




SOLAX M1-40 Meter Installation Guide

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SOLAX M1-40 Meter



Specifications

- Power grid type: Single-phase
- Rated voltage: AC 230V
- Operating voltage: AC 100-280V
- Current: Up to 40A
- Recommended CT specification: 5A/1mA
- Power consumption: < 1W

Product Introduction

The SolaX Meter M1-40 is a single-phase meter designed for electricity monitoring and power metering in PV systems and other scenarios. It is compact, easy to use, and offers precise power metering.

Product Usage Instructions

Scope of Delivery

The package includes the M1-40 meter along with RS485A and RS485B cables for communication.

Compatible Inverters and Pin Definition

The M1-40 meter is compatible with various SolaX inverter models. Refer to Table 4-1 for pin definitions.

Cable Requirements

Refer to Table 5-1 for the required cables and specifications for voltage, CT, and communication connections.

Electrical Connection

1. **Power Cable Connection:** Connect the L and N wires according to the specified cable type and sectional area. See Figure 6-1.
2. **CT Connection:** Connect the I* and I wires as per the CT cable requirements. See Figure 6-2.
3. **Communication Cable Connection:** Connect the RS485A and RS485B cables for communication. See Figure 6-3.

Installation

Before mounting the meter, ensure all cables are connected. Install the M1-40 on the 35mm DIN rail inside the power distribution box. See Figure 7-1 for mounting instructions.

Technical Data

Refer to Figure 8-1 for detailed technical specifications including power grid type, rated voltage, operating voltage, current rating, recommended CT specification, and power consumption.

Frequently Asked Questions (FAQ)

1. **Q: Can the M1-40 meter work wirelessly?**

A: The M1-40 meter can work with Wi-BR for wireless data transmission within specific ranges as stated in the user manual.

2. **Q: What is the recommended cable type for voltage connections?**

A: The recommended cable type for voltage connections is multi-core outdoor copper wire with a sectional area of 1.5~2.5mm².

3. **Q: How should I connect the CT cables?**

A: Connect the I* wire to the CT cable and the I wire to complete the CT connection as illustrated in the user manual.



Scan for User Manual

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.

