HM10 Series Solar Aware Installation Supplement

Your HM10 Series EV Charging Station is fitted with an RS485 SONIC connection which allows communication between the charging station and external accessories for load management.

- Solar smart meter
- Chargemate
- Modbus RTU
  Note: only one device can be connected at a time.

This supplement describes the installation and use for the Solar smart meter.

Hardware:

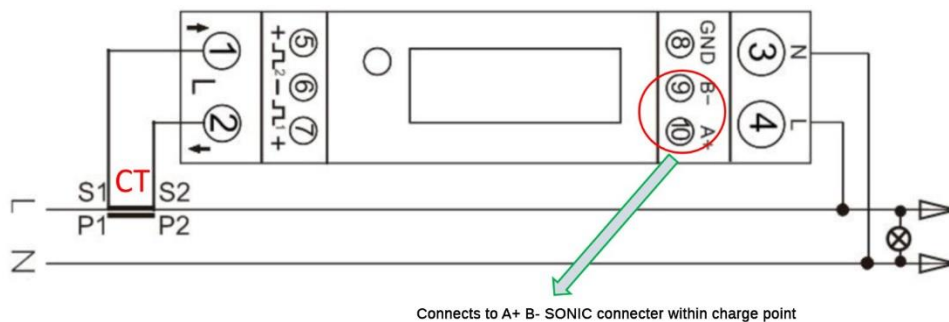Your unit will come packaged with either a single phase or three phase meter.
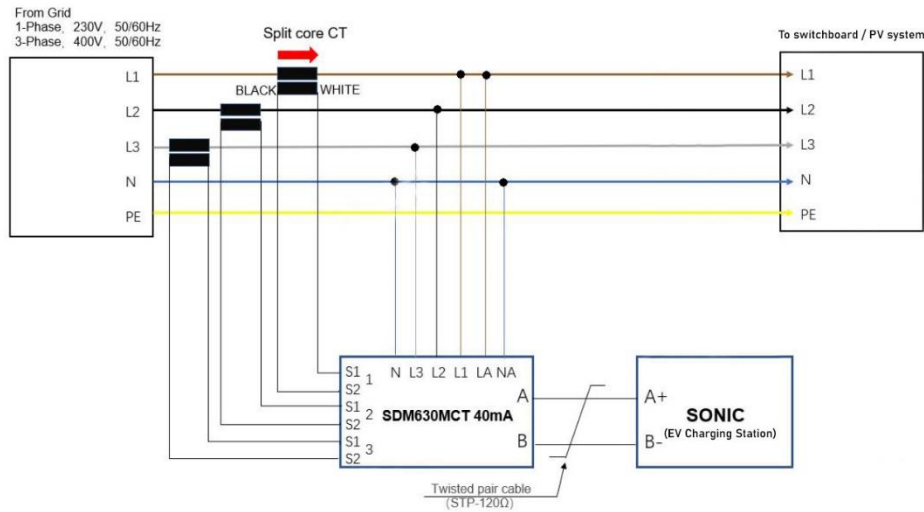

Single phase meter

Three phase meter

Installation:

Wiring diagram Single phase meter:

Connects to A+ B- SONIC connecter within charge point

Wiring diagram Three phase meter:

VERY IMPORTANT: L1 & N require TWO connections to smart meter.

Locate the SONIC connection point on the primary control board – connection points labelled A+ B–

Note:
a) For the CTs (CT1~3) of smart energy meter, the installation and wiring must ensure the same direction.
b) It is recommended to use stp-120Ω cable (ethernet cable or similar) to connect the smart energy meter and SONIC Charging Station.

Three Phase Solar Smart Meter Configuration: (Note: Single phase meter does not require additional configuration)

Once the meter is powered, the smart meter requires the modbus address & amperage limit to be congfigured.

Configure the modbus address by:

1. Begin with page displaying '0000 kWh' 'M 000.0'
2. Hold 'E' button until the screen displays 'PASS' '0000' displays (approx. 2 seconds),
3. Press 'M' once so '1000' displays on bottom line,
4. Hold 'E' button again until 'SEE' 'Addr' '002' displays,
5. Release 'E' and hold 'E' again until the first 0 in bottom row begins flashing,
6. Press 'E' twice so the '2' flashes,
7. Press 'P' so the '2' becomes '1'
8. Hold 'E' bottom line will show 'good'

From here configure the max amperage by:

| Step 1 | Step 2 | Step 3 | Step 4 | Step 5 | Step 6 | Step 7 | Step 8 |

9. Continuing from Modbus config, press 'P' five times, so display shows 'Set' 'Ct1' '0100'
10. Hold 'E' until the first digit on the bottom-line flashes,
11. Press 'E' twice until the third digit flashes,
12. Press 'M' twice until the number reads '0120',
13. Hold 'E' to save setting (bottom line will read 'good'
14. Press 'U/I' to leave configuration mode & return to beginning screen.

Step 9   Step 10   Step 11   Step 12   Step 13   Step 14

Note: Once configured correctly & communicating with the charge point the Solar options will appear in the WE-E Charge app automatically.

Operation:

Mode	Description	Energy Source
BOOST	Maximum charging power, the maximum charging current = the set current of charger, the charging current and irrelevant to the output current of PV system.	Only Grid Or only PV system Or Grid + PV system
ECO+	Most economical charging, all charging energy comes from PV system. And if the grid-connected current of PV system < 6A, the charging will stop automatically.	Only PV system
ECO	If the grid-connected current of PV system ≥ 6A, the charging current only comes from the PV system, and the charging current = grid-connected current of PV system.	Only PV system
	If the grid-connected current of PV system <6A, the charging current = 6A. The charging current which cannot be provided by the PV system comes from the grid energy.	Grid + PV system

Set solar charging mode:

Use the WE E-Charge APP to set the solar charging mode.
    1) Binding the SONIC charging station with WE E-Charge APP by scanning the QR code on the side of the charging station,
    2) In the "Settings" menu of WE E-Charge APP, you can set the parameters of solar charging.
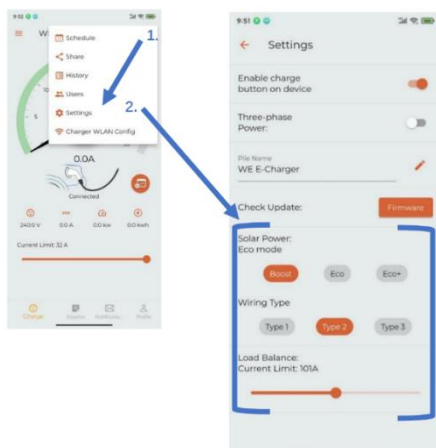
Note: In the ECO+ Mode, all charging energy comes from the PV system. When the output current of the PV system is lower than 6A, the SONIC will enter the state of suspended charging.
As some EV models will enter the sleep state after stopping charging, it is necessary to disconnect and reset the PP connection before waking up charging again, this can be done by removing and replacing the charging connector to the vehicle.
At present, because of the SONIC cannot disconnect the PP signal automatically, the charging process may not be restarted again after the output is suspended in ECO+ Mode.