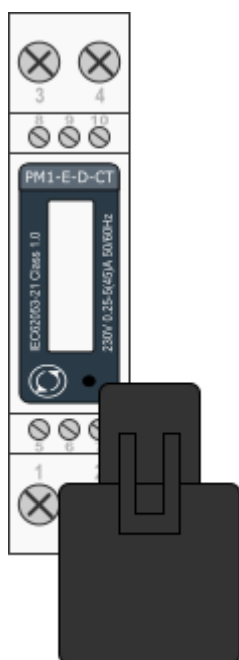


# 1. Single phase power-sensor, CT

## 1-phase power-sensor, current transformer



|                                               |                                                                   |
|-----------------------------------------------|-------------------------------------------------------------------|
| Model number:                                 | <b>PM1-E-D-CT</b>                                                 |
| Connect to:                                   | <a href="#">01_rdx_charger</a><br>RS485 power sensor<br>bus A - B |
| Mounting:                                     | DIN rail, 1M, 18 mm                                               |
| Dimensions:                                   | 18 × 62 × 119 mm                                                  |
| <b>Used for measuring power and energy of</b> |                                                                   |
| ✓                                             | single-phase energy sources                                       |
| ✓                                             | single-phase energy consumers                                     |

## 1.1. Applications

- Digital multi-function power sensor for single phase networks

## 1.2. Features

- DIN rail mounting with 50A current transformer ([1-ph current transformer](#) )
- Compact design in a single module 18mm wide
- Seal-able cover(phase and neutral terminals)

## 1.3. General description

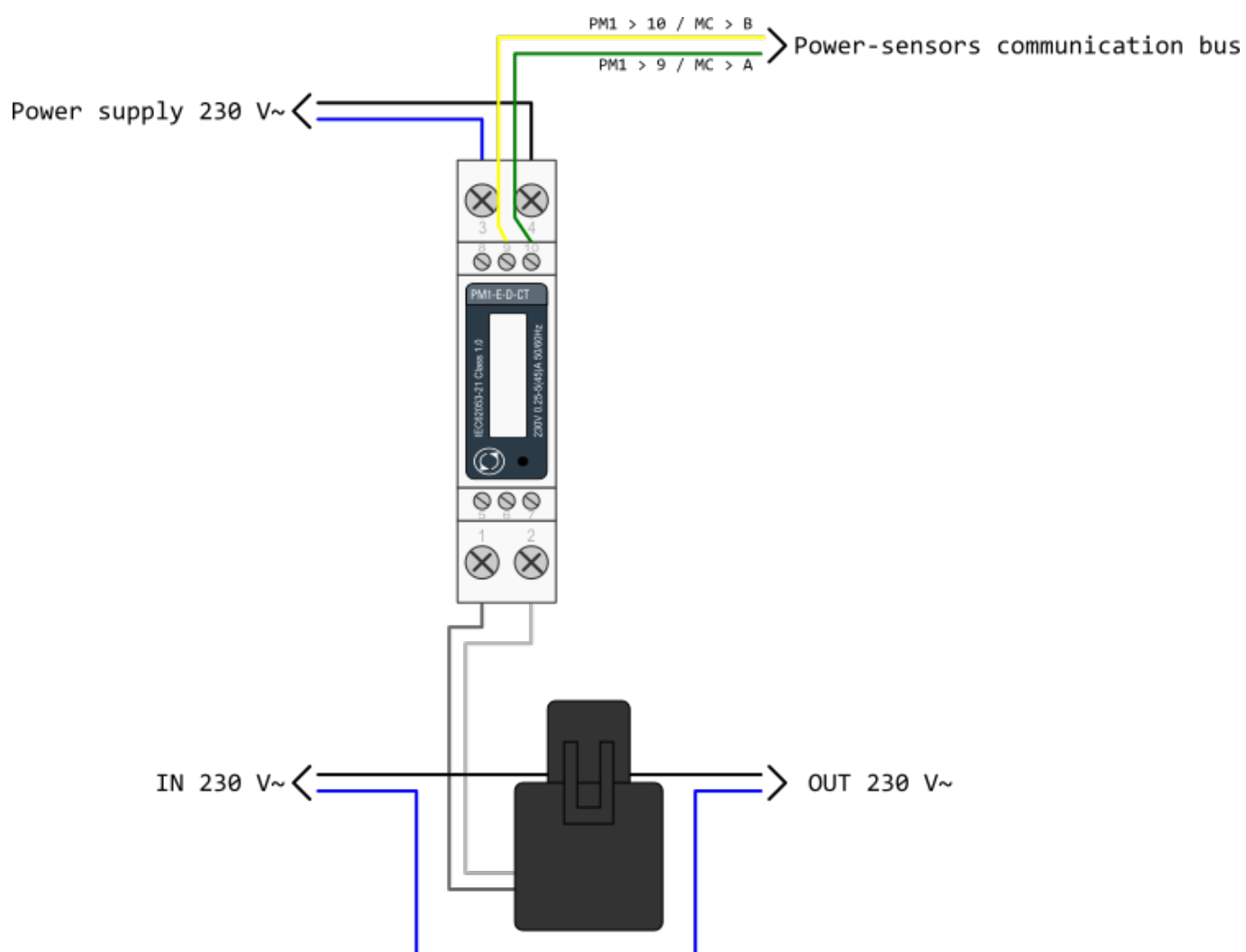
The PM1-E-D series is an advanced single phase energy monitoring solution with built-in configuration push button and LCD data display. Particularly indicated for metering active energy and other power parameters. Housing for DIN-rail mounting, IP51 protection degree.

## 1.4. Technical specifications

| Technical Data               |                                             |
|------------------------------|---------------------------------------------|
| Operating Humidity           | ≤ 75%                                       |
| Storage Humidity             | ≤ 95%                                       |
| Operating Temperature        | -20°C - +50°C                               |
| Storage Temperature          | -30°C - +70°C                               |
| International Standard       | IEC 62053-21                                |
| 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         | 4KV for 1 minute                            |
| Impulse Voltage Withstand    | 6KV-1.2μS                                   |
| Current Input                | 0.25-5A(6)A AC RMS                          |
| Operational Current Range    | 0.4% Ib-I <sub>max</sub>                    |
| Over current withstand       | 20I <sub>max</sub> for 0.01s                |
| Nominal Input Current Burden | 0.5VA                                       |
| Frequency                    | 50Hz(±10%)                                  |
| Power Consumption            | ≤ 2W/10VA/phase                             |
| 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)       | Class 2                                     |
| Active Energy (Wh)           | Class 1                                     |
| 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 |
| <b>Modbus</b>          |                               |
| 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                 |
| Data Bit               | 8                             |
| Stop Bit               | 1                             |

## 1.5. PM1-E-D-CT Terminals



hiq\_pm1-e-d-ct\_user\_manual\_2020\_v1.0.pdf

hiq\_pm1-e-d-ct\_protocol\_v1.2.pdf