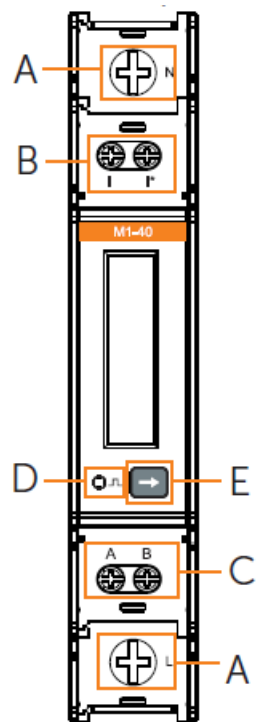

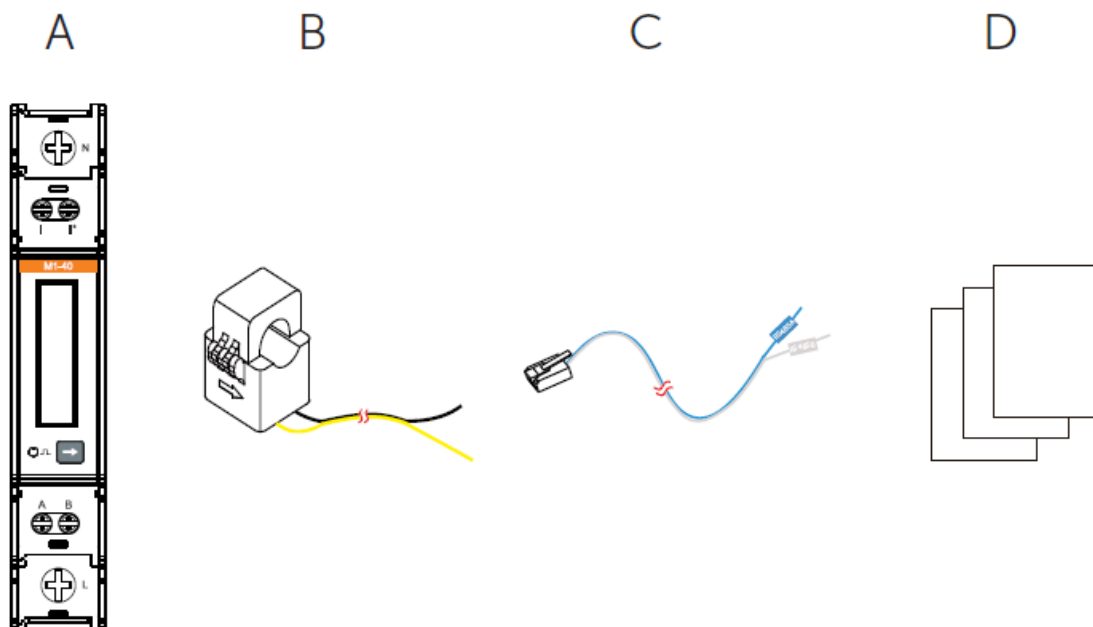


Figure 1-1 M1-40 appearance
Table 1-1 Description of meter appearance

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
I*		Current input terminal, connected to the I* wire of CT	
I		Current output terminal, connected to the I wire of CT	
C		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

