QUICK START GUIDE

Solinteg M2HT 25–50 kW Hybrid Inverter

Three-Phase High-Voltage Hybrid Inverter



M2HT-25K · 29.9K · 30K · 40K · 50K

Quick Start Guide

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AERL.COM.AU

AUSTRALIAN EDITION

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Document

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Audience
Licensed installers

Full details
Solinteg M2HT 25–50 kW User Manual

Format
A4 · 13 pages

Before You Start

01

What you need, key values at a glance

This guide covers the essential steps to install, connect and start up the Solinteg M2HT 25–50 kW hybrid inverter. It does not replace the **Solinteg M2HT 25–50 kW User Manual**. Read the manual's safety instructions (§1) before you start, and use it for any step you are unsure of. References such as §5.4 point to the user manual.

Only licensed electrical workers may install the inverter

Install in accordance with AS/NZS 3000, AS/NZS 4777.1, AS/NZS 4777.2, AS/NZS 5033 and AS/NZS 5139, and the requirements of the local network service provider. Connect to the grid only with network approval. Never work on live equipment: isolate every supply first. Connect the protective earth before anything else.

High DC voltages

The PV array produces dangerous DC voltage in sunlight. PV strings must not exceed **950 V** (above 1000 V the inverter is damaged). The battery must not exceed **840 V**. Wait 10 minutes after isolating before touching internal parts.

Parallel systems

For a parallel system, see §5.10 and contact AERL when designing it.

1.1 What You Need

- **In the box:** inverter, mounting bracket with M10 bolts and M6 screws, on-grid, back-up and generator AC connectors, 8 pairs of PV connectors, battery connectors, RMM smart meter with 3 CTs, R2MD communication module, COM2 and COM3 (blue) connectors, meter (10 m) and battery (3 m) communication cables, OT lugs (§3.2).
- **You supply:** AC, DC, battery, earth and communication cables; breakers and RCDs; an external DC isolator if required; a compatible high-voltage LFP battery with BMS (see the AERL Compatibility Guide, aerl.com.au).
- **Tools:** hammer drill, spirit level, torque screwdrivers and Allen socket wrench, crimping tools (including RJ45 and hydraulic), PV crimper (Phoenix CRIMPFOX-RC 10 recommended), wire strippers, and a multimeter with a DC range above 1100 V (§4.2, §5.3).
- **Lifting:** the inverter weighs 89 kg. Use at least two people and the lifting handles, or hoist it (§3.1, §4.3).

1.2 Key Values at a Glance

Item	Value	Manual
Inverter size (W × H × D)	919 × 739 × 305 mm, 89 kg, IP66	§11
Clearances	300 mm above, 450 mm below, 600 mm each side; 600 mm between inverters	§4.1
Mounting	Vertical only, on a wall that can carry the weight; out of direct sun and rain	§4.1
On-grid AC cable	5-core, 16–50 mm², 20–37 mm OD; strip sheath 95–100 mm, cores 20–25 mm	§5.4
On-grid connector torques	Lugs 3.8 N·m; connector nut 10 N·m	§5.4
Back-up / generator AC cable	5-core, 10–25 mm² flexible or 10–35 mm² rigid; strip cores 15 mm; screws 5 N·m, nut 10 N·m	§5.4
PV cable	4 or 6 mm², 5.9–8.8 mm OD; strip 7 mm	§5.5
PV voltage	950 V operating max.; 1000 V absolute	§5.5
Battery cable	50 mm², 13 mm OD; strip 16.5 mm	§5.6
Battery voltage	150–840 V; fuses in both conductors	§5.6
Communication terminals	0.5–1.5 mm²; strip sheath 55 mm, cores 8 mm; 1.2 N·m	§5.9
Breakers (on-grid / back-up)	25K: 100 / 63 A · 29.9K and 30K: 125 / 80 A · 40K: 160 / 100 A · 50K: 160 / 125 A	§5.2
RCDs	30 mA type A on the load circuits	§5.2
Operating temperature	−30 to 60 °C (derating above 45 °C)	§4.1

Mount the Inverter

Choose the location, mount and earth

02

2.1 Choose the Location

- Indoors or outdoors (IP66), out of direct sun, rain and snow, in a well-ventilated place no higher than 3000 m.
- On a wall that can carry 89 kg (not plasterboard), at eye level, out of reach of children, away from flammable materials.
- Vertical only, with the clearances below.

