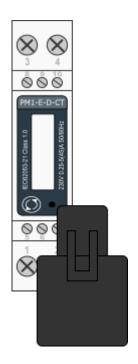
# Single phase power-sensor

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



Model number:	PM1-E-D-CT	
	MC-230	
Connect to:	RS485 power sensor bus A - B	
Mounting:	DIN rail, 1M, 18 mm	
Dimensions:	18 × 62 × 119 mm	
Used for measuring power and energy of		
✓ single-	single-phase energy sources	
✓ single-	single-phase energy consumers	

## **Applications**

Digital multi-function power sensor for single phase networks

#### **Features**

- DIN rail mounting with 50A current transformer
- Compact design in a single module 18mm wide
- Seal-able cover(phase and neutral terminals)

### **General description**

The PM1-E-D series is an advanced single phase energy monitoring solution with built-in configuration push button and LCD data displaying, particularly indicated for active energy and other parameters metering and for cost allocation. Housing for DIN-rail mounting,IP51 protection degree, direct connection up to max 45A.

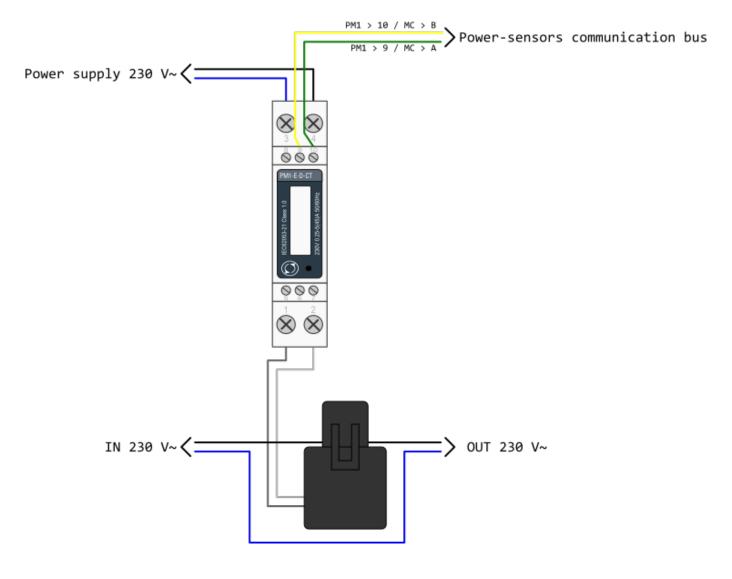
## **Technical specifications**

Technical Data	
Operating Humidity	≤ 75%

Operating Temperature Storage Temperature Storage Temperature International Standard Accuracy Mounting Sealing IP51 Indoor Nominal Voltage Input Max Continuous Voltage AC Voltage Withstand Current Input Operational Current Range Over current withstand Nominal Input Current Burden Frequency Power Consumption  Accuracy  Voltage, Current Prequency Power Factor Active Power, Apparent Power Reactive Energy (Wh)  Modbus Bus Type Protocol Baud Rate Adcuracy Point Max Ac Range Acduracy Power Sange Active Energy (Wh)  Modbus RTU Baud Rate Address Range Communication Distance Point Max 200 - 470°C Active Power Active Power Active Power Active Power Active Energy (Wh) Active Power Active Range Active Range Active Range Active Range Active Energy (Wh) Active Power Active Energy (Wh) Active Power Active Energy (Wh) Active Power Active Energy (Wh) Active Energy (Wh) Active Range Active Energy (Wh) Active Power Active Energy (Wh) Active Energy			
Storage Temperature International Standard IEC 62053-21 Accuracy Mounting DIN rail (DIN 43880) Sealing Nominal Voltage Input Max Continuous Voltage AC Voltage Withstand Current Input Over current withstand Nominal Input Current Burden Frequency Power Consumption Accuracy Voltage, Current Frequency Power Factor Accuracy Voltage, Current Reactive Power Reactive Energy (Wh) Bus Hoad Bus Hoad Bus Loading Mounting  -30°C - +70°C IEC 62053-21 Accuracy IDIN rail (DIN 43880) IEC 62053-21 IPC 10N 43880) IP51 Indoor IP51 Indo	Storage Humidity	≤ 95%	
International Standard  Accuracy  Class 1  Mounting  DIN rail (DIN 43880)  Sealing  IP51 Indoor  Nominal Voltage Input  (Ph+N) 230V AC (176-276V AC)  Max Continuous Voltage  120% of nominal  AC Voltage Withstand  AC Voltage Withstand  ACVoltage Withstand  Current Input  O.25-5A(6)A AC RMS  Operational Current Range  O.4% Ib-Imax  Over current withstand  Nominal Input Current Burden  Frequency  Power Consumption  Accuracy  Voltage, Current  Frequency  Power Factor  Active Power, Apparent Power  Reactive Power  Reactive Energy (Warh)  Active Energy (Warh)  Active Energy (Warh)  Class 1  Modbus  Bus Type  RS485 (Semi-Duplex)  Protocol  Baud Rate  Address Range  Max. Bus Loading  Communication Distance  Parity  EVEN/ODD/NONE	<u> </u>		
