Three Phase Inverter with Synergy Technology

Quick Installation Guide

PN: SEKxx-AUxxIxxxx

For Australia
Version 1.3

Scan for full installation guide

Legend

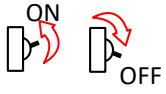
NOTE
This symbol denotes information intended to assist the user in making optimum use of the product.

CAUTION!
Denotes a hazard. It calls attention to a procedure that, if not correctly performed or adhered to, could result in damage or destruction of the product. Do not proceed beyond a caution sign until the indicated conditions are fully understood and met.

WARNING!
Denotes a hazard. It calls attention to a procedure that, if not correctly performed or adhered to, could result in injury or loss of life. Do not proceed beyond a warning note until the indicated conditions are fully understood and met.

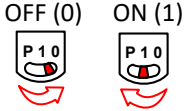
Do not cut the cable connectors

This symbol appears at grounding points on the SolarEdge manuals and equipment.



Turn ON/OFF the main circuit board AC switch. When turning off, wait 5 minutes for DC Voltage to drop to safe level before removing the front panel.

Turn the DC Disconnect Switch on/off. When turning off, wait 5 minutes for DC Voltage to drop to safe level before removing the front panel.



Turn the ON/OFF/P Switch on/off. When turning off, wait 5 minutes for DC Voltage to drop to safe level before removing the front panel.

Before connecting aluminum wires to terminals:
1. Remove oxide from the exposed wires with emery paper or a steel wire brush
2. Clean dust with a cloth and Isopropyl alcohol (IPA)
3. Coat wires with a designated antioxidant aluminum wire grease immediately after cleaning

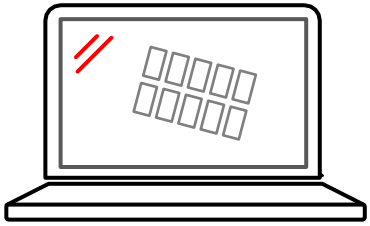
CAUTION! Connection of oxidize aluminum wires may result in resistance and high temperatures at contact points. Improper execution of the following procedure may cause damage to the unit.

SAVE THESE INSTRUCTIONS – This manual contains important instructions for the Three Phase Inverter with Synergy Technology that should be followed during installation and maintenance. Using this equipment in a manner not specified in this guide by SolarEdge may impair the protection provided by this equipment.