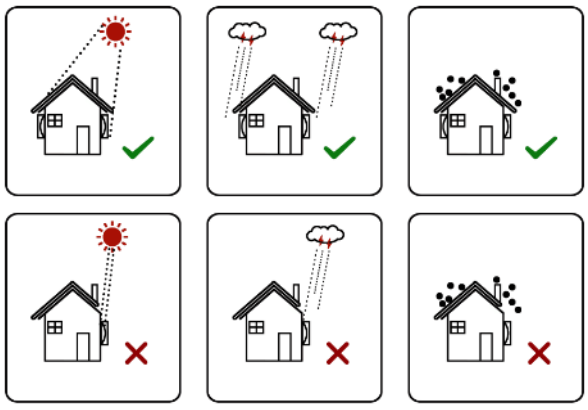


Figure 2.1 Choose a shaded, sheltered location.

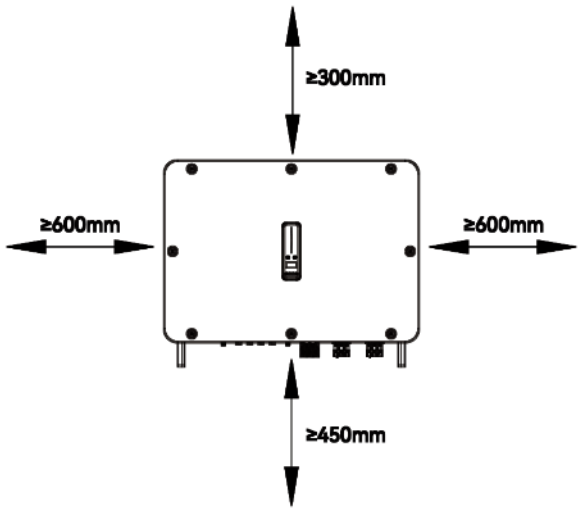


Figure 2.2 Clearances around a single inverter.

2.2 Mount and Earth

1	Level the bracket, mark and drill the holes (830 mm and 45 mm spacings), and fix the bracket to the wall (§4.4).
2	Fit the lifting handles, lift the inverter onto the bracket with two people or a hoist, and secure it with the M6 screws (§4.3).
3	Connect the external earth terminal (lower right) to the earth bar with a crimped OT lug, before any other cable (§4.5).

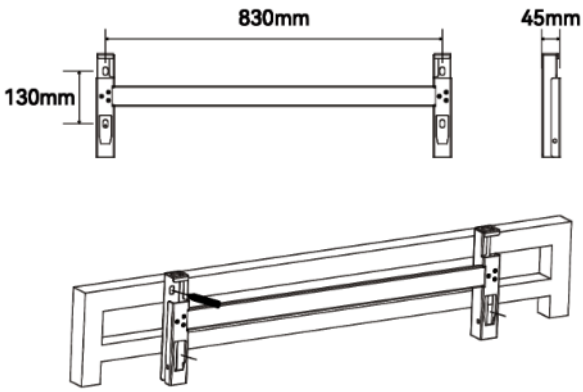


Figure 2.3 Bracket drilling dimensions.

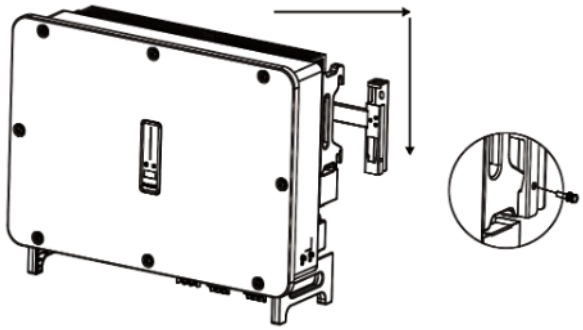


Figure 2.4 Hanging the inverter.

