2025/12/07 20:49 1/4 Three phase power sensor

Three phase power sensor

3-phase power-sensor



Model number:		PM3-E-D-CT	
Connect to:		MC-230	
		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			
1	single/three-phase energy sources		
1	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 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

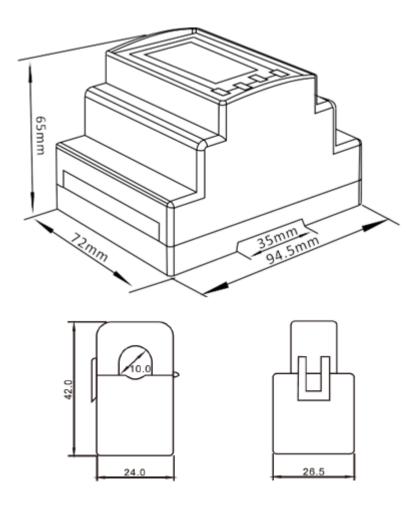
output, giving the unit a wide range of operation. Built-in interfaces provide pulse and RS485 Modbus RTU outputs. Configuration is password protected. This power sensor can be powered from a separate auxiliary (AC or DC) supply. Alternatively, it can be powered from the monitored supply, where appropriate.

Technical specifications

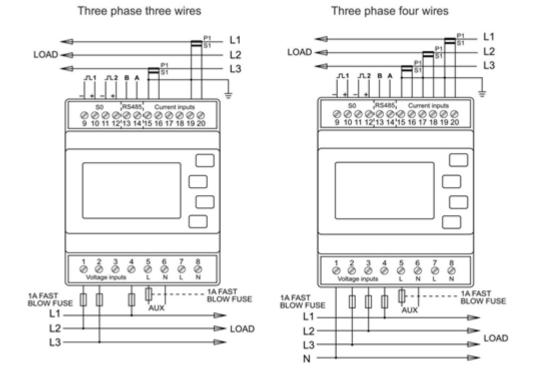
Storage Humidity ≤ 95% Operating Temperature -25°C - +50°C Storage Temperature -40°C - +70°C Mounting DIN rail (DIN 43880) Sealing IP51 Indoor Auxiliary supply voltage Nominal ± 1% Auxiliary supply frequency Nominal ± 1% Frequency 50Hz or 60Hz(±2%) Power Consumption ≤ 10W Accuracy Voltage, Current 0.5% Frequency 0.2% of Mid-Frequency Power Factor 1% of Unity (0.01) Active Power, Apparent Power 2 1% of Range Maximum Reactive Power 2 1% of Range Maximum Reactive Energy (Wah) 1 1% of Range Maximum Active Energy (Wh) 1 18 of Range Maximum Active Energy (Wh) 2 108 of Range Maximum Active Energy (Wh) 3 18 18 18 18 18 18 18 18 18 18 18 18 18	Technical Data	
Storage Humidity ≤ 95% Operating Temperature -25°C - +50°C Storage Temperature -40°C - +70°C Mounting DIN rail (DIN 43880) Sealing IP51 Indoor Auxiliary supply voltage Nominal ± 1% 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 (Warh) ± 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) Protocol Modbus RTU Baud Rate 1200/2400/4800/9600bps	Operating Humidity	≤ 75%
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Reactive Power	Active Power, Apparent Power	± 1% of Range Maximum
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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) Protocol Modbus RTU Baud Rate 1200/2400/4800/9600bps	Accuracy	from 20% to 120% of rated current
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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) Protocol Modbus RTU Baud Rate 1200/2400/4800/9600bps	Maximum primary voltage	5000 VAC (insulated conductor)
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) Protocol Modbus RTU Baud Rate 1200/2400/4800/9600bps	Dielectric strength	2.5 kV/1mA/1min
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Leads UL 1015, Twisted pair, 22 AWG Modbus Bus Type RS485 (Semi-Duplex) Protocol Modbus RTU Baud Rate 1200/2400/4800/9600bps	Core	Permalloy
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Bus Type RS485 (Semi-Duplex) Protocol Modbus RTU Baud Rate 1200/2400/4800/9600bps	Leads	UL 1015, Twisted pair, 22 AWG
Protocol Modbus RTU Baud Rate 1200/2400/4800/9600bps	Modbus	
Baud Rate 1200/2400/4800/9600bps	Bus Type	RS485 (Semi-Duplex)
	Protocol	Modbus RTU
Address Range 1-247	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



Single phase two wires

LOAD

P1
S1
N

RS485, Current inputs
S0 (RS485, Current inputs)
9 10 11 12, 13 14, 15 16 17 18 19 20

11 2 3 4 5 8 7 8
Voltage inputs
L N L N
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