

# Three phase power sensor, CT

#### 3-phase power-sensor, current transformer



Model number:		PM3-E-D-CT	
Connect to:		01_rdx_charger	
		RS485 power sensor bus A - B	
Mounting:		DIN rail, 1M, 18 mm	
Dimensions:		65 × 72 × 94,5 mm	
Used for measuring power and energy of			
•	single/three-phase energy sources		
•	single/three-phase energy consumers		

### **Applications**

Digital multi-function power sensor for single/three phase networks

#### **Features**

- DIN rail mounting with 3x current transformers (3-ph current transformer)
- Line voltage and THD% (total harmonic distortion) of all phases
- Line Frequency
- Currents, Current demands and current THD% of all phases
- Power, maximum power demand and power factor
- Active energy imported and exported
- Reactive energy imported and exported

#### **General description**

The unit measures and displays the characteristics of three phase four wires(3p4w) supplies, including voltage, frequency, current, power, active and reactive energy, imported or exported. Energy is measured in terms of kWh, kVArh. Maximum demand current can be measured over preset periods of up to 60minutes. In order to measure energy, the unit requires voltage and current inputs in addition

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to the supply required to power the product. The requisite current input(s) are obtained via current transformers (CT). This power sensor can be configured to work with a wide range of CTs with 0.33V output, giving the unit a wide range of operation. Built-in interfaces provide pulse and RS485 Modbus RTU outputs. Configuration is password protected. This power sensor can be powered from a separate auxiliary (AC or DC) supply. Alternatively, it can be powered from the monitored supply, where appropriate.