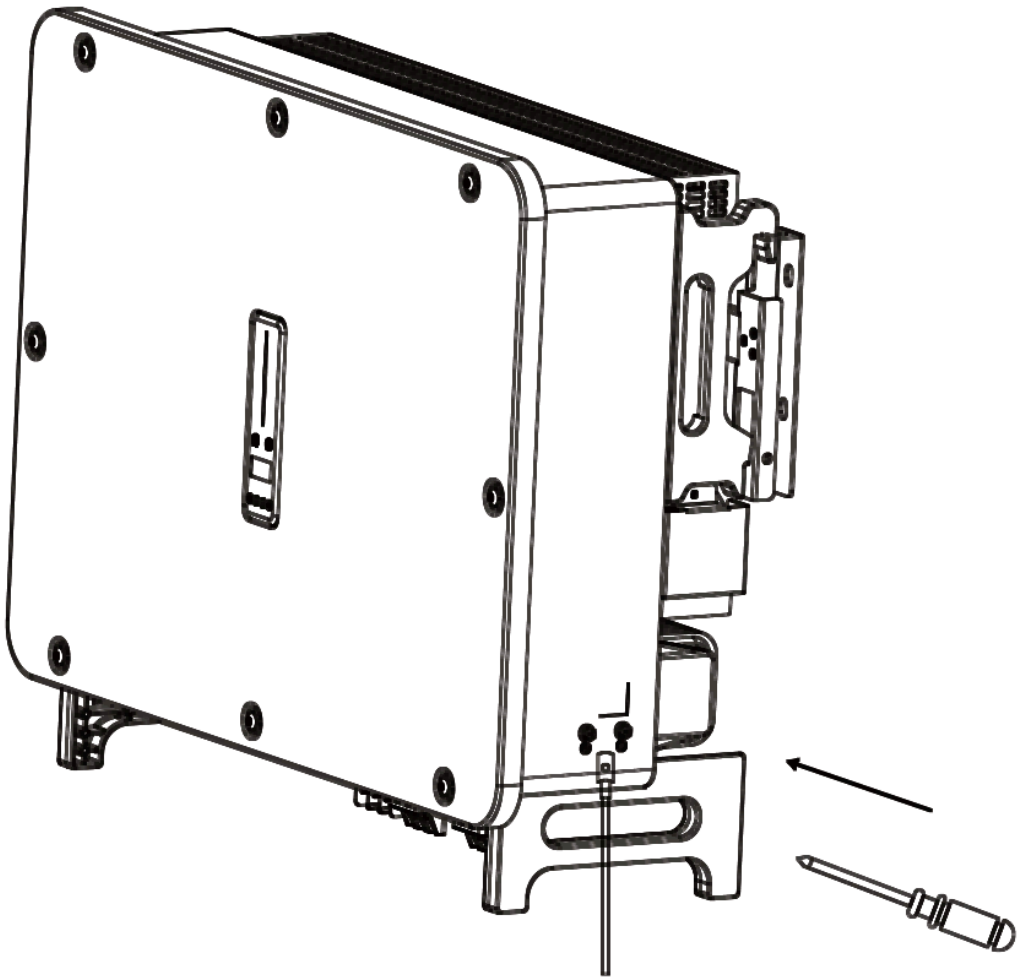


Figure 2.5 External earth connection.

Wire the System

AC connections, PV strings, battery

03

Before you connect anything

Switch off all AC breakers, the battery breaker and the inverter DC switch. Check every cable is dead. Do not switch on any breaker until all connections are complete.

3.1 AC Connections

In Australia the neutral must not be switched, and the grid-side and back-up neutrals must be connected together (AS/NZS 3000). Fit a separate breaker on each AC output; never connect loads directly to the inverter. Do not confuse the back-up and generator connectors (§5.2, §5.4).