AccuracyClass 1MountingDIN rail (DIN 43880)SealingIP51 IndoorNominal Voltage Input(Ph+N) 230V AC (176-276V AC)Max Continuous Voltage120% of nominalAC Voltage Withstand4KV for 1 minuteImpulse Voltage Withstand6KV-1.2μSCurrent Input0.25-5A(6)A AC RMSOperational Current Range0.4% lb-ImaxOver current withstand20Imax for 0.01sNominal Input Current Burden0.5VAFrequency50Hz(±10%)Power Consumption≤ 2W/10VA/phaseAccuracy0.2% of Mid-FrequencyVoltage, Current0.2% of Mid-FrequencyPower Factor1% of Unity (0.01)Active Power, Apparent Power≤ 1% of Range MaximumReactive Power≤ 1% of Range MaximumReactive Energy (Warh)Class 2Active Energy (Wh)Class 1ModbusModbusBus TypeRS485 (Semi-Duplex)ProtocolModbus RTUBaud Rate1200/2400/4800/9600bpsAddress Range1-247Max. Bus Loading64pcsCommunication Distance1000 MetersParityEVEN/ODD/NONE			
MountingDIN rail (DIN 43880)SealingIP51 IndoorNominal Voltage Input(Ph+N) 230V AC (176-276V AC)Max Continuous Voltage120% of nominalAC Voltage Withstand4KV for 1 minuteImpulse Voltage Withstand6KV-1.2μSCurrent Input0.25-5A(6)A AC RMSOperational Current Range0.4% Ib-ImaxOver current withstand20Imax for 0.01sNominal Input Current Burden0.5VAFrequency50Hz(±10%)Power Consumption≤ 2W/10VA/phaseAccuracy0.2% of Mid-FrequencyPower Factor1% of Unity (0.01)Active Power, Apparent Power≤ 1% of Range MaximumReactive Power≤ 1% of Range MaximumReactive Energy (Varh)Class 2Active Energy (Wh)Class 1ModbusModbusBus TypeRS485 (Semi-Duplex)ProtocolModbus RTUBaud Rate1200/2400/4800/9600bpsAddress Range1-247Max. Bus Loading64pcsCommunication Distance1000 MetersParityEVEN/ODD/NONE	International Standard	IEC 62053-21	
SealingIP51 IndoorNominal Voltage Input(Ph+N) 230V AC (176-276V AC)Max Continuous Voltage120% of nominalAC Voltage Withstand4KV for 1 minuteImpulse Voltage Withstand6KV-1.2μSCurrent Input0.25-5A(6)A AC RMSOperational Current Range0.4% Ib-ImaxOver current withstand20Imax for 0.01sNominal Input Current Burden0.5VAFrequency50Hz(±10%)Power Consumption≤ 2W/10VA/phaseAccuracy0.2% of Mid-FrequencyPower Factor1% of Unity (0.01)Active Power, Apparent Power≤ 1% of Range MaximumReactive Power≤ 1% of Range MaximumReactive Energy (Varh)Class 2Active Energy (Wh)Class 1ModbusModbusBus TypeRS485 (Semi-Duplex)ProtocolModbus RTUBaud Rate1200/2400/4800/9600bpsAddress Range1-247Max. Bus Loading64pcsCommunication Distance1000 MetersParityEVEN/ODD/NONE	Accuracy	Class 1	