Scope of Delivery



1 × M1-40

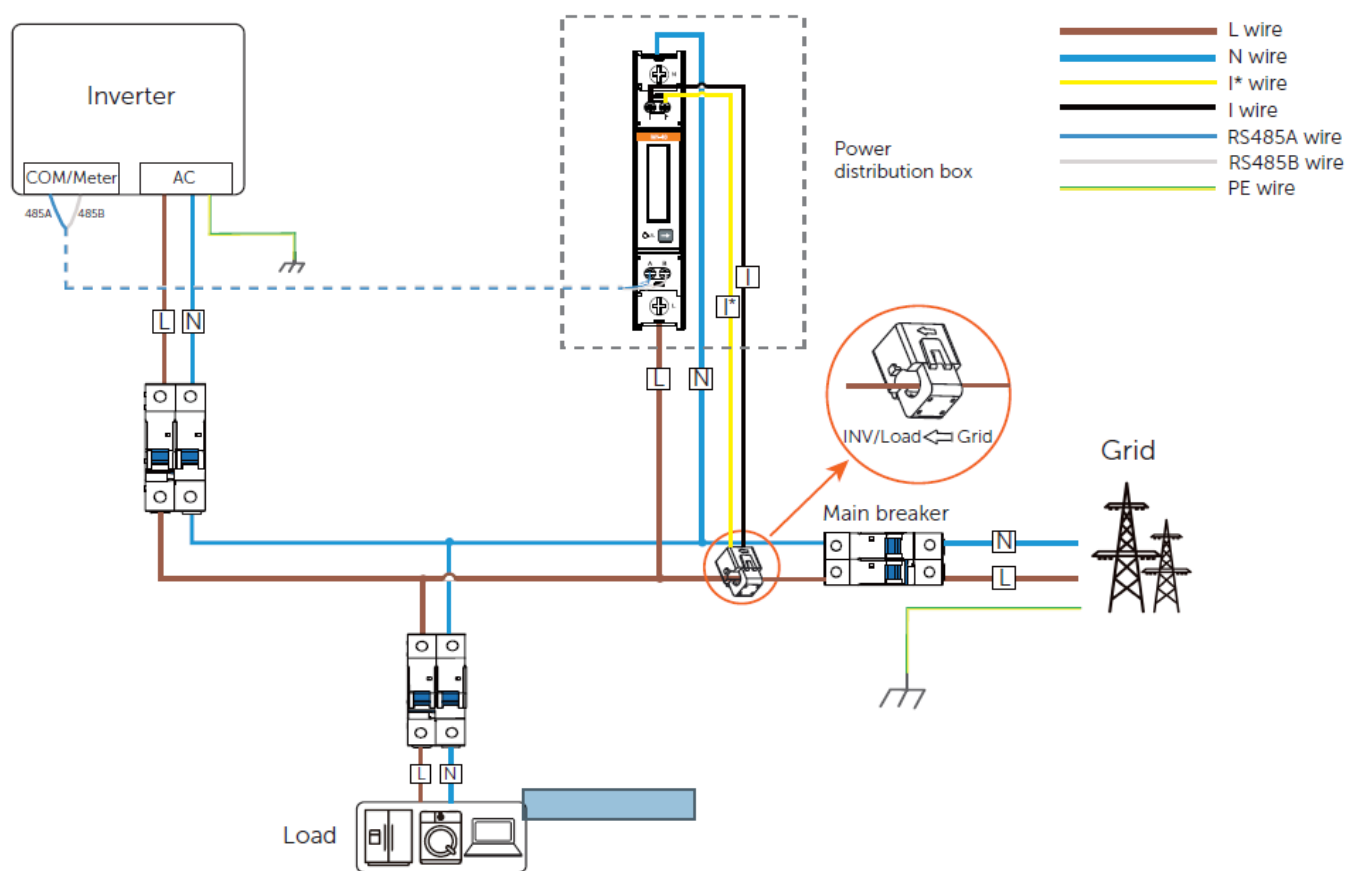
1 × 2m CT

1 × 5m COM cable

Document

Typical Networking Diagrams

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



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

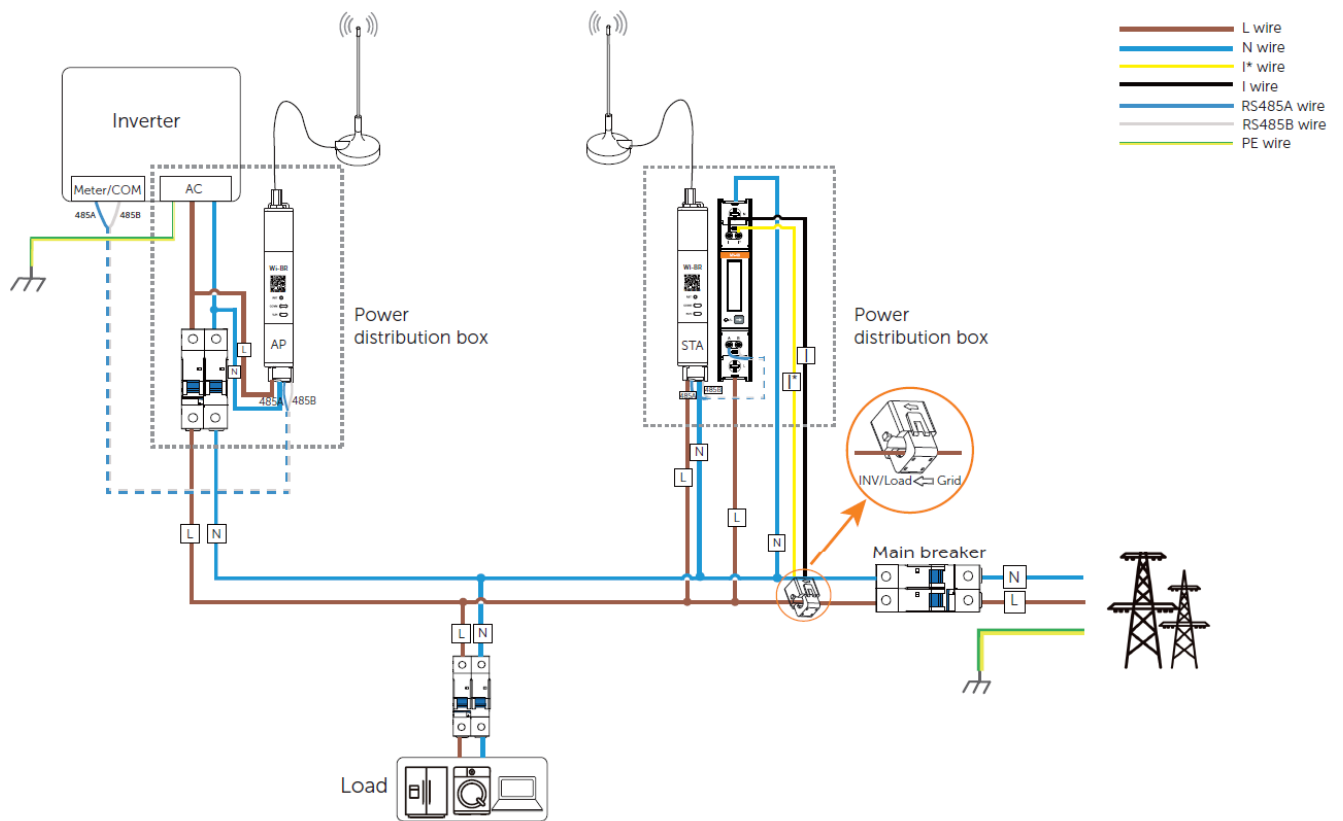







Figure 3-2 Wireless data transmission through Wi-BR

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

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
<ul style="list-style-type: none"> • X1-HYB G4 • X1-FIT G4 • X1-IES • X1-VAST 		RJ45	4	485A
			5	485B
<ul style="list-style-type: none"> • 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.

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	<div> <div>L</div> <div>N</div> </div>	Multi-core outdoor copper wire	1.5~2.5	3~5	User
CT cable	<div> <div>I*</div> <div>I</div> </div>	/	/	/	Supplier
COM cable	<div> <div>RS485A</div> <div>RS485B</div> </div>	Two-core outdoor shielded twisted pair cable	0.25~1.5	4~11	Supplier