Notes

1

Use SolarEdge Designer
to design SE System
https://designer.solaredge.com



2

Download SolarEdge Mapper
to map Array Power Optimisers

GET IT ON Google Play

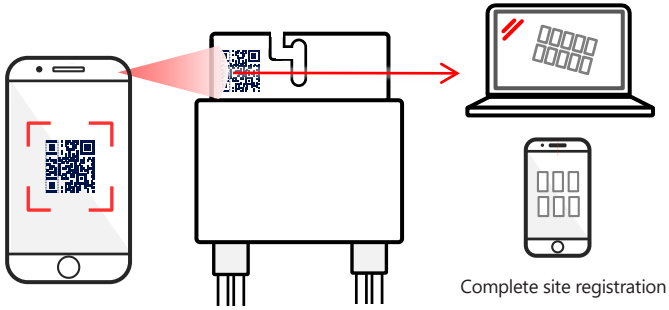
Download on the App Store

1 Installing the Power Optimisers

1 2 3 4 5 → 6

3

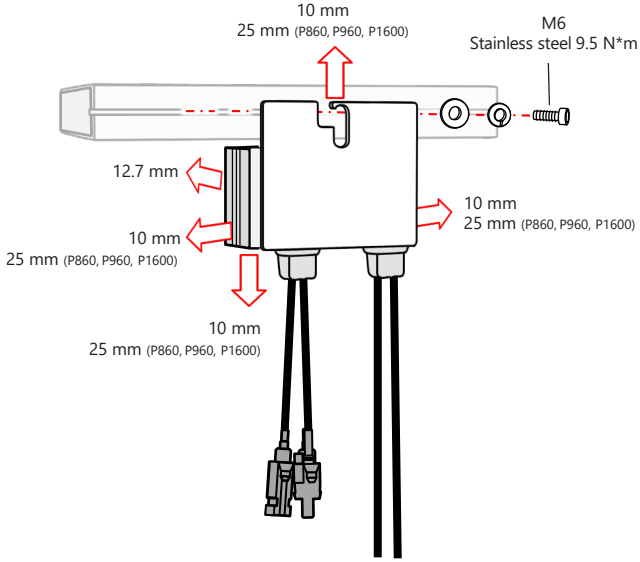
Scan QR code using Mapper

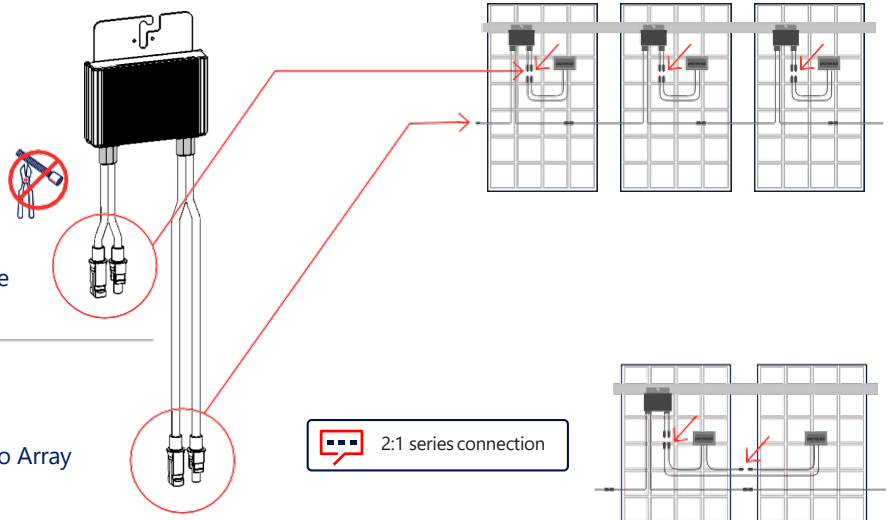


Complete site registration and physical layout in the Monitoring platform

4

Install Power Optimiser





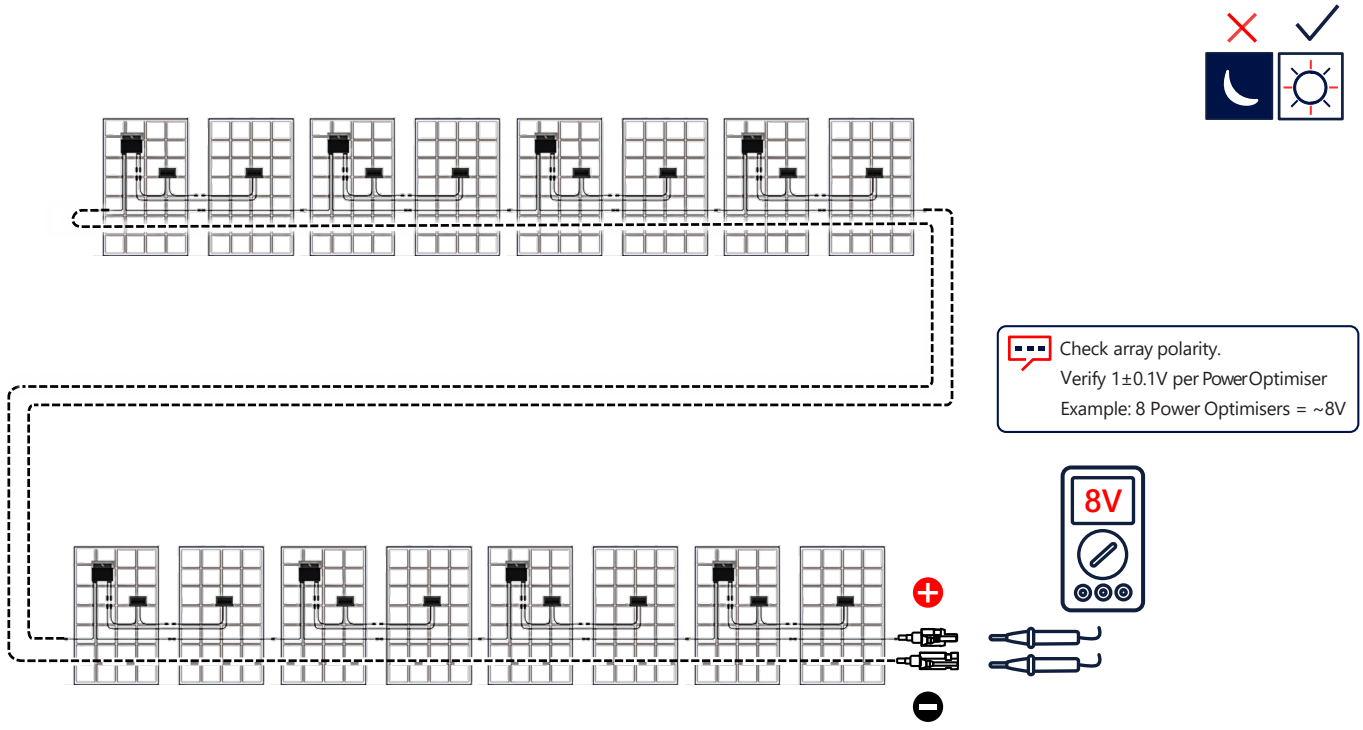
5 Connect input from Module

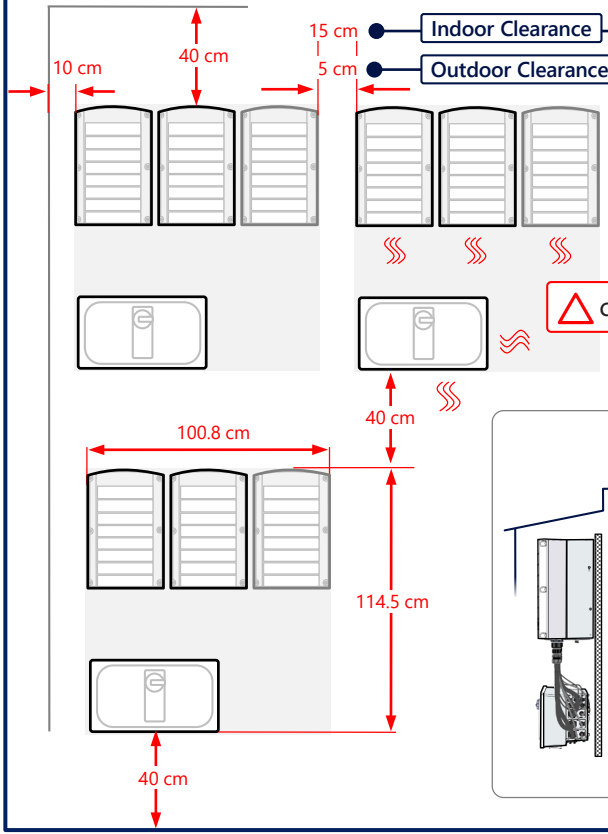
6 Connect output to Array

2:1 series connection

Use a dual input Power Optimiser (P800p) for parallel connection of two PVs or use a branch cable to connect two PVs to a single input Power Optimiser

2 Connecting the PV Array





Indoor Clearance

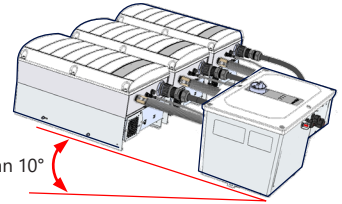
20 cm where annual average high temperature equals or above 25˚C

Outdoor Clearance

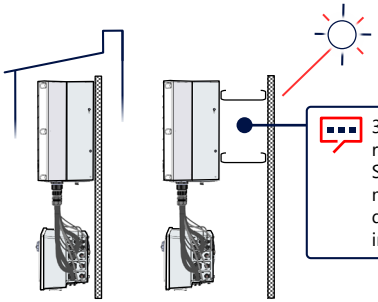
WARNING! Area in front of the inverter must be kept clear for at least one meter

CAUTION! Do not block airflow

Horizontal Installation

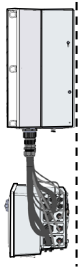


On metal back sheet

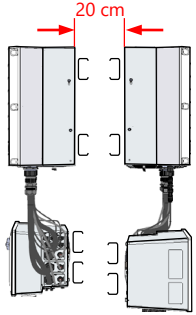


30 cm is recommended. Shorter distance may start early de-rating of the inverter.