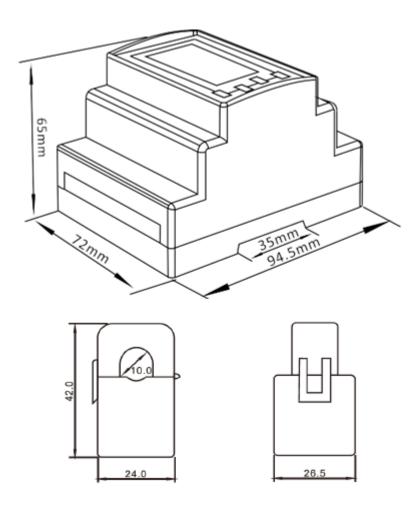
### **Technical specifications**

Operating Humidity       ≤ 75%         Storage Humidity       ≤ 95%         Operating Temperature       -25°C - +50°C         Storage Temperature       -40°C - 770°C         Mounting       DIN rail (DIN 43880)         Sealing       IP51 Indoor         Auxiliary supply oltage       Nominal ± 1%         Auxiliary supply frequency       Nominal ± 1%         Frequency       50Hz or 60Hz(±2%)         Power Consumption       ≤ 10W         Accuracy         Voltage, Current       0.2% of Mid-Frequency         Power Factor       1% of Unity (0.01)         Active Power, Apparent Power       ± 1% of Range Maximum         Reactive Power       ± 1% of Range Maximum         Reactive Energy (Varh)       ± 1% of Range Maximum         Reactive Energy (Varh)       ± 1% of Range Maximum         Rated current       50 A         Accuracy       50-60 Hz         Rated current       50 A         Accuracy       from 20% to 120% of rated current         Phase angle       less than 2 degrees at 50% of rated current         Insulation voltage       5000 VAC (insulated conductor)         Dielectric strength       2.5 kV/1mA/1min         Operating temperature       -15 to 6	Technical Data	
Operating Temperature Storage Temperature Storage Temperature A0°C - +70°C Mounting DIN rail (DIN 43880) Sealing IP51 Indoor Auxiliary supply voltage Nominal ± 1% Auxiliary supply frequency Nominal ± 1% Frequency SOHZ or 60Hz(±2%) Power Consumption  Accuracy Voltage, Current Frequency Power Factor Active Power, Apparent Power Reactive Power Active Energy (Varh) Active Energy (Warh) Class 1 IEC 62053-21  Current transformer Frequency Frequenc	Operating Humidity	≤ 75%
Storage Temperature  Mounting  Sealing  Auxillary Supply voltage  Auxillary supply voltage  Auxillary supply frequency  Frequency  Power Consumption  Accuracy  Voltage, Current  Frequency  Sold of Mid-Frequency  Frequency  Nominal ± 1%  Frequency  Voltage, Current  Frequency  Nomer Sold of Mid-Frequency  Frequency  Nomer Sold of Mid-Frequency  Nomer Sold of Range Maximum  Nomer Sold of Ran	Storage Humidity	≤ 95%
Mounting     DIN rail (DIN 43880)       Sealing     IP51 Indoor       Auxiliary supply voltage     Nominal ± 1%       Auxiliary supply frequency     SOHz or 60Hz(±2%)       Power Consumption     ≤ 10W       Accuracy     O.2% of Mid-Frequency       Power Factor     1% of Unity (0.01)       Active Power, Apparent Power     ± 1% of Range Maximum       Reactive Power     ± 1% of Range Maximum       Reactive Energy (Varh)     ± 1% of Range Maximum       Active Energy (Wh)     Class 1 IEC 62053-21       Current transformer     50 A       Frequency     50-60 Hz       Rated current     50 A       Accuracy     from 20% to 120% of rated current       Phase angle     less than 2 degrees at 50% of rated current       Insulation voltage     600 VAC       Maximum primary voltage     5000 VAC (insulated conductor)       Dielectric strength     2.5 kV/1mA/1min       Operating temperature     -15 to 60°C       Operating humidity     < 85 %	Operating Temperature	-25°C - +50°C
Sealing     IP51 Indoor       Auxiliary supply voltage     Nominal ± 1%       Auxiliary supply frequency     Nominal ± 1%       Frequency     50Hz or 60Hz(±2%)       Power Consumption     ≤ 10W       Accuracy     Voltage, Current     0.5%       Frequency     0.2% of Mid-Frequency       Power Factor     1% of Unity (0.01)       Active Power, Apparent Power     ± 1% of Range Maximum       Reactive Power     ± 1% of Range Maximum       Reactive Energy (Varh)     ± 1% of Range Maximum       Active Energy (Wh)     Class 1 IEC 62053-21       Current transformer     50-60 Hz       Frequency     50-60 Hz       Rated current     50 A       Accuracy     from 20% to 120% of rated current       Insulation voltage     less than 2 degrees at 50% of rated current       Insulation voltage     600 VAC       Maximum primary voltage     5000 VAC (insulated conductor)       Dielectric strength     2.5 kV/1mA/1min       Operating temperature     -15 to 60°C       Operating humidity     < 85 %	Storage Temperature	-40°C - +70°C
Auxillary supply voltage Auxillary supply frequency Frequency Power Consumption Accuracy Voltage, Current Frequency Power Factor Active Power, Apparent Power Reactive Energy (Varh) Active Energy (Warh) Active Power  ### 1% of Range Maximum ### 21% of	Mounting	DIN rail (DIN 43880)
Auxiliary supply frequency Frequency Frequency Power Consumption  Accuracy  Voltage, Current Frequency Power Factor Active Power, Apparent Power Reactive Power Reactive Energy (Varh) Active Energy (Warh) Active Energy (Warh) Active Energy (Warh) React current Frequency Frequency Frequency Frequency Frequency  Current transforme  Frequency Frem 20% to 120% of rated current Foo A Accuracy From 20% to 120% of rated current Foo A Accuracy Frem 20% to 120% of rated c	Sealing	IP51 Indoor
Frequency Power Consumption  Accuracy  Voltage, Current Frequency Power Factor Active Power, Apparent Power Reactive Power, Apparent Power Reactive Energy (Varh) Active Energy (Warh) Active Energy (Wh) Class 1 IEC 62053-21  Current transformer  Frequency	Auxiliary supply voltage	Nominal ± 1%
