



Scan for User Manual

1 Product Introduction

M1-40 is a single-phase meter designed for electricity monitoring and power metering in PV system and other scenarios. It is small in size and easy to use, and offers precise power metering.

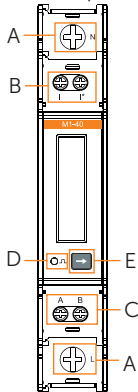
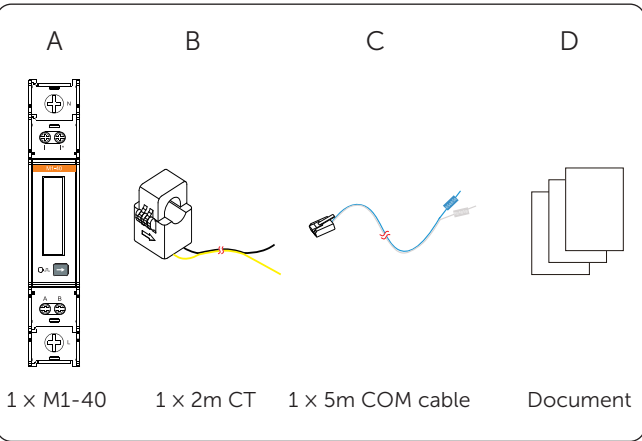


Figure 1-1 M1-40 appearance

Table 1-1 Description of meter appearance

| No. | Type | Marking | Definition |
|-----|-----------------|---------|---|
| A | Terminal | L | UL terminal, connected to the L wire of the grid |
| | | N | UN terminal, connected to the N wire of the grid |
| B | Terminal | I* | Current input terminal, connected to the I* wire of CT |
| | | I | Current output terminal, connected to the I wire of CT |
| C | Terminal | A | RS485 terminal A |
| | | B | RS485 terminal B |
| D | Indicator | | Pulse indicator, flashes when the meter is working normally |
| E | Function button | → | Used to switch the display item |

2 Scope of Delivery



3 Typical Networking Diagrams

The following diagrams use European TN-S for example, and are for reference only.

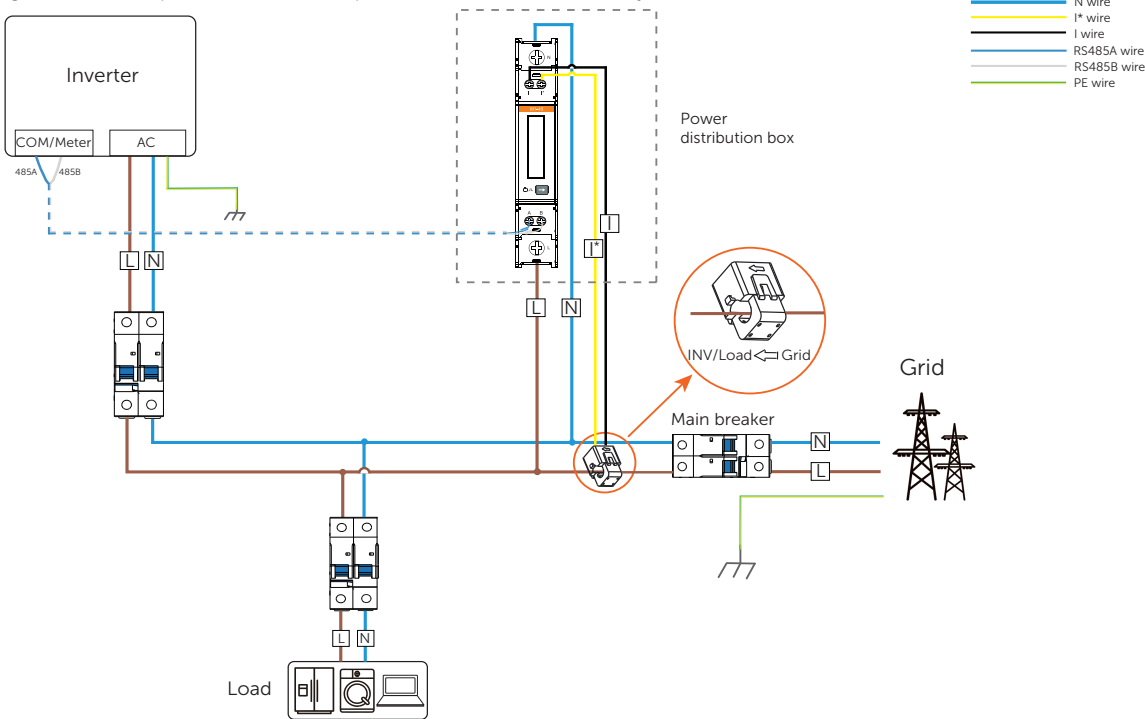


Figure 3-1 Networking through RS485 cable

The meter can also work with Wi-BR to transmit data within up to 200 m horizontally and 20 m vertically*.