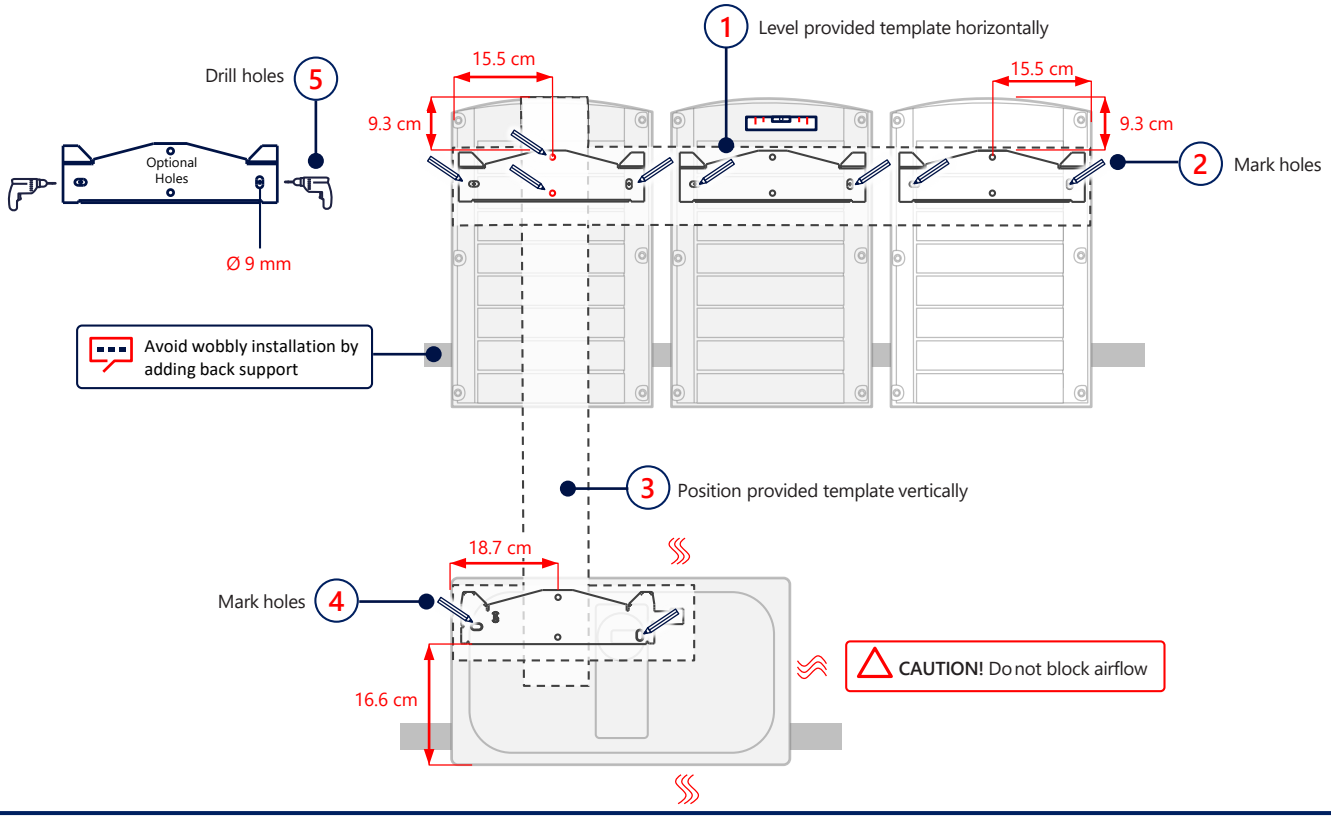
On mesh fence

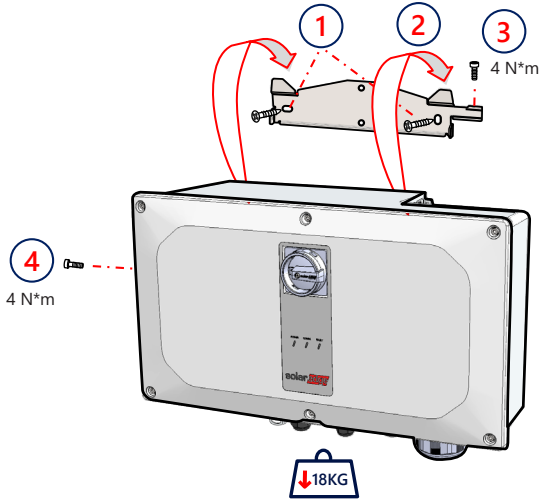


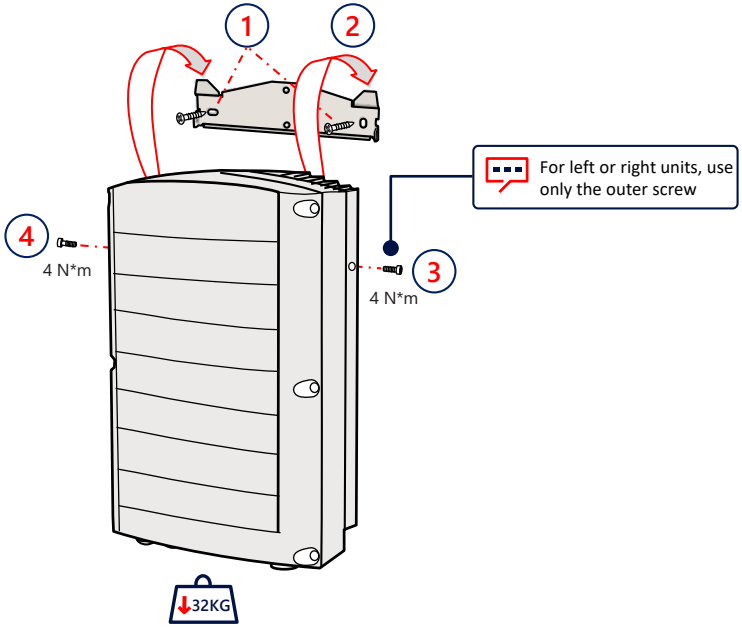
Back to back



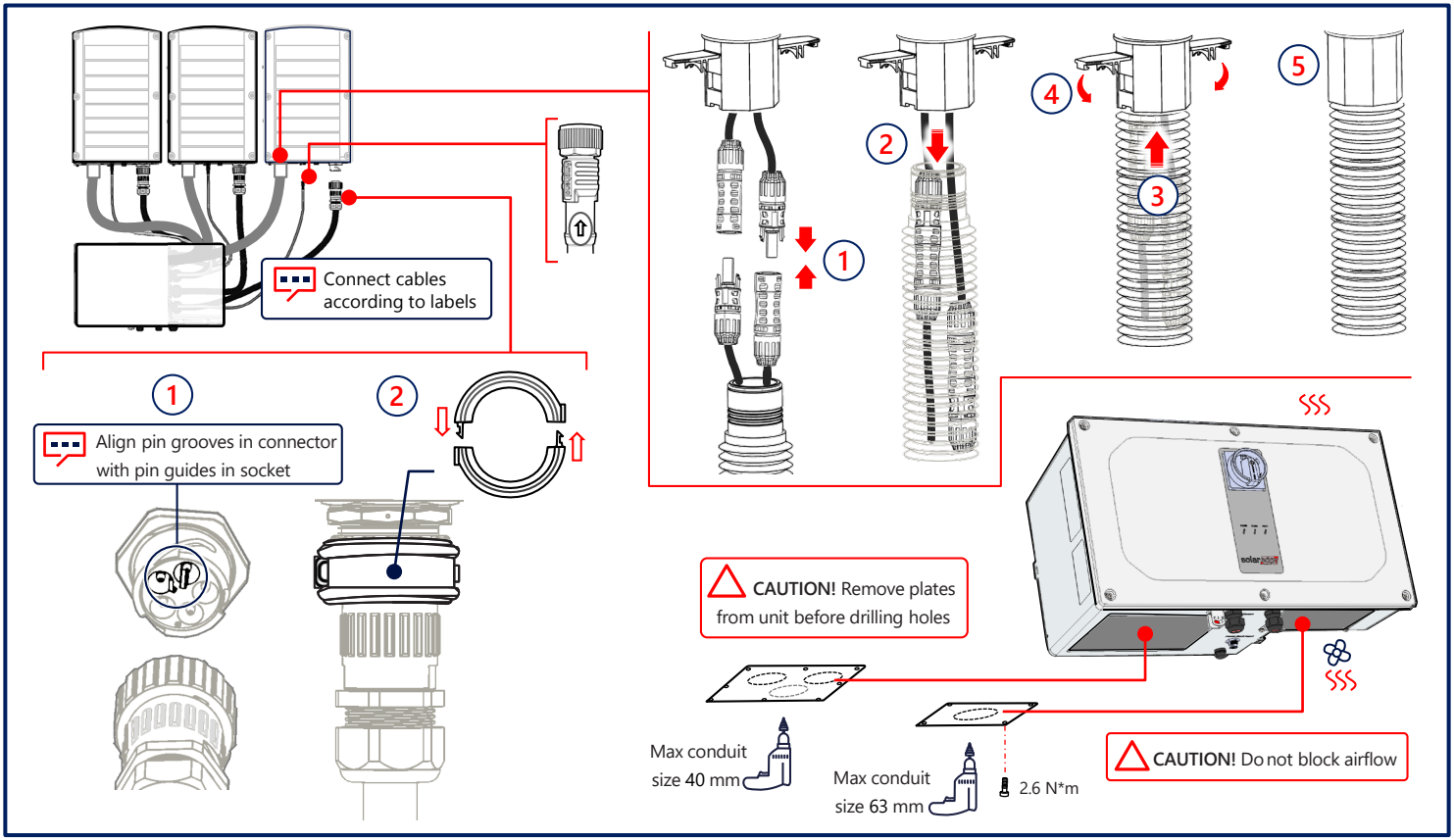
4 Marking & Drilling Holes

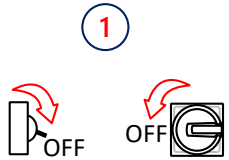



1
2
3
4 N*m
4
4 N*m
18KG


1
2
For left or right units, use only the outer screw
4
