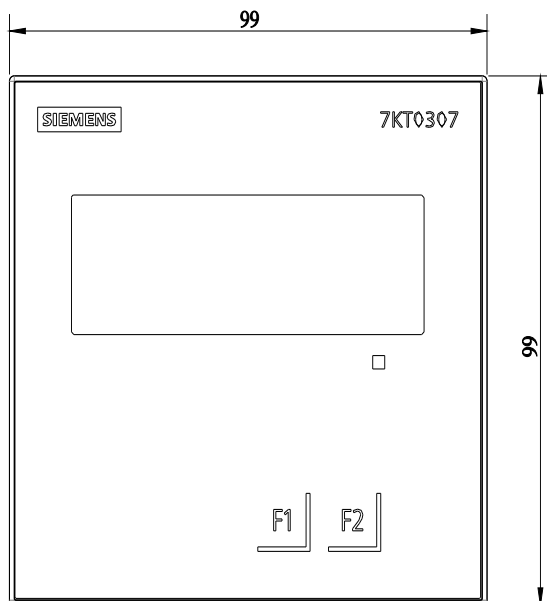
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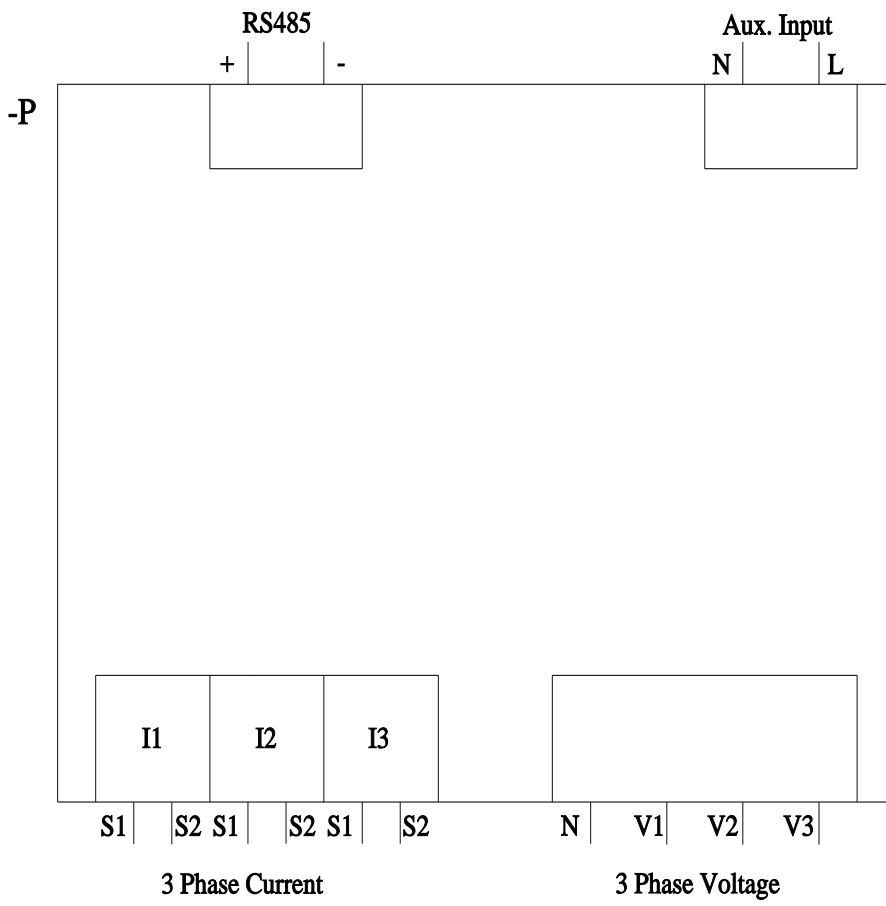
CAX-Online-Generator

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Tender specifications

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Power Monitoring Device Panel instrument for std electrical values Protocol: Modbus RTU Multi line LED Display Vaux: 95V to 240V AC x/1 or 5 A, Class 1