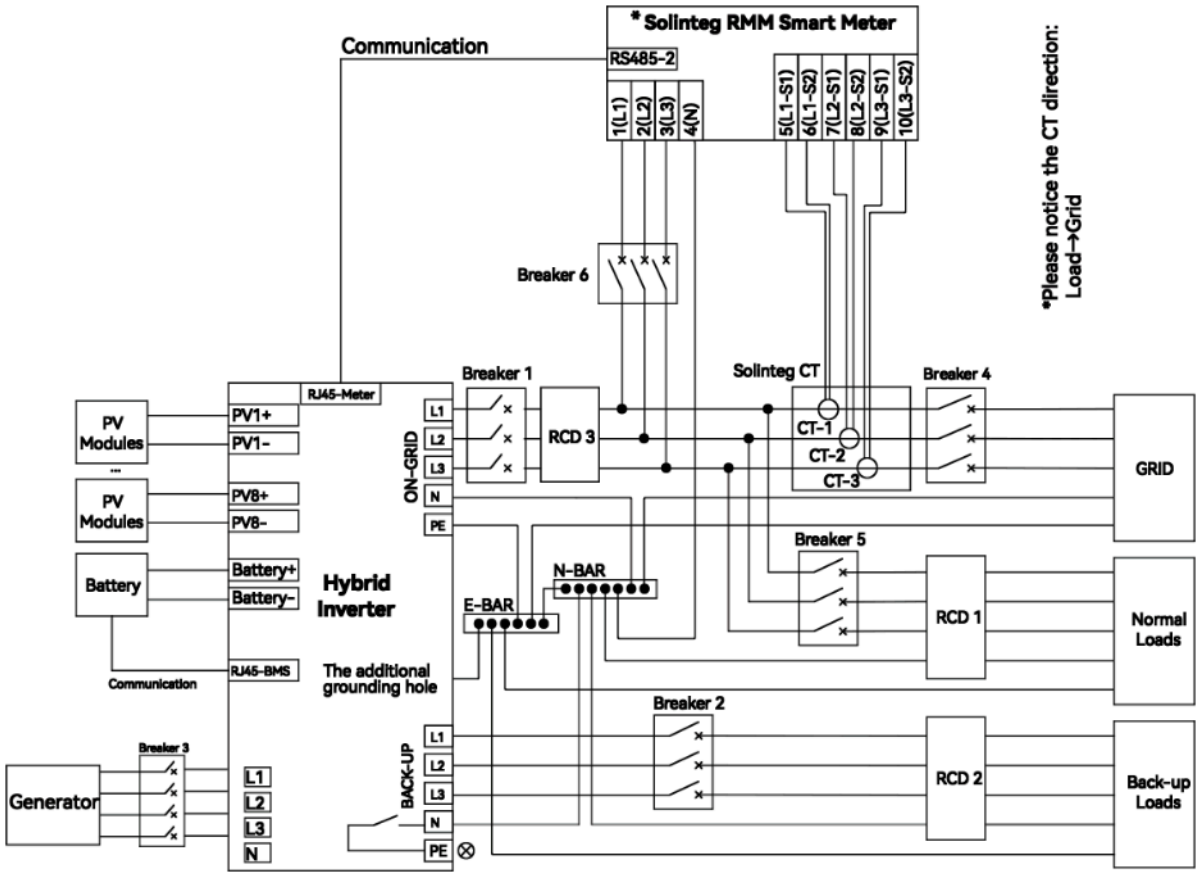


Figure 3.1 Wiring diagram for Australia and New Zealand.

1. **On-grid:** remove seal parts to suit the cable, strip the cable, crimp OT lugs, fit L1–L3 then N/PE with their insulating spacers (3.8 N·m), assemble the housing and tighten the nut to 10 N·m.
2. **Back-up and generator:** strip the cores 15 mm, fit ferrules to stranded cores, insert in the marked order (5 N·m), push on the housing until it clicks and tighten the nut to 10 N·m.



Figure 3.2 On-grid connector seal parts.

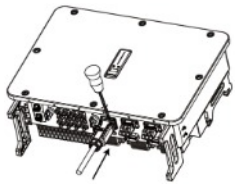


Figure 3.3 Connecting the on-grid cable.

3.2 PV Strings

1. Assemble the PV connectors: strip 7 mm, crimp, click into the housing, tighten the nut (§5.5).
2. Turn the DC switch OFF and check each string's polarity and open-circuit voltage: no more than **950 V**.
3. Plug the strings into the DC inputs until they click. Cap unused inputs.

Fit an external DC isolator to AS 60947.3:2018 and AS/NZS IEC 60947.1:2020 where required.