4 N*m
3
4 N*m
32KG

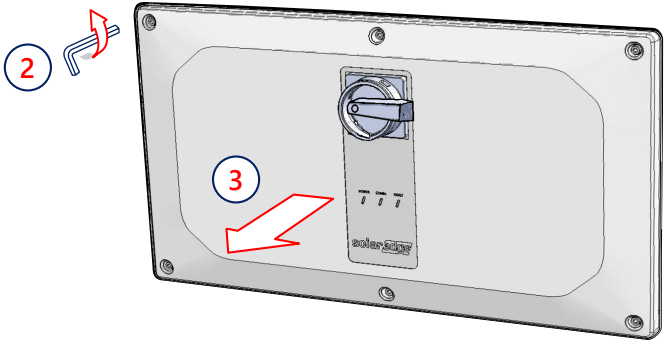
6 Connecting Cables

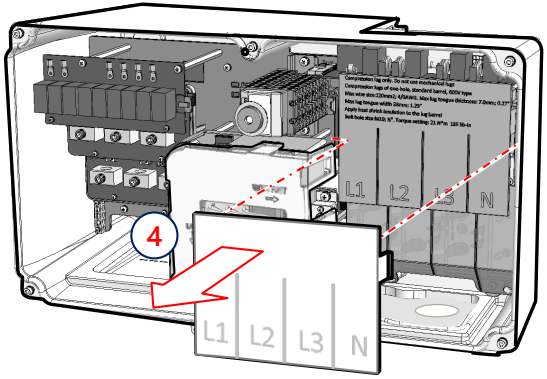




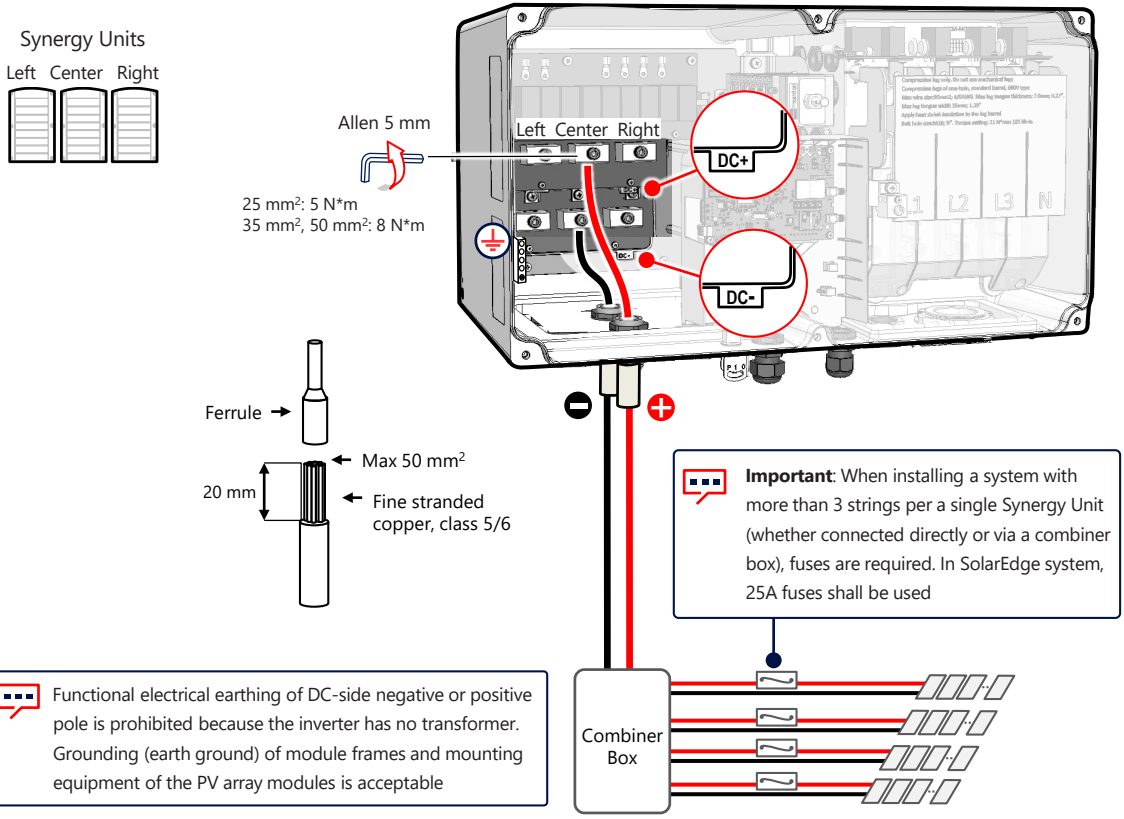
WARNING

DISCONNECT POWER BEFORE BEGINNING INSTALLATION





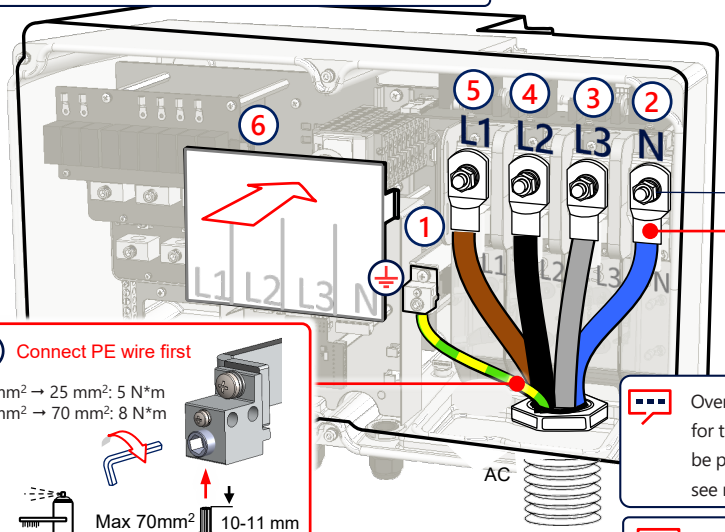
8 Connecting PV Strings via Single DC Input

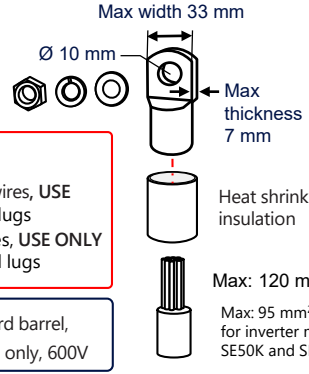


Connecting AC and Protective Earth (PE)

The inverter can either support 4 wires + PE or 3 wires + PE connection

Switch rated currents: I_e I_{th} I_{the} solar at 40°C and I_{the} solar at 60°C shade ambient air temperature is 50A





CAUTION!
- For aluminum wires, **USE ONLY** aluminum lugs
- For copper wires, **USE ONLY** copper tin-plated lugs