Measurements	
measuring procedure	
<ul style="list-style-type: none"> for voltage measurement for current measurement 	True RMS
type of measured value detection	complete
voltage curve	Sinusoidal or distorted
measurable line frequency	
<ul style="list-style-type: none"> initial value full-scale value 	45 Hz
	65 Hz
operating mode for measured value detection automatic line frequency detection	Yes
Supply voltage	
design of the power supply	SMPS power supply
type of voltage of the supply voltage	AC
Degree of protection protection class	
protection class IP on the front	IP54
protection class IP of the terminal	IP20
Suitability	
suitability for operation	Installation in stationary panels in closed rooms
Product Functions	
product function	
<ul style="list-style-type: none"> voltage measurement current measurement active power measurement reactive power measurement power factor measurement frequency measurement apparent energy/active energy/reactive energy 	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
Display and operation	
design of the display	LED
height of the display	50 mm
width of the display	62 mm
color of the background of the display	Black
national language on the display screen is supported	EN
number of keys	4
Communication	
transfer rate minimum	0.3 kbit/s
transfer rate maximum	19.2 kbit/s
Fault limits	
reference condition for metering accuracy	according to IEC61557-12, IEC62053-21, IEC62053-23

formula for relative total measurement inaccuracy	
<ul style="list-style-type: none"> • for measured variable voltage • for measured variable current • for measured variable apparent power • for measured variable active power • for measured variable reactive power • for measured variable output factor • for measured variable active energy • for measured variable reactive energy • for measured variable THD 	<p>Class 0.5 acc. to IEC 61557-12</p> <p>Class 0.5 acc. to IEC 61557-12</p> <p>Class 1 as per IEC 61557-12</p> <p>Class 1 acc. to IEC 61557-12</p> <p>Class 2 as per IEC 61557-12</p> <p>Class 1 as per IEC 61557-12</p> <p>Class 1 according to IEC 61557-12 and IEC62053-21</p> <p>Class 2 as per IEC 61557-12 and IEC 62053-23</p> <p>Class 3 as per IEC 61557-12</p>
Inputs Outputs	
number of digital inputs	1
type of electrical connection at the digital inputs	screw-type terminals
operating conditions for digital inputs external voltage supply	Yes
input voltage at digital input at DC maximum	30 V
input current at digital input initial value for signal<1>-recognition	10 mA
Measuring inputs	
measurable supply voltage between (PE)N and L at AC maximum rated value	240 V
measurable supply voltage between (PE)N and L at AC	
<ul style="list-style-type: none"> • minimum • maximum 	<p>11 V</p> <p>300 V</p>
measurable supply voltage between the line conductors at AC maximum rated value	415 V
measurable supply voltage between the line conductors at AC	
<ul style="list-style-type: none"> • minimum • maximum 	<p>19 V</p> <p>519 V</p>
voltage measuring range extension with external voltage transformers	Yes
line conductors and neutral conductors internal resistance for voltage measurement	1.12 MΩ
measuring category for voltage measurement	CAT III
measurable current	
<ul style="list-style-type: none"> • 1 at AC rated value • 2 at AC rated value 	<p>1 A</p> <p>5 A</p>
relative measurable current at AC	
<ul style="list-style-type: none"> • minimum • maximum 	<p>1 %</p> <p>120 %</p>
current measuring range extension with external current transformers	Yes
apparent power consumption for current measurement with measuring range 5 A per phase	3 VA
measuring category for current measurement	CAT III
Connections	
type of electrical connection	
<ul style="list-style-type: none"> • at the measurement inputs for voltage • at the measurement inputs for current 	<p>screw-type terminals</p> <p>screw-type terminals</p>
Mechanical Design	
fastening method standard rail mounting	No
size of Power Monitoring Device	size 96
height	99 mm
width	99 mm
depth	52 mm
installation depth	49 mm
cutout height	92 mm
cutout width	92 mm
net weight	2 470 g
mounting position	Vertical
Environmental conditions	
ambient temperature during operation	
<ul style="list-style-type: none"> • minimum • maximum 	<p>-10 °C</p> <p>55 °C</p>

ambient temperature during storage	
• minimum	-20 °C
• maximum	75 °C
relative humidity at 25 °C without condensation during operation maximum	85 %
installation altitude at height above sea level maximum	2 000 m
degree of pollution	2

