Three phase power sensor, CT

3-phase power-sensor, current transformer



| 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 50A (or 1x 50A) 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.

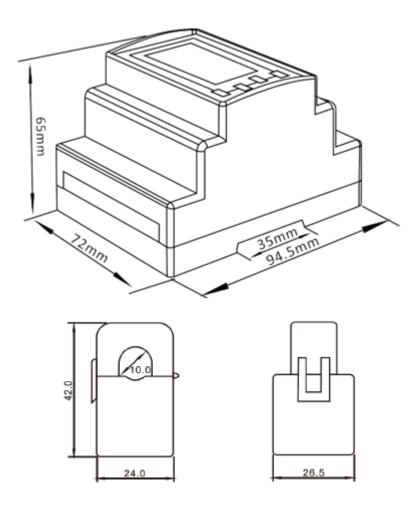
Technical specifications

| 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 18 of Range Maximum Active Energy (Wh) 2 18 of Range Maximum Active Energy (Wh) 3 18 of Range Maximum Active Energy (Wh) 5 18 of Range Maximum Active Energy (Wh) 6 18 of Range Maximum Active Energy (Wh) 7 18 of Range Maximum Active Energy (Wh) 8 18 of Range Maximum Active Energy (Wh) 6 18 of Range Maximum Active Energy (Wh) 7 18 of Range Maximum Active Energy (Wh) 8 18 of Range Maximum Active Energy (Wh) 6 18 of Range Maximum Active Energy (Wh) 7 18 of Range Maximum Active Energy (Wh) 8 18 of Range Maximum Active Energy (Wh) 8 18 of Range Maximum Active Energy (Wh) 9 18 of Range Maximum Active Energy (Wh) 18 of Range Maximum Active Energy (| Technical Data | | | |
|--|------------------------------|---|--|--|
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| Operating Temperature Storage Temperature Storage Temperature A0°C - +70°C Mounting DIN rail (DIN 43880) Sealing Auxillary supply voltage Auxillary supply frequency Frequency Frequency Frequency Fower Consumption Accuracy Voltage, Current Frequency Power Factor Active Power, Apparent Power Reactive Energy (Wah) Active Energy (Wah) Acture Energy (Wah) Acturacy Frequency Frequency Frequency Frequency Frequency Power ± 1% of Range Maximum Reactive Energy (Wah) Class 1 IEC 62053-21 Current transformer Frequency Frequency Frequency Foo-60 Hz Rated current Accuracy From 20% to 120% of rated current Insulation voltage Iess than 2 degrees at 50% of rated current Insulation voltage Foov VAC Maximum primary voltage Dielectric strength Coperating humidity Case material PC/UL94-V0 Bobin PBT Core Permalloy Internal structure Leads UL 1015, Twisted pair, 22 AWG Modbus Bus Type RS485 (Semi-Duplex) Protocol Modbus RTU Baud Rate 1200/2400/4800/9600bps | | ≤ 95% | | |
| Storage Temperature Mounting DIN rail (DIN 43880) Sealing Auxiliary supply voltage Auxiliary supply frequency Frequency Power Consumption Accuracy Voltage, Current Frequency Power Factor Active Power, Apparent Power Reactive Energy (Warh) Active Energy (Wh) Class 1 IEC 62053-21 Current transformer Frequency Phase angle Insulation voltage Maximum primary voltage Dielectric strength Operating temperature Operating humidity Case material Bobin Pettor Reads Use Power Power (Insulated conductor) Dielectric strength Operating temperature Core Permalloy Internal structure Leads UL 1015, Twisted pair, 22 AWG Modbus Protocol Baud Rate Protocol Modbus RTU Baud Rate Pomminal ± 1% Of Range (Insulated xing) Power (Insulated xing) Power (Insulated pair, 22 AWG Modbus RTU Baud Rate Plan (SNA 43880) Pomminal (IDIN 43880) Pomminal ± 1% Pomminal | | -25°C - +50°C | | |
| MountingDIN rail (DIN 43880)SealingIP51 IndoorAuxiliary supply voltageNominal ± 1%Auxiliary supply frequency\$0Hz or 60Hz(±2%)Power Consumption≤ 10WAccuracyVoltage, Current0.2% of Mid-FrequencyPower 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 % | | -40°C - +70°C | | |
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| Auxiliary supply voltage Auxiliary supply frequency Frequency Power Consumption Accuracy Voltage, Current Frequency Power Factor Active Power, Apparent Power Reactive Energy (Varh) Active Energy (Wh) Class 1 IEC 62053-21 Current transformer Frequency Phase angle Insulation voltage Maximum primary voltage Dielectric strength Operating temperature Operating humidity Case material Bobin Core Dead Type Power Dead Type Protocol Bull Maximus Restable (Semi-Duplex) Protocol Bull Maximus Reactive Semi-Duplex) Protocol Bud Naminal ± 1% Nominal ± 100 | Sealing | IP51 Indoor | | |