One-hole, standard barrel, compression lugs only, 600V

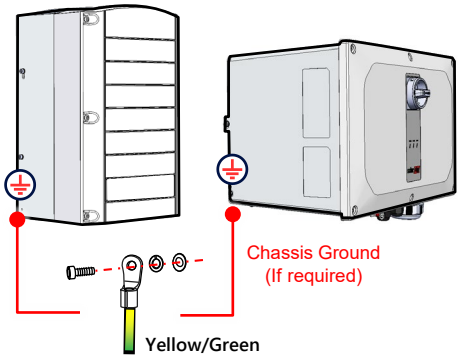
Connect PE wire first

16 mm² → 25 mm²: 5 N*m
35 mm² → 70 mm²: 8 N*m

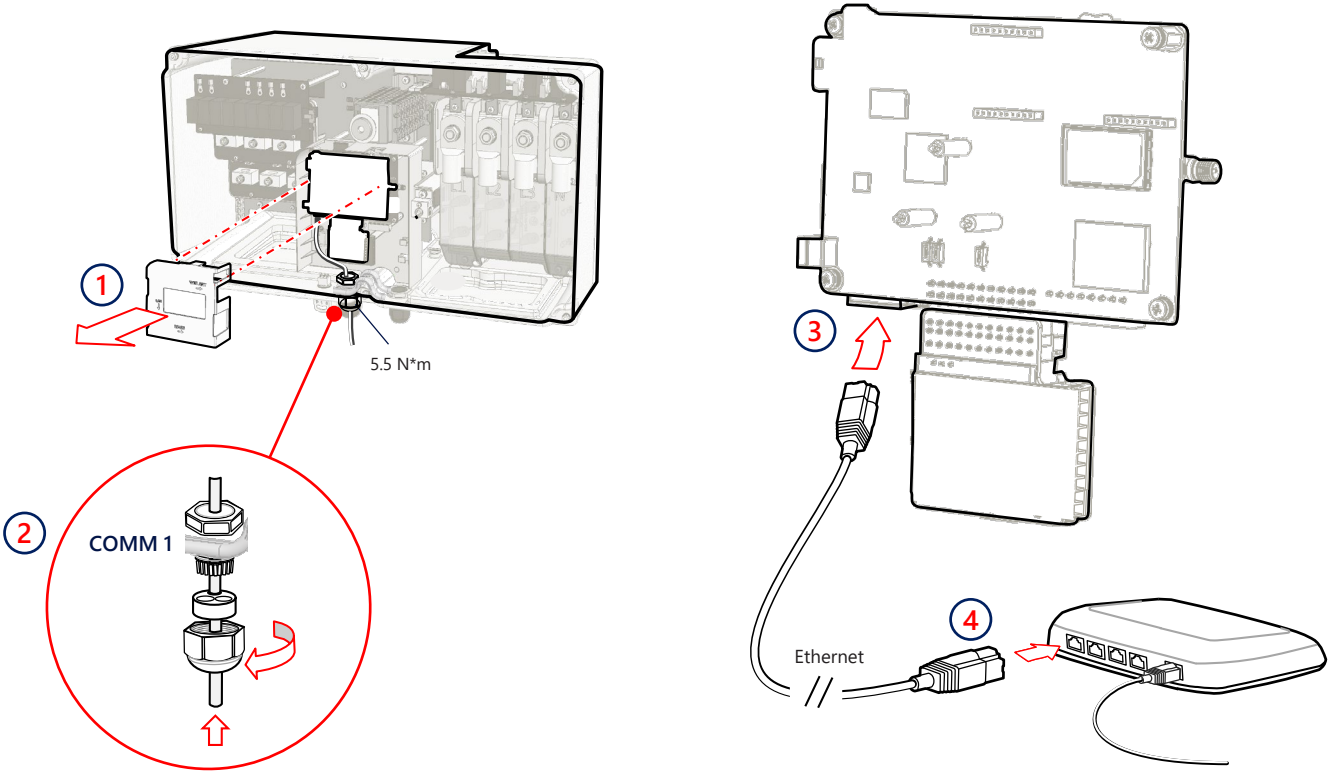
Use ferrule when on connecting a fine stranded wire of up to 50mm²

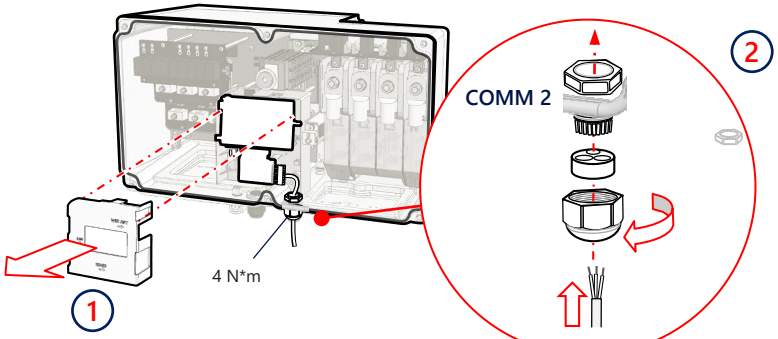
Overcurrent protection for the AC output must be provided by others, see manual for guidance

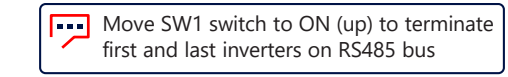
Ground conduit nut if required by regulation