Electrical Connection

Power Cable Connection

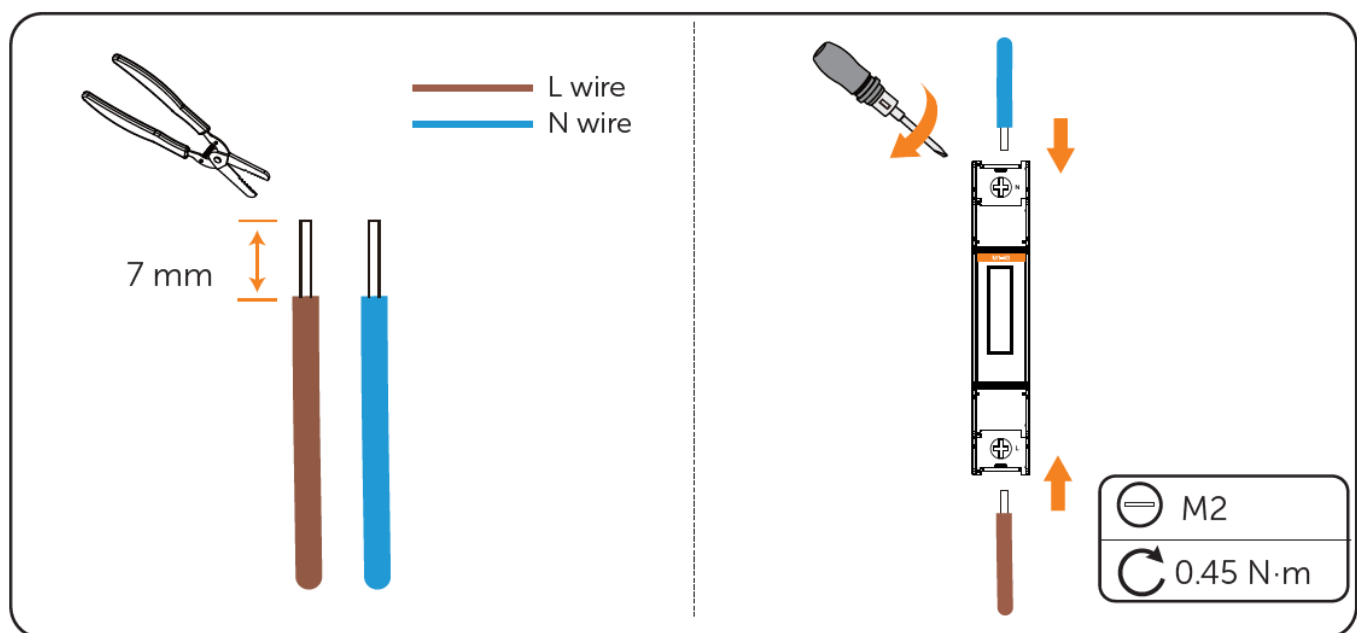


Figure 6-1 Connecting power cables

CT Connection

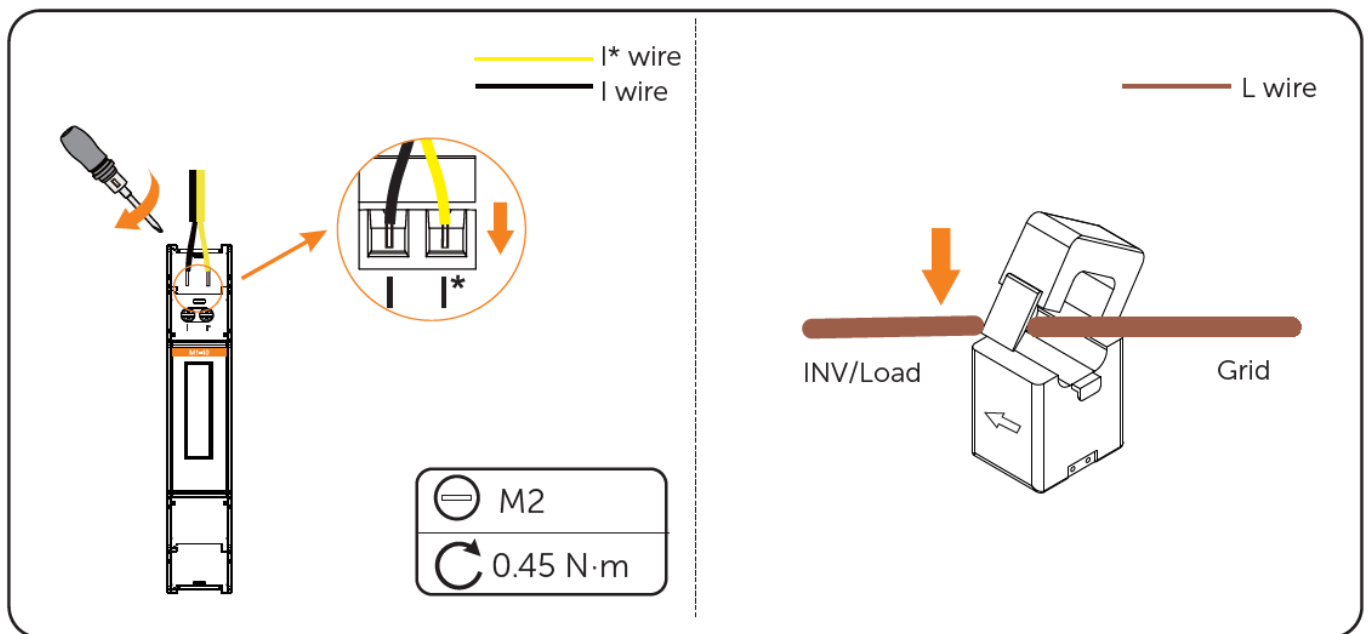


Figure 6-2 Connecting CT cables

Communication Cable Connection

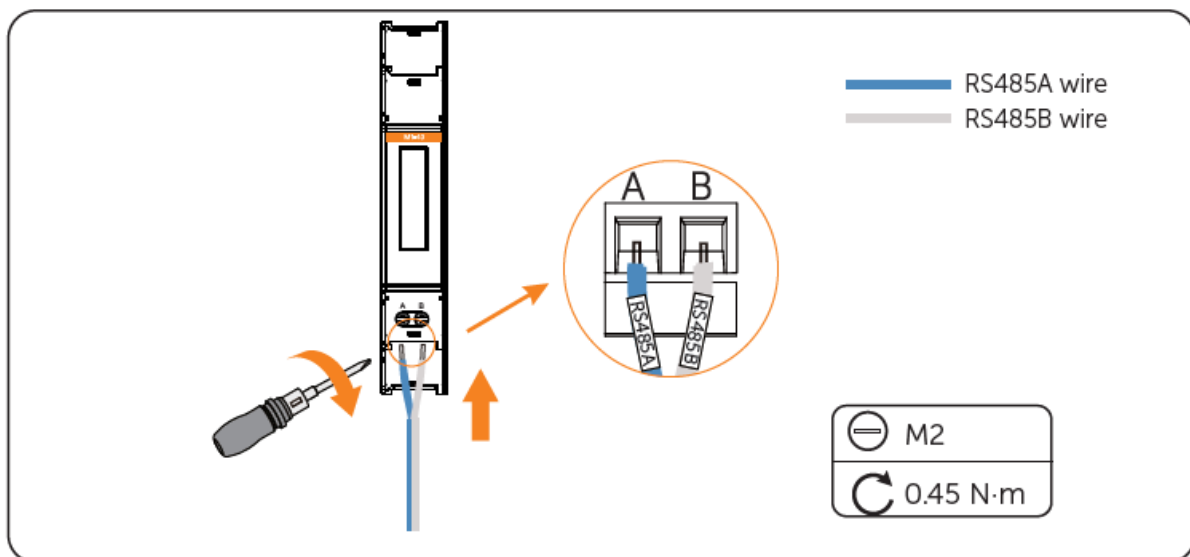


Figure 6-3 Connecting communication cables

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.