Approvals Certificates

General Product Approval	other	Environment
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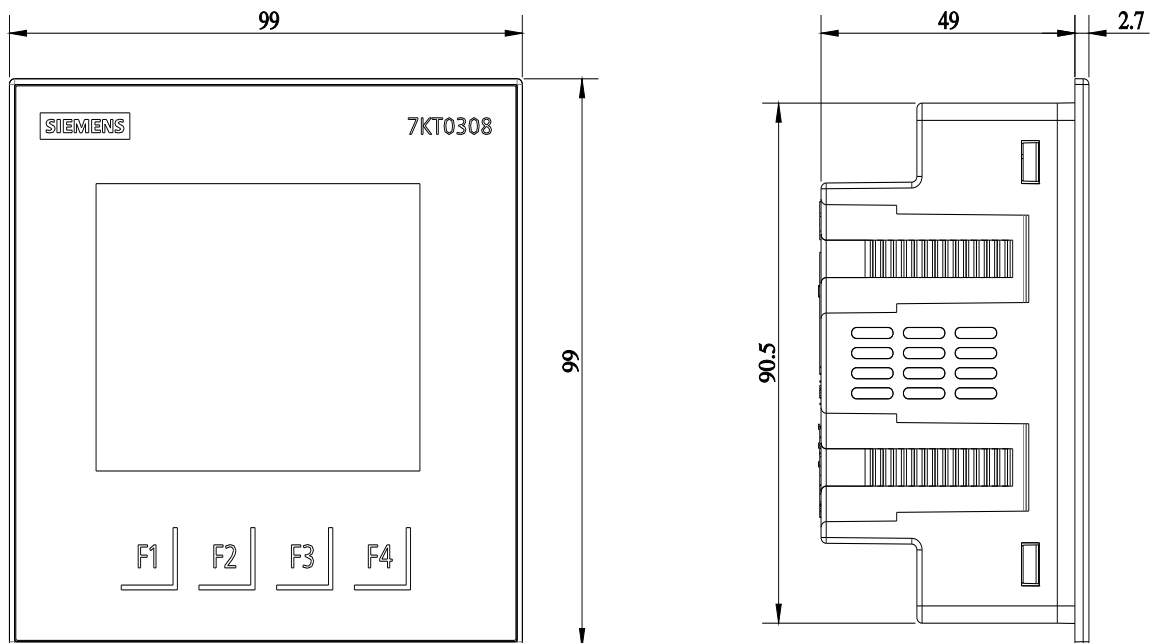
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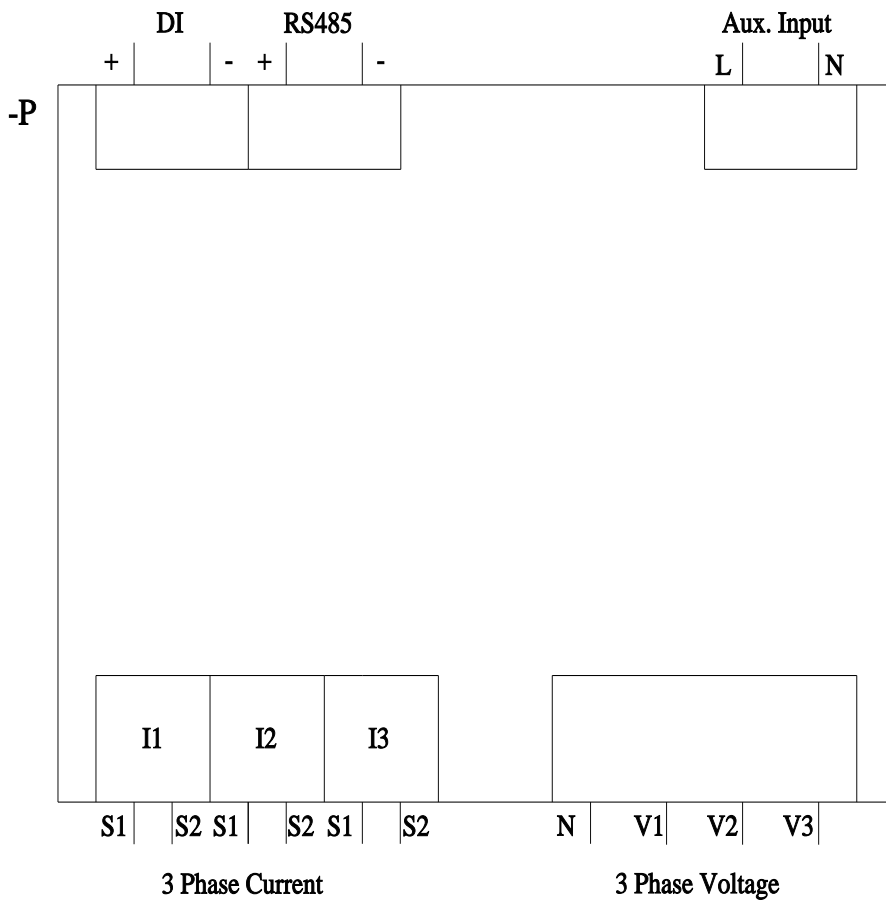
CAx-Online-Generator