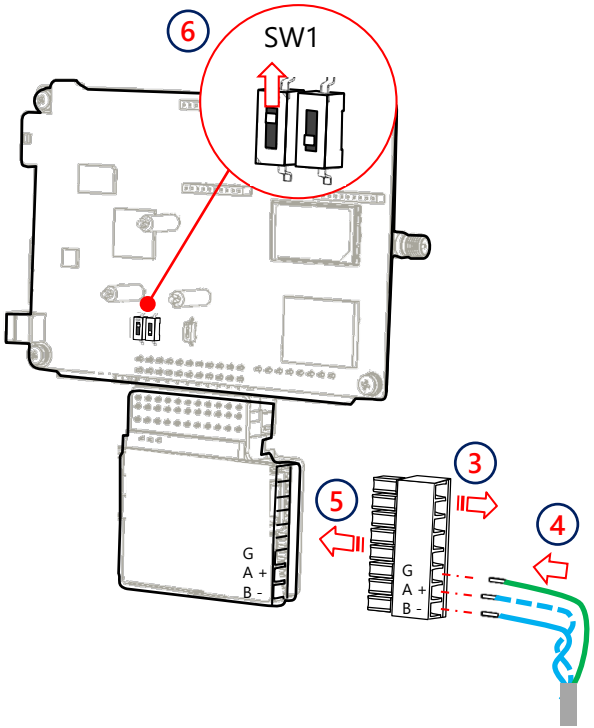


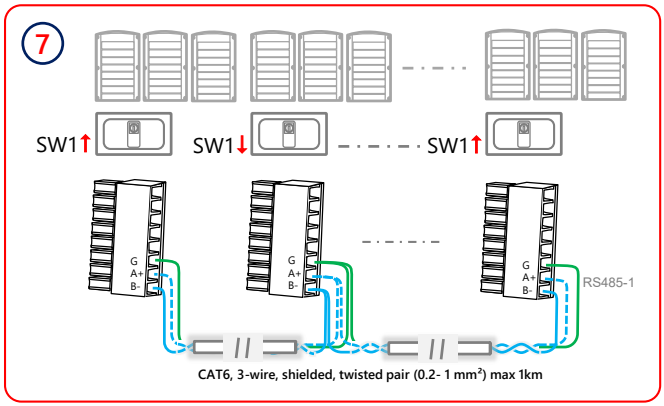
10 LAN Communication



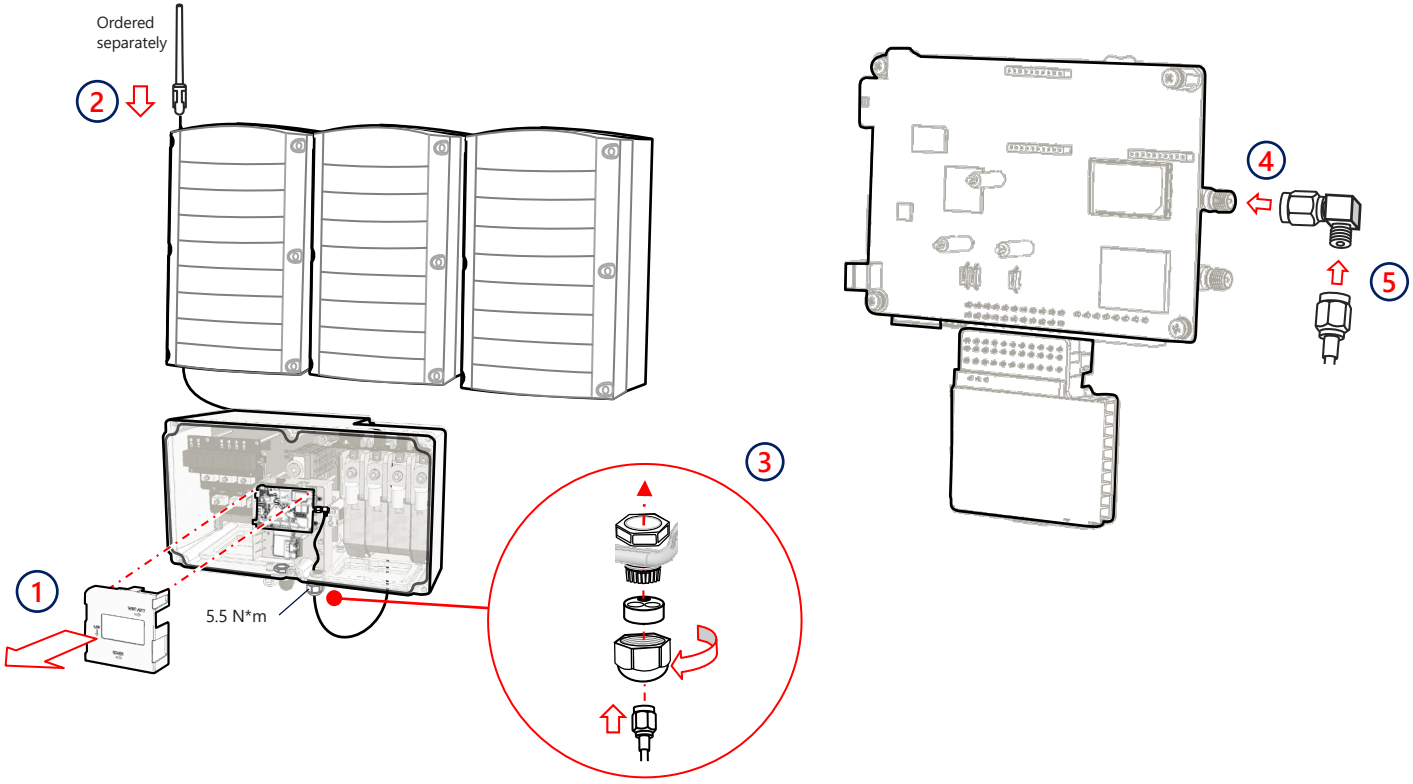

4 N*m
1
COMM 2
2


Move SW1 switch to ON (up) to terminate first and last inverters on RS485 bus

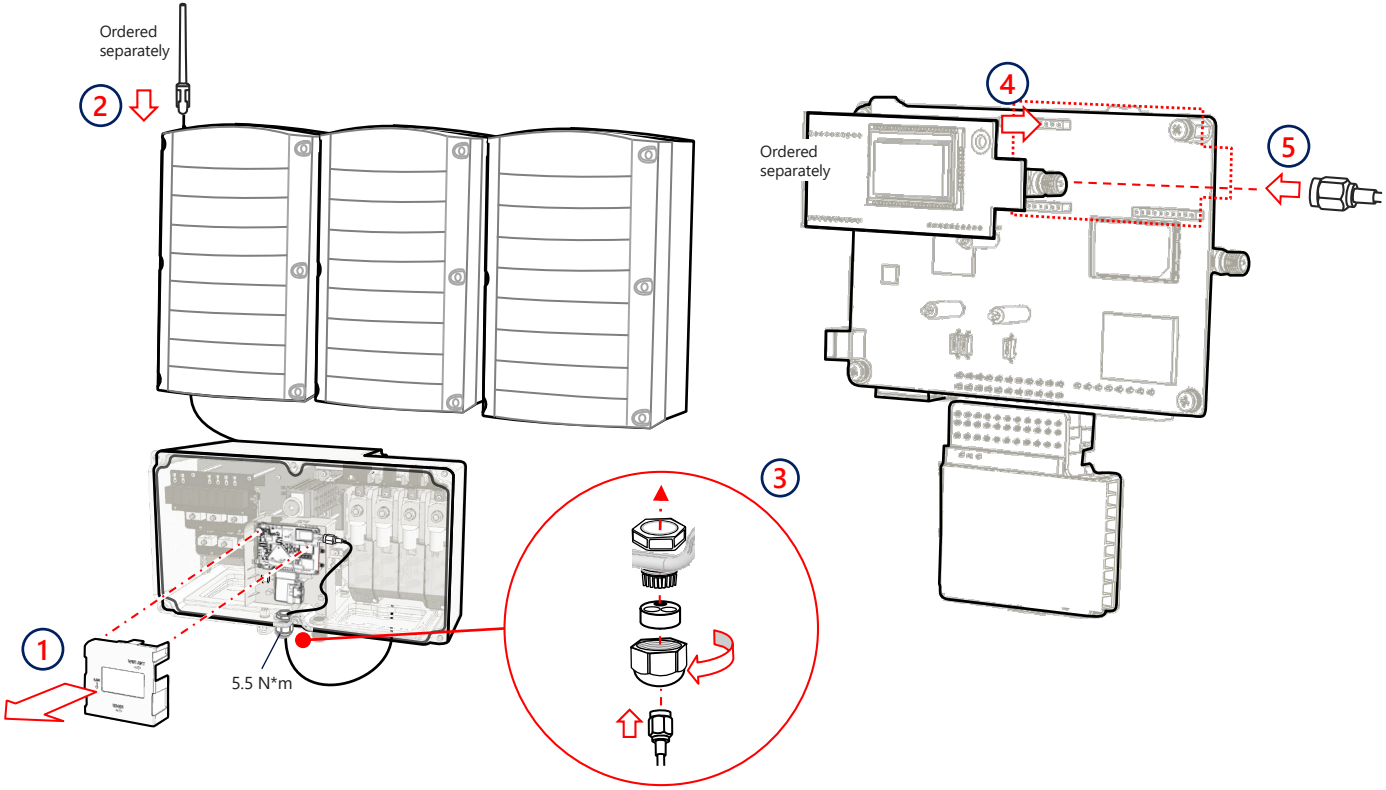

6
SW1
3
5
4
G
A +
B -


7
SW1↑
SW1↓
SW1↑
G
A+
B-
RS485-1
CAT6, 3-wire, shielded, twisted pair (0.2- 1 mm²) max 1km