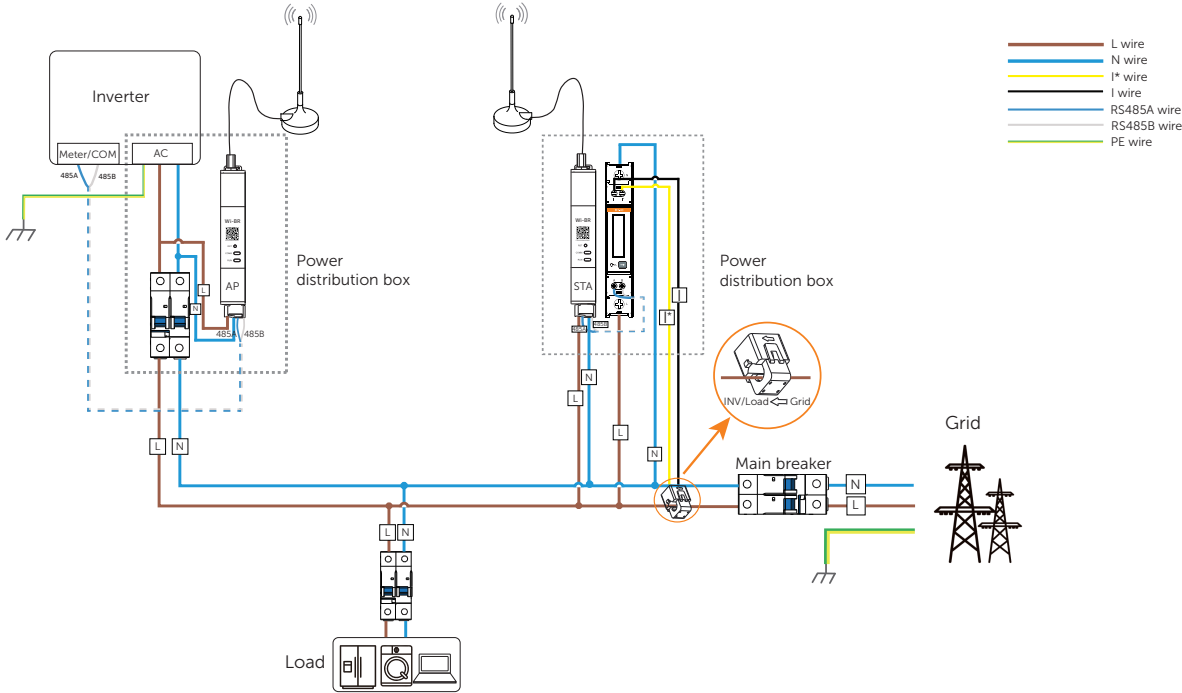






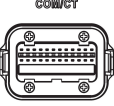
Figure 3-2 Wireless data transmission through Wi-BR

Note: The transmission data of Wi-BR comes from test results conducted in SolaX laboratories.



4 Compatible Inverters and Pin Definition

Table 4-1 SolaX inverter models and pin definition

| Inverter series | Terminal type | Connector type | Pin No. | Pin definition |
|---|---|------------------------|---------|----------------|
| X1-HYB LV |  | RJ45 | 4 | 485A |
| | | | 5 | 485B |
| X1-AC |  | RJ45 | 7 | 485A |
| | | | 8 | 485B |
| • X1-HYB G4 • X1-FIT G4 • X1-IES • X1-VAST |  | RJ45 | 4 | 485A |
| | | | 5 | 485B |
| • X1-MINI G4 • X1-BOOST G4 |  | RJ45 | 4 | 485A |
| | | | 5 | 485B |
| X1-SMART G2 |  | Quick-connect terminal | 4 / 11 | 485A |
| | | | 5 / 12 | 485B |

*Note: Two pairs of terminals are available for meter connection on X1-Smart G2, and the pins in the same box are a pair.