Power Consumption≤ 10WAccuracyVoltage, Current0.5%Frequency0.2% of Mid-FrequencyPower Factor1% of Unity (0.01)Active Power, Apparent Power± 1% of Range MaximumReactive Power± 1% of Range MaximumReactive Energy (Varh)Class 1 IEC 62053-21Current transformerFrequency50-60 HzRated current50 AAccuracyfrom 20% to 120% of rated currentPhase angleless than 2 degrees at 50% of rated currentInsulation voltage5000 VAC (insulated conductor)Dielectric strength2.5 kV/1mA/1minOperating temperature-15 to 60°COperating humidity< 85 %	Auxiliary supply frequency	Nominal ± 1%
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Voltage, Current 0.5% Frequency 0.2% of Mid-Frequency Power Factor 1% of Unity (0.01) Active Power, Apparent Power ± 1% of Range Maximum Reactive Power ± 1% of Range Maximum Reactive Energy (Varh) ± 1% of Range Maximum Active Energy (Wh) Class 1 IEC 62053-21  Current transformer  Frequency 50-60 Hz Rated current 50 A Accuracy from 20% to 120% of rated current Phase angle less than 2 degrees at 50% of rated current Insulation voltage 600 VAC Maximum primary voltage 5000 VAC (insulated conductor) Dielectric strength 2.5 kV/1mA/1min Operating temperature -15 to 60°C Operating humidity < 85 % Case material PC/UL94-V0 Bobin PBT Core Permalloy Internal structure Epoxy Leads UL 1015, Twisted pair, 22 AWG Modbus Bus Type RS485 (Semi-Duplex)	Power Consumption	≤ 10W
Frequency Power Factor Power Factor Reactive Power, Apparent Power Reactive Power Reactive Energy (Varh) Active Energy (Wh) Class 1 IEC 62053-21  Current transformer Frequency	Accuracy	
Power Factor1% of Unity (0.01)Active Power, Apparent Power± 1% of Range MaximumReactive Power± 1% of Range MaximumReactive Energy (Varh)± 1% of Range MaximumActive Energy (Wh)Class 1 IEC 62053-21Current transformerFrequency50-60 HzRated current50 AAccuracyfrom 20% to 120% of rated currentPhase angleless than 2 degrees at 50% of rated currentInsulation voltage600 VACMaximum primary voltage5000 VAC (insulated conductor)Dielectric strength2.5 kV/1mA/1minOperating temperature-15 to 60°COperating humidity< 85 %	Voltage, Current	0.5%
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Active Energy (Wh)  Current transformer  Frequency  Rated current  Phase angle  Insulation voltage  Maximum primary voltage  Dielectric strength  Operating temperature  Case material  Bobin  Core  Permalloy  Internal structure  Epoxy  Leads  Modbus  Frequency  Frequency  Frequency  Frequency  50-60 Hz  50-60 Hz  Fore  From 20% to 120% of rated current  From 20% to	Reactive Power	± 1% of Range Maximum
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Frequency Rated current So A Accuracy from 20% to 120% of rated current Phase angle less than 2 degrees at 50% of rated current Insulation voltage Maximum primary voltage Dielectric strength Operating temperature Operating humidity Case material Core Dielectric structure Dielectric structure Dielectric strength Operating temperature Operating temperature Operating humidity Case material Description	Active Energy (Wh)	Class 1 IEC 62053-21
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Insulation voltage 600 VAC  Maximum primary voltage 5000 VAC (insulated conductor)  Dielectric strength 2.5 kV/1mA/1min  Operating temperature -15 to 60°C  Operating humidity < 85 %  Case material PC/UL94-V0  Bobin PBT  Core Permalloy  Internal structure Epoxy  Leads UL 1015, Twisted pair, 22 AWG  Modbus  Bus Type RS485 (Semi-Duplex)	Accuracy	from 20% to 120% of rated current
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Dielectric strength  Operating temperature  Operating humidity  Case material  Bobin  Core  Permalloy Internal structure  Leads  Modbus  Bus Type  Pictor SkV/1mA/1min  2.5 kV/1mA/1min  2.5 kV/1	Insulation voltage	600 VAC
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Operating humidity  Case material  Bobin  Core  Permalloy Internal structure  Leads  Modbus  Bus Type  PC/UL94-V0  PBT  PBT  Outhory  Permalloy  Permalloy  Leads  UL 1015, Twisted pair, 22 AWG  RS485 (Semi-Duplex)	Dielectric strength	2.5 kV/1mA/1min
Case material PC/UL94-V0 Bobin PBT Core Permalloy Internal structure Epoxy Leads UL 1015, Twisted pair, 22 AWG  Modbus Bus Type RS485 (Semi-Duplex)	Operating temperature	-15 to 60°C
Bobin PBT Core Permalloy Internal structure Epoxy Leads UL 1015, Twisted pair, 22 AWG Modbus Bus Type RS485 (Semi-Duplex)	Operating humidity	< 85 %
Core Permalloy Internal structure Epoxy Leads UL 1015, Twisted pair, 22 AWG  Modbus Bus Type RS485 (Semi-Duplex)	Case material	PC/UL94-V0
Internal structure Epoxy Leads UL 1015, Twisted pair, 22 AWG  Modbus  Bus Type RS485 (Semi-Duplex)	Bobin	PBT
Leads UL 1015, Twisted pair, 22 AWG  Modbus  Bus Type RS485 (Semi-Duplex)	Core	Permalloy
Modbus Bus Type RS485 (Semi-Duplex)	Internal structure	Ероху
Bus Type RS485 (Semi-Duplex)	Leads	UL 1015, Twisted pair, 22 AWG
	Modbus	
Protocol Modbus RTU	Bus Type	RS485 (Semi-Duplex)
	Protocol	Modbus RTU

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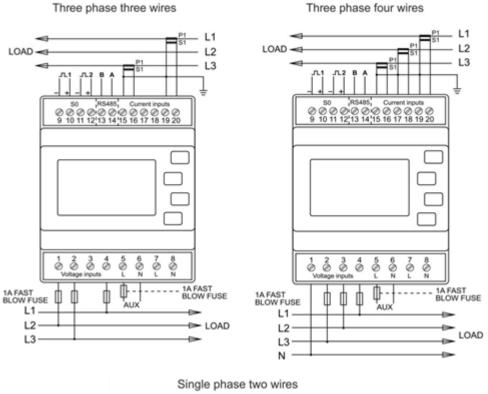
Baud Rate	1200/2400/4800/9600bps
Address Range	1-247
Max. Bus Loading	64pcs
Communication Distance	1000 Meters
Parity	EVEN/ODD/NONE
Data Bit	8
Stop Bit	1

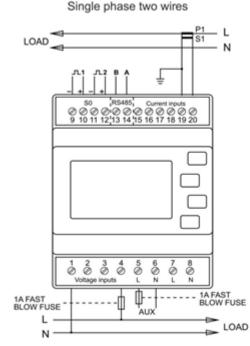
## **Dimensions**



## Installation

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