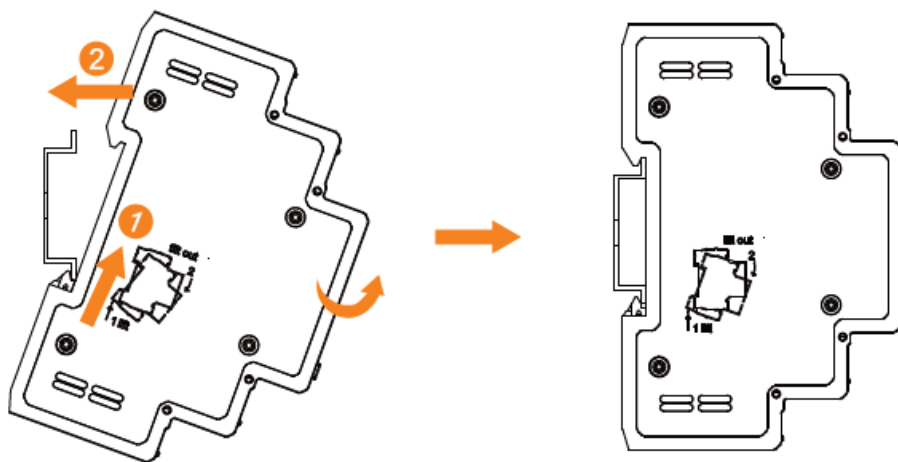


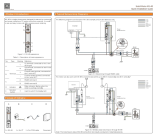
Figure 7-1 Mounting M1-40

Technical Data

Figure 8-1 Specification

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

Documents / Resources



[SOLAX M1-40 Meter](#) [pdf] Installation Guide
M1-40, X1-HYB LV, X1-AC, X1-SMART G2, M1-40 Meter, M1-40, Meter

References

- [User Manual](#)

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