5 Cable Requirements

Table 5-1 Required cables and specification

| Usage | Terminal marking | Cable type (Recommended) | Sectional area (mm ²) | Outer diameter (mm) | Prepared by |
|---------------|------------------|--|-----------------------------------|---------------------|-------------|
| Voltage cable | L | Multi-core outdoor copper wire | 1.5~2.5 | 3~5 | User |
| | N | | | | |
| CT cable | I* | / | / | / | Supplier |
| COM cable | RS485A | Two-core outdoor shielded twisted pair cable | 0.25~1.5 | 4~11 | Supplier |
| | RS485B | | | | |

6 Electrical Connection

Power Cable Connection

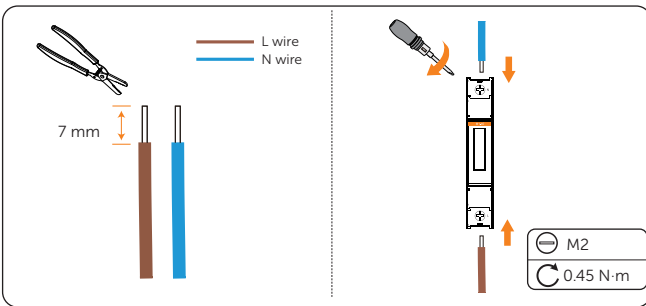


Figure 6-1 Connecting power cables

CT Connection

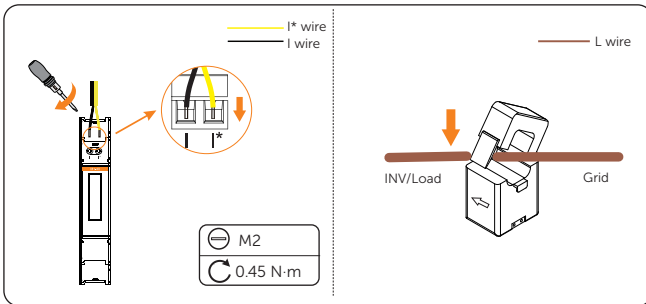


Figure 6-2 Connecting CT cables

Communication Cable Connection

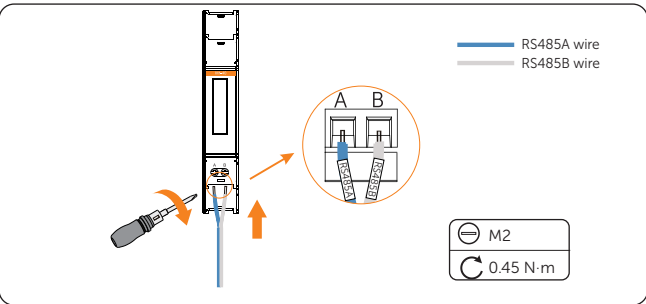


Figure 6-3 Connecting communication cables

7 Installation

NOTICE

We recommend connecting all cables for the meter before mounting it onto the rail.

M1-40 is designed to be installed on the 35 mm DIN rail inside the power distribution box.

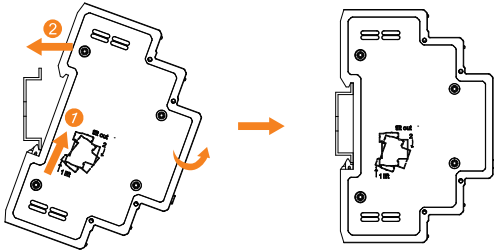


Figure 7-1 Mounting M1-40

8 Technical Data

Figure 8-1 Sepecification

| | |
|------------------------------|--------------------------------|
| Power grid type | 1P2W |
| Rated voltage | 220V...240V |
| Operating voltage | 100 V~288 V |
| Current | *A/40 mA |
| Recommended CT specification | 100 A/40 mA; 200 A/40 mA |
| Power consumption | <1.2 W |
| Measurement accuracy class | Voltage and current: Class 0.5 |
| | Active power: Class 1 |
| | Reactive power: Class 2 |
| Resolution requirement | Active power: 0.1 W |
| | Frequency: 0.001 Hz |
| Frequency | 45 Hz~65 Hz |
| Frequency tolerance | 0.01 Hz |
| Operating temperature | -40°C to +70°C |
| Operating humidity | ≤95% , non-condensing |
| Operating altitude | <4000 m |
| Degree of protection | IP20 |
| Dimensions (W × H × D) | 18 mm × 100 mm × 65.5 mm |