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Tender specifications

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SMART 7KT Multi Function Meter Accuracy Class 1 and inbuilt Modbus RTU Communication

Measurements	
measuring procedure	
<ul style="list-style-type: none"> for voltage measurement for current measurement 	True RMS
type of measured value detection	complete
voltage curve	Sinusoidal or distorted
measurable line frequency	
<ul style="list-style-type: none"> initial value full-scale value 	45 Hz
	65 Hz
operating mode for measured value detection automatic line frequency detection	Yes
Supply voltage	
design of the power supply	SMPS power supply
type of voltage of the supply voltage	AC
Degree of protection protection class	
protection class IP on the front	IP65
protection class IP of the terminal	IP20
Suitability	
suitability for operation	Installation in stationary panels in closed rooms
Product Functions	
product function	
<ul style="list-style-type: none"> voltage measurement current measurement active power measurement reactive power measurement power factor measurement frequency measurement apparent energy/active energy/reactive energy 	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
Display and operation	
design of the display	LCD
height of the display	60 mm
width of the display	60 mm
color of the background of the display	White
illuminance of display backlight adjustable	No
time-controlled reduction of the illuminance of display backlight possible	Yes
display contrast adjustable	No
national language on the display screen is supported	EN
number of keys	4
Communication	

transfer rate minimum	0.3 kbit/s
transfer rate maximum	19.2 kbit/s
Fault limits	
reference condition for metering accuracy	according to IEC61557-12, IEC62053-21, IEC62053-23
formula for relative total measurement inaccuracy	
<ul style="list-style-type: none"> for measured variable active energy for measured variable reactive energy 	Class 1 acc. to IEC 62053-21 Class 2 as per IEC 62053-23
Inputs Outputs	
number of digital inputs	1
type of electrical connection at the digital inputs	screw-type terminals
operating conditions for digital inputs external voltage supply	Yes
input voltage at digital input at DC maximum	30 V
input current at digital input initial value for signal<1>-recognition	10 mA
Measuring inputs	
measurable supply voltage between (PE)N and L at AC maximum rated value	240 V
measurable supply voltage between (PE)N and L at AC	
<ul style="list-style-type: none"> minimum maximum 	11 V 300 V
measurable supply voltage between the line conductors at AC maximum rated value	415 V
measurable supply voltage between the line conductors at AC	
<ul style="list-style-type: none"> minimum maximum 	19 V 519 V
voltage measuring range extension with external voltage transformers	Yes
line conductors and neutral conductors internal resistance for voltage measurement	1.12 MΩ
measuring category for voltage measurement	CAT III
measurable current	
<ul style="list-style-type: none"> 1 at AC rated value 2 at AC rated value 	1 A 5 A
relative measurable current at AC	
<ul style="list-style-type: none"> minimum maximum 	1 % 120 %
current measuring range extension with external current transformers	Yes
apparent power consumption for current measurement with measuring range 5 A per phase	3 VA
measuring category for current measurement	CAT III
Connections	
type of electrical connection	
<ul style="list-style-type: none"> at the measurement inputs for voltage at the measurement inputs for current 	screw-type terminals screw-type terminals
Mechanical Design	
fastening method standard rail mounting	No
size of Power Monitoring Device	size 96
height	96 mm
width	96 mm
depth	57 mm
installation depth	50 mm
cutout height	92 mm
cutout width	92 mm
net weight	3 600 g
mounting position	Vertical
Environmental conditions	
ambient temperature during operation	
<ul style="list-style-type: none"> minimum maximum 	-10 °C 55 °C
ambient temperature during storage	
<ul style="list-style-type: none"> minimum maximum 	-20 °C 75 °C