Nominal Voltage Input  Max Continuous Voltage  AC Voltage Withstand  AC Voltage Withstand  AC Voltage Withstand  AC Voltage Withstand  Current Input  O.25-5A(6)A AC RMS  Operational Current Range  O.4% Ib-Imax  Over current withstand  Nominal Input Current Burden  Frequency  Power Consumption  Accuracy  Voltage, Current  Frequency  Power Factor  Active Power, Apparent Power  Reactive Energy (Varh)  Active Energy (Wh)  Modbus  Bus Type  RS485 (Semi-Duplex)  Power Max. Bus Loading  Communication Distance  Parity  (Ph+N) 230V AC (176-276V AC)  (Ph+N) 230V AC (176-276V AC)  (176-276V AC)  (Ph+N) 230V AC (176-276V AC)  (Fr 1 minute  (AKV for 1 minute  (AKV	Mounting	DIN rail (DIN 43880)	
Max Continuous Voltage120% of nominalAC Voltage Withstand4KV for 1 minuteImpulse Voltage Withstand6KV-1.2μSCurrent Input0.25-5A(6)A AC RMSOperational Current Range0.4% Ib-ImaxOver current withstand20Imax for 0.01sNominal Input Current Burden0.5VAFrequency50Hz(±10%)Power Consumption≤ 2W/10VA/phaseAccuracy0.2% of Mid-FrequencyVoltage, Current0.2% of Mid-FrequencyPower Factor1% of Unity (0.01)Active Power, Apparent Power≤ 1% of Range MaximumReactive Energy (Varh)Class 2Active Energy (Wh)Class 1ModbusModbusBus TypeRS485 (Semi-Duplex)ProtocolModbus RTUBaud Rate1200/2400/4800/9600bpsAddress Range1-247Max. Bus Loading64pcsCommunication Distance1000 MetersParityEVEN/ODD/NONE	Sealing	IP51 Indoor	
AC Voltage Withstand Impulse Voltage Withstand Current Input Operational Current Range Over current withstand Nominal Input Current Burden Frequency Power Consumption  Accuracy Voltage, Current Frequency Power Factor Active Power, Apparent Power Reactive Energy (Wh)  Modbus Bus Type RS485 (Semi-Duplex) Protocol Baud Rate Acuracy Accuracy RKV for 1 minute 6KV-1.2μS 6KV-1.2μS 0.25-5A(6)A AC RMS 0.4% Ib-Imax 0.5VA Frequenx for 0.01s 0.5VA Frequency Soltz(±10%) Soltz(±10%	Nominal Voltage Input	(Ph+N) 230V AC (176-276V AC)	
Impulse Voltage Withstand Current Input O.25-5A(6)A AC RMS Operational Current Range Over current withstand Over current withstand Nominal Input Current Burden Frequency Power Consumption  Accuracy Voltage, Current Frequency Power Factor Active Power, Apparent Power Reactive Energy (Varh) Active Energy (Wh) Bus Type Protocol Baud Rate Address Range Address Range Parity Middlus  Impulse Voltage, CR RMS O.25-5A(6)A AC RMS O.26 AC RMS O.26 Ib-Imax O.27 O.28 Ib-Imax O.29 O.28 Ib-Imax O.59 O.29 Of Mid-Frequency O.29 Of Mid-Frequency P.30 Of Range Maximum Reactive Power Self of Range Maximum Reactive Energy (Varh) Class 2 Active Energy (Varh) Class 1 Modbus Bus Type RS485 (Semi-Duplex) Protocol Baud Rate 1200/2400/4800/9600bps Address Range 1-247 Max. Bus Loading G4pcs Communication Distance Parity EVEN/ODD/NONE	Max Continuous Voltage	120% of nominal	
Current Input Operational Current Range Over current withstand Nominal Input Current Burden Frequency Power Consumption  Accuracy Voltage, Current Frequency Power Factor Active Power, Apparent Power Reactive Energy (Warh) Active Energy (Wh)  Modbus Bus Type RS485 (Semi-Duplex) Protocol Baud Rate Address Range Acurent Burden O.25-5A(6)A AC RMS O.4% Ib-Imax O.5VA Frequency O.5VA Frequency O.2W/10VA/phase O.2W/10VA/phase O.2% of Mid-Frequency In of Unity (0.01) Active Power, Apparent Power In of Range Maximum Class 2 In of Range Maximum Class 2 In of Range Maximum Class 2 In of Range Maximum In of Unity (0.01) In of U	AC Voltage Withstand	4KV for 1 minute	