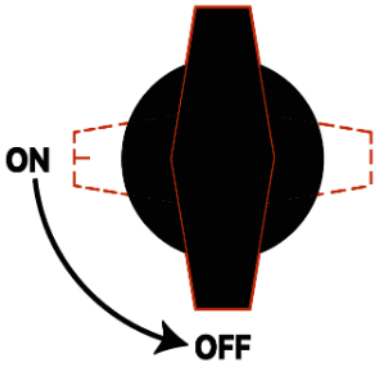


Figure 3.4 DC switch OFF.

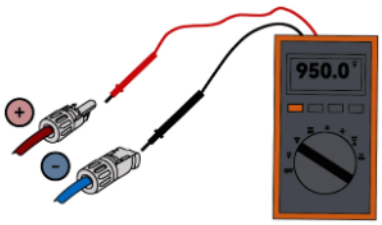


Figure 3.5 Checking the string voltage.

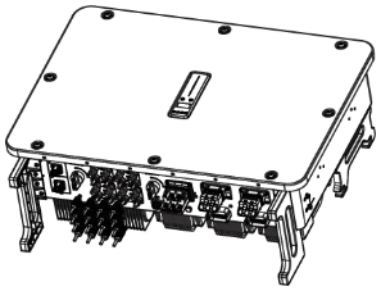


Figure 3.6 Connecting the strings.

3.3 Battery

1. Measure the battery voltage: no more than **840 V**. Check polarity.
2. Strip 16.5 mm, crimp the contacts with a hydraulic crimper, tighten the connector nuts (§5.6).
3. Plug the positive and negative connectors into the battery terminals until they click.

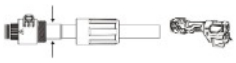


Figure 3.7 Crimping the battery contact.

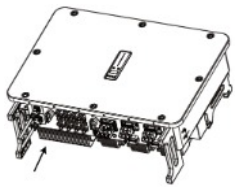


Figure 3.8 Connecting the battery.

3.4 Meter, CTs and Communication

- **Smart meter and CTs:** install the RMM meter in the switchboard with its own breaker. Fit the CTs on the phases between the grid and the on-grid loads, **arrows pointing from the loads to the grid** (§5.7).
- **Meter cable:** meter RS485 to the COM2 **METER** RJ45 port (§5.9).
- **Battery cable:** BMS to the COM2 **BMS 1** RJ45 port. BMS 2 is not used.
- **Communication module:** push the R2MD into COM1 and turn the nut until it clicks (§5.8).
- **DRED (if required):** COM2 pins 1–6; set the DRED RES switch OFF and DI Ctrl to DRM.
- COM3 is the **blue** connector. Do not swap COM2 and COM3.

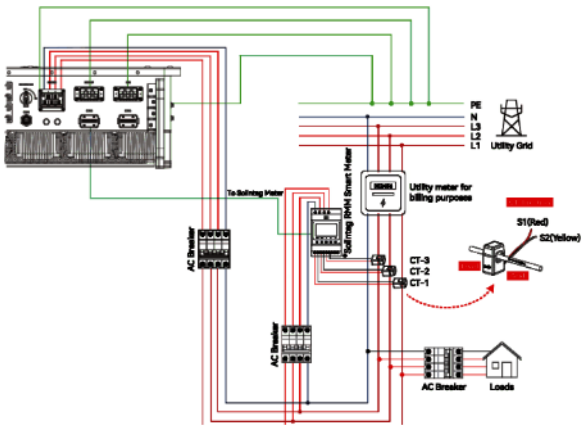


Figure 3.9 Meter and CT wiring.

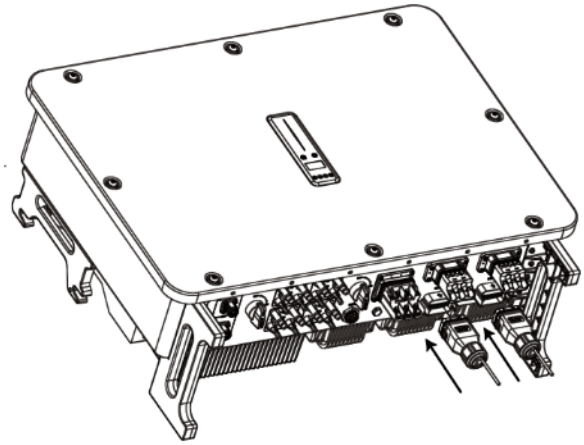


Figure 3.10 Plugging COM2 and COM3 into the inverter.