relative humidity at 25 °C without condensation during operation maximum	85 %
installation altitude at height above sea level maximum	2 000 m
degree of pollution	2

Approvals Certificates

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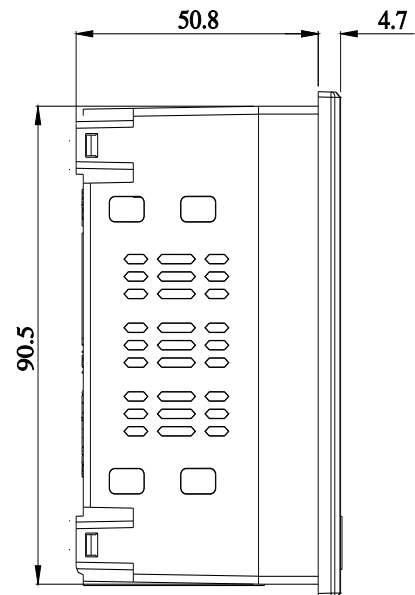
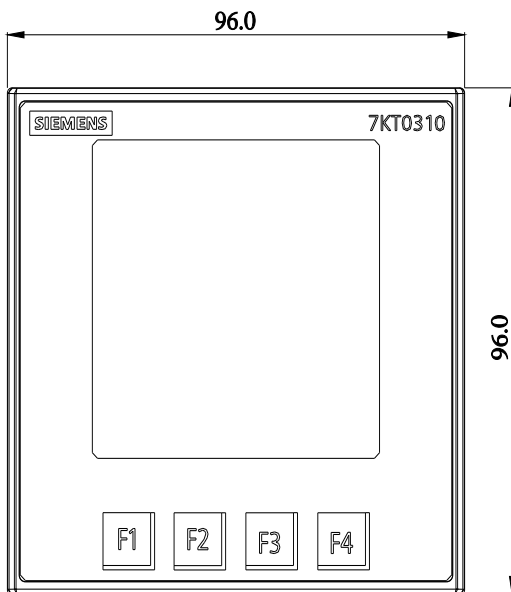
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Tender specifications

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Power Monitoring Device Panel instrument for std electrical values Protocol: Modbus RTU LCD display Vaux: 95V to 240V AC x/1 or 5 A, Class 0.5

Measurements	
measuring procedure	
<ul style="list-style-type: none"> for voltage measurement for current measurement 	True RMS True RMS
type of measured value detection	complete
voltage curve	Sinusoidal or distorted
measurable line frequency	
<ul style="list-style-type: none"> initial value full-scale value 	45 Hz 65 Hz
operating mode for measured value detection automatic line frequency detection	Yes
Supply voltage	
design of the power supply	SMPS power supply
type of voltage of the supply voltage	AC
Degree of protection protection class	
protection class IP on the front	IP65
protection class IP of the terminal	IP20
Suitability	
suitability for operation	Installation in stationary panels in closed rooms
Product Functions	
product function	
<ul style="list-style-type: none"> voltage measurement current measurement active power measurement reactive power measurement power factor measurement frequency measurement apparent energy/active energy/reactive energy 	Yes Yes Yes Yes Yes Yes Yes
Display and operation	
design of the display	LCD
height of the display	60 mm
width of the display	60 mm
color of the background of the display	White
illuminance of display backlight adjustable	No
time-controlled reduction of the illuminance of display backlight possible	Yes
display contrast adjustable	No
national language on the display screen is supported	EN
number of keys	4
Communication	