Operational Current Range0.4% lb-ImaxOver current withstand20Imax for 0.01sNominal Input Current Burden0.5VAFrequency50Hz(±10%)Power Consumption≤ 2W/10VA/phaseAccuracyVoltage, Current0.2% of Mid-FrequencyFrequency0.2% of Mid-FrequencyPower Factor1% of Unity (0.01)Active Power, Apparent Power≤ 1% of Range MaximumReactive Power≤ 1% of Range MaximumReactive Energy (Varh)Class 2Active Energy (Wh)Class 1ModbusRS485 (Semi-Duplex)ProtocolModbus RTUBaud Rate1200/2400/4800/9600bpsAddress Range1-247Max. Bus Loading64pcsCommunication Distance1000 MetersParityEVEN/ODD/NONE	Impulse Voltage Withstand	6KV-1.2μS	
Over current withstand  Nominal Input Current Burden  Frequency  Power Consumption  Accuracy  Voltage, Current  Frequency  Power Factor  Active Power, Apparent Power  Reactive Energy (Wh)  Modbus  Bus Type  Protocol  Baud Rate  Address Range  Max. Bus Loading  Communication Distance  Power SOHZ(±10%)  SOHZ(±10%)  O.5VA  50HZ(±10%)  0.5VA  0.5	Current Input	0.25-5A(6)A AC RMS	
Nominal Input Current Burden $0.5VA$ Frequency $50Hz(\pm 10\%)$ Power Consumption $\leq 2W/10VA/phase$ Accuracy $0.5\%$ Voltage, Current $0.2\%$ of Mid-FrequencyPower Factor $1\%$ of Unity $(0.01)$ Active Power, Apparent Power $\leq 1\%$ of Range MaximumReactive Power $\leq 1\%$ of Range MaximumReactive Energy (Varh)Class 2Active Energy (Wh)Class 1ModbusModbusBus TypeRS485 (Semi-Duplex)ProtocolModbus RTUBaud Rate $1200/2400/4800/9600bps$ Address Range $1-247$ Max. Bus Loading $64pcs$ Communication Distance $1000$ MetersParityEVEN/ODD/NONE	Operational Current Range	0.4% lb-lmax	
Frequency Power Consumption	Over current withstand	20Imax for 0.01s	
Power Consumption≤ 2W/10VA/phaseAccuracy0.5%Voltage, 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)Class 2Active Energy (Wh)Class 1ModbusRS485 (Semi-Duplex)ProtocolModbus RTUBaud Rate1200/2400/4800/9600bpsAddress Range1-247Max. Bus Loading64pcsCommunication Distance1000 MetersParityEVEN/ODD/NONE	Nominal Input Current Burden	0.5VA	
AccuracyVoltage, 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 2Active Energy (Wh)Class 1ModbusModbusBus TypeRS485 (Semi-Duplex)ProtocolModbus RTUBaud Rate1200/2400/4800/9600bpsAddress Range1-247Max. Bus Loading64pcsCommunication Distance1000 MetersParityEVEN/ODD/NONE	Frequency	50Hz(±10%)	
Voltage, 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 2Active Energy (Wh)Class 1ModbusRS485 (Semi-Duplex)ProtocolModbus RTUBaud Rate1200/2400/4800/9600bpsAddress Range1-247Max. Bus Loading64pcsCommunication Distance1000 MetersParityEVEN/ODD/NONE	Power Consumption	≤ 2W/10VA/phase	
Frequency  Power Factor  Active Power, Apparent Power  Reactive Power  Reactive Energy (Varh)  Modbus  Bus Type  Protocol  Baud Rate  Address Range  Address Range  Communication Distance  1% of Range Maximum  2 1% of Range Maximum  Class 2  RS485 (Semi-Duplex)  RS485 (Semi-Duplex)  1200/2400/4800/9600bps  64pcs  1000 Meters  EVEN/ODD/NONE			