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| Power Consumption≤ 10WAccuracyVoltage, Current0.5%Frequency0.2% of Mid-FrequencyPower Factor1% of Unity (0.01)Active Power, Apparent Power± 1% of Range MaximumReactive Energy (Varh)± 1% of Range MaximumActive Energy (Wh)Class 1 IEC 62053-21Current transformer50-60 HzFrequency50-60 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/IminOperating temperature-15 to 60°COperating humidity< 85 % | | 50Hz or 60Hz(±2%) | | |
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| Voltage, Current Frequency Power Factor Reactive Power, Apparent Power Reactive Power Reactive Energy (Varh) Active Energy (Wh) Class 1 IEC 62053-21 Current transformer Frequency Rated current Phase angle Iless than 2 degrees at 50% of rated current Insulation voltage Maximum primary voltage Dielectric strength Operating humidity Case material Bobin PBT Core Permalloy Internal structure Leads Bus Type RS485 (Semi-Duplex) Poder Rating Maximum Reactive Power ### 1% of Range Maximum ### 2 1% of Range Maximum Class 1 IEC 62053-21 ### 21% of Range Maximum ### 2 1% of Range Maximum ### 2 180053-21 ### 2 1% of Range Maximum ### 2 1% of Range Maximum ### 2 180053-21 ### 2 1% of Range Maximum ### 2 1% of Range ### | • | | | |
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| Reactive Power | · · · | 1% of Unity (0.01) | | |
| Reactive Power | Active Power, Apparent Power | ± 1% of Range Maximum | | |
| Active Energy (Wh) Current transformer Frequency Rated current Phase angle Insulation voltage Dielectric strength Operating temperature Operating humidity Case material Bobin Core Bobin B | | | | |
| Active Energy (Wh) Current transformer Frequency Rated current Phase angle Insulation voltage Dielectric strength Operating temperature Operating humidity Case material Bobin Core Bobin B | Reactive Energy (Varh) | _ | | |
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| Maximum primary voltage Dielectric strength Operating temperature Operating humidity Case material Bobin Core Permalloy Internal structure Leads Bus Type Protocol Baud Rate Sono VAC (insulated conductor) 2.5 kV/1mA/1min 2.5 kV/1mA/1min 2.5 kV/1mA/2min 2.5 kV/1mA/1min 2. | Phase angle | less than 2 degrees at 50% of rated current | | |
| Dielectric strength Operating temperature Operating humidity Case material Bobin Core Permalloy Internal structure Leads Bus Type Protocol Baud Rate Pito 60°C -15 to 60°C -16 to 60°C -17 to 60°C -18 | Insulation voltage | 600 VAC | | |
| 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) | | |
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| 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 | Case material | PC/UL94-V0 | | |
| 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 | Bobin | PBT | | |
| Leads UL 1015, Twisted pair, 22 AWG Modbus Bus Type RS485 (Semi-Duplex) Protocol Modbus RTU Baud Rate 1200/2400/4800/9600bps | Core | Permalloy | | |
| ModbusBus TypeRS485 (Semi-Duplex)ProtocolModbus RTUBaud Rate1200/2400/4800/9600bps | Internal structure | Ероху | | |
| 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 | | |

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| Max. Bus Loading | 64pcs |
|------------------------|---------------|
| Communication Distance | 1000 Meters |
| Parity | EVEN/ODD/NONE |
| Data Bit | 8 |
| Stop Bit | 1 |

Dimensions



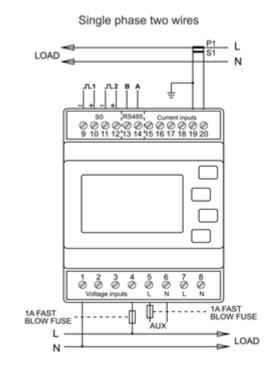
Installation

LOAD

Three phase three wires Three phase four wires LOAD -LOAD -1A FAST BLOW FUSE 1A FAST BLOW FUSE 1A FAST BLOW FUSE L1. L2 ► LOAD

L2

L3 Ν



L3

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