Start up and Check

Checks before start-up, start-up, check the indicators

04

4.1 Checks Before Start-Up

- Everything is securely mounted, and the DC switch and all breakers are OFF.
- The earth, AC, DC and communication cables are correctly connected and unused inputs are sealed.
- No tools are left on the inverter or in the switchboard; all labels are legible.

4.2 Start-Up

Step	Action
1	Switch on the AC breaker
2	Switch on the battery, and power up the battery pack if required
3	Turn on the DC switch, then wait 5 minutes
4	Set the safety code to the AS/NZS 4777.2 region your network requires, and the battery ID to the battery fitted
5	The inverter connects to the grid when conditions are met (this can take several minutes)
6	Check the indicators, then run the CT auto test and an SOC reset from the app

4.3 Check the Indicators

Indicator	Running normally
Power (blue)	Breathing
Grid	On steady (on-grid)
Communication	Green
Communication orange / red	No meter / no BMS communication
Power red	Alarm: check the display

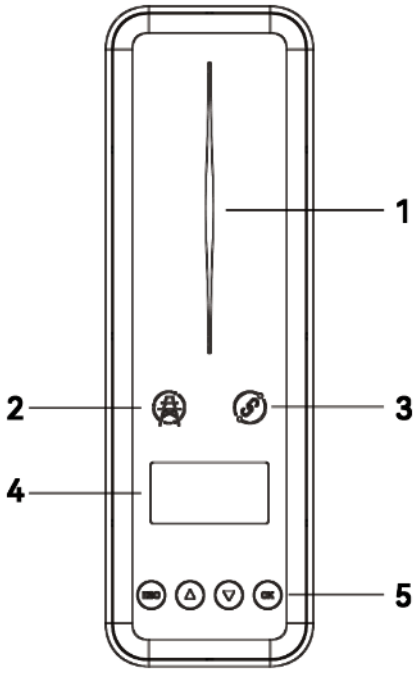


Figure 4.1 Indicators, display and button.

Connect to the IntegHub App

05

Scan a code to install the free Solinteg IntegHub app, or search for **IntegHub** in Google Play or the App Store.

Get the IntegHub app

Android
Google Play

iPhone
App Store

1	Log in to IntegHub and create a plant.
2	Open the plant, tap **Devices**, then **+**.
3	Tap **Scan to add** and scan the QR code on the inverter rating plate, or tap **Enable Bluetooth** to find it.
4	Select the inverter, choose **Wi-Fi** or **LAN** and enter the network details.
5	Wait for configuration to finish, tap **Complete**, name the device and tap **Confirm**.

The safety code, protection and power quality settings are password protected. Contact AERL support for the password (§7.6).

Shut Down, Alarms and Support

Shut-down, common faults

06

6.1 Shut-Down

1. Stop the inverter from the app or the display.
2. Switch off the grid and load breakers.
3. Switch off the battery and battery DC breaker.
4. Wait 30 seconds, turn the DC switch OFF, then wait 10 minutes before working on the inverter.

6.2 Common Faults

Message	Meaning	First check
BMS Comm Fault	No BMS communication	Battery ID setting; cable in BMS 1 (not BMS 2); battery status
Meter Comm Fault	No meter communication	METER cable and connections; compatible meter model
PV Over Voltage	PV voltage above the limit	Reduce modules per string so Voc stays below the maximum
ISO Over Limitation	DC insulation resistance too low	PV modules, cables and connectors for water or damage; insulation ≥ 500 kΩ
Grid Voltage Fault	Grid voltage outside the safety code limits	Safety code; AC wiring; voltage rise from undersized AC cable
Backup Load Fault	Back-up load above capacity	Reduce the back-up load; check battery capacity
Over Temperature	Inverter too hot	Ventilation and clearances; let it cool, then restart

The full list of status codes and faults is in §8 of the user manual.

AERL technical support

1800 950 865 · support@aerl.com.au · aerl.com.au

Have ready: the inverter model and serial number, the installation date, the fault message and when it occurred, and photos of the installation.

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