Power Factor1% of Unity (0.01)Active Power, Apparent Power≤ 1% of Range MaximumReactive Power≤ 1% of Range MaximumReactive Energy (Varh)Class 2Active Energy (Wh)Class 1ModbusRS485 (Semi-Duplex)Bus TypeRS485 (Semi-Duplex)ProtocolModbus RTUBaud Rate1200/2400/4800/9600bpsAddress Range1-247Max. Bus Loading64pcsCommunication Distance1000 MetersParityEVEN/ODD/NONE	Voltage, Current	0.5%	
Active Power, Apparent Power  Reactive Power  Reactive Energy (Varh)  Active Energy (Wh)  Class 2  Active Energy (Wh)  Class 1  Modbus  Bus Type  RS485 (Semi-Duplex)  Protocol  Baud Rate  1200/2400/4800/9600bps  Address Range  1-247  Max. Bus Loading  Communication Distance  Parity  S 1% of Range Maximum  Address 2  1000 Range Maximum  Reactive Power  1000 Range Maximum  1000 Range Range  1000 Range Rang	Frequency	0.2% of Mid-Frequency	
Reactive Power ≤ 1% of Range Maximum Reactive Energy (Varh) Class 2 Active Energy (Wh) Class 1  Modbus  Bus Type RS485 (Semi-Duplex) Protocol Modbus RTU Baud Rate 1200/2400/4800/9600bps Address Range 1-247 Max. Bus Loading 64pcs Communication Distance 1000 Meters Parity EVEN/ODD/NONE	Power Factor	1% of Unity (0.01)	
Reactive Energy (Varh)  Active Energy (Wh)  Class 1  Modbus  Bus Type  RS485 (Semi-Duplex)  Protocol  Modbus RTU  Baud Rate  1200/2400/4800/9600bps  Address Range  1-247  Max. Bus Loading  Communication Distance  Parity  Class 2  RS485 (Semi-Duplex)  Modbus RTU  1200/2400/4800/9600bps  1-247  Max. Bus Loading  EVEN/ODD/NONE	Active Power, Apparent Power	≤ 1% of Range Maximum	
Active Energy (Wh)  Modbus  Bus Type  RS485 (Semi-Duplex)  Protocol  Baud Rate  1200/2400/4800/9600bps  Address Range  1-247  Max. Bus Loading  Communication Distance  Parity  Class 1  RS485 (Semi-Duplex)  1200/2400/4800/9600bps  64pcs  1-247  64pcs  EVEN/ODD/NONE	Reactive Power	≤ 1% of Range Maximum	
Modbus  Bus Type RS485 (Semi-Duplex)  Protocol Modbus RTU  Baud Rate 1200/2400/4800/9600bps  Address Range 1-247  Max. Bus Loading 64pcs  Communication Distance 1000 Meters  Parity EVEN/ODD/NONE	Reactive Energy (Varh)	Class 2	
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Protocol Modbus RTU Baud Rate 1200/2400/4800/9600bps Address Range 1-247 Max. Bus Loading 64pcs Communication Distance 1000 Meters Parity EVEN/ODD/NONE	Modbus		
Baud Rate 1200/2400/4800/9600bps Address Range 1-247 Max. Bus Loading 64pcs Communication Distance 1000 Meters Parity EVEN/ODD/NONE	Bus Type	RS485 (Semi-Duplex)	
Address Range 1-247  Max. Bus Loading 64pcs  Communication Distance 1000 Meters  Parity EVEN/ODD/NONE	Protocol	Modbus RTU	
Max. Bus Loading 64pcs Communication Distance 1000 Meters Parity EVEN/ODD/NONE	Baud Rate	1200/2400/4800/9600bps	
Communication Distance 1000 Meters Parity EVEN/ODD/NONE	Address Range	1-247	
Parity EVEN/ODD/NONE	Max. Bus Loading	64pcs	
		·	
-	Parity	EVEN/ODD/NONE	
nata rit 8	Data Bit	8	
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## **SDM120 Terminals**



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