transfer rate minimum	0.3 kbit/s
transfer rate maximum	19.2 kbit/s
Fault limits	
reference condition for metering accuracy	according to IEC61557-12, IEC62053-21, IEC62053-23
formula for relative total measurement inaccuracy	
<ul style="list-style-type: none"> • for measured variable voltage • for measured variable current • for measured variable apparent power • for measured variable active power • for measured variable reactive power • for measured variable output factor • for measured variable active energy • for measured variable reactive energy • for measured variable THD 	<ul style="list-style-type: none"> Class 0.5 acc. to IEC 61557-12 Class 0.5 acc. to IEC 61557-12 Class 1 as per IEC 61557-12 Class 1 acc. to IEC 61557-12 Class 2 as per IEC 61557-12 Class 1 as per IEC 61557-12 Class 0.5 acc. to IEC 61557-12 and IEC 62053-21 Class 2 as per IEC 61557-12 and IEC 62053-23 Class 3 as per IEC 61557-12
Inputs Outputs	
number of digital inputs	1
type of electrical connection at the digital inputs	screw-type terminals
operating conditions for digital inputs external voltage supply	Yes
input voltage at digital input at DC maximum	30 V
input current at digital input initial value for signal<1>-recognition	10 mA
number of digital outputs	1
type of switching output	Unidirectional
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 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	
<ul style="list-style-type: none"> • initial value • full-scale value 	<ul style="list-style-type: none"> 100 ms 2 000 ms
adjustable time period minimum	100 ms
switching frequency at digital output maximum	17 Hz
Measuring inputs	
measurable supply voltage between (PE)N and L at AC maximum rated value	240 V
measurable supply voltage between (PE)N and L at AC	
<ul style="list-style-type: none"> • minimum • maximum 	<ul style="list-style-type: none"> 11 V 300 V
measurable supply voltage between the line conductors at AC maximum rated value	415 V
measurable supply voltage between the line conductors at AC	
<ul style="list-style-type: none"> • minimum • maximum 	<ul style="list-style-type: none"> 19 V 519 V
voltage measuring range extension with external voltage transformers	Yes
line conductors and neutral conductors internal resistance for voltage measurement	1.12 MΩ
measuring category for voltage measurement	CAT III
measurable current	
<ul style="list-style-type: none"> • 1 at AC rated value • 2 at AC rated value 	<ul style="list-style-type: none"> 1 A 5 A
relative measurable current at AC	
<ul style="list-style-type: none"> • minimum • maximum 	<ul style="list-style-type: none"> 1 % 120 %
current measuring range extension with external current transformers	Yes
apparent power consumption for current measurement with measuring range 5 A per phase	3 VA
measuring category for current measurement	CAT III
Connections	
type of electrical connection	

- at the measurement inputs for voltage
- at the measurement inputs for current

screw-type terminals
screw-type terminals

Mechanical Design

fastening method standard rail mounting	No
size of Power Monitoring Device	size 96
height	96 mm
width	96 mm
depth	57 mm
installation depth	52.3 mm
cutout height	92 mm
cutout width	92 mm
net weight	3 250 g
mounting position	Vertical

Environmental conditions

ambient temperature during operation	
<ul style="list-style-type: none"> • minimum • maximum 	-10 °C 55 °C
ambient temperature during storage	
<ul style="list-style-type: none"> • minimum • maximum 	-20 °C 75 °C
relative humidity at 25 °C without condensation during operation maximum	85 %
installation altitude at height above sea level maximum	2 000 m
degree of pollution	2

Approvals Certificates

General Product Approval	other	Environment
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Tender specifications

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