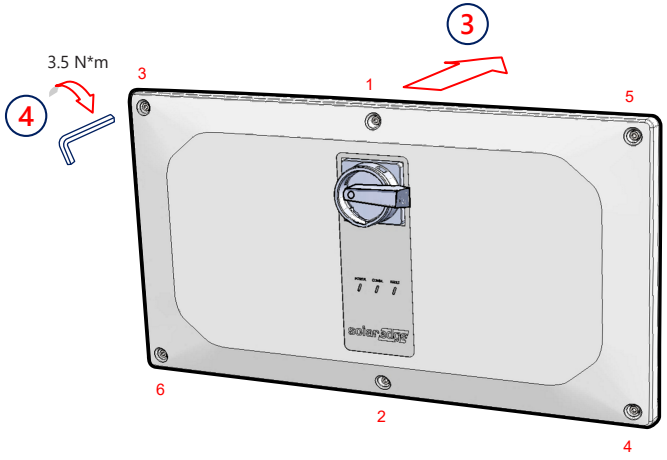
12 Wi-Fi Communication (Optional)

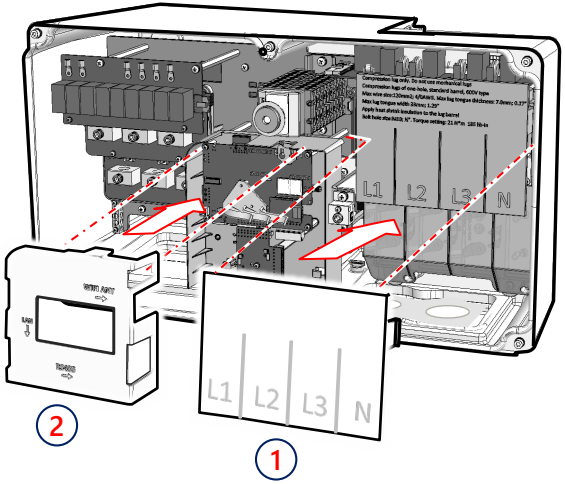


Connecting Cellular Communication (Optional)



14 Installing Covers



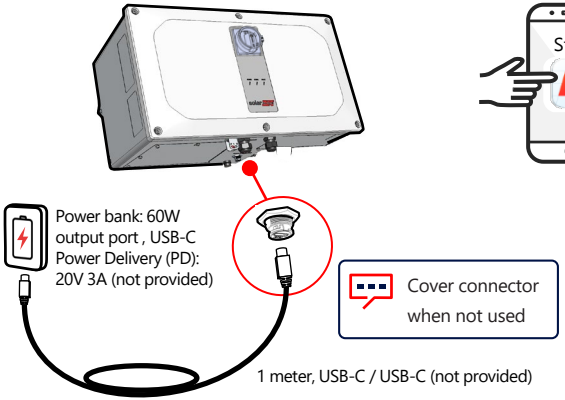


Pre-commissioning when AC Power is Not Connected (Option 1)

1 Download SolarEdge SetApp

2 Turn ON

3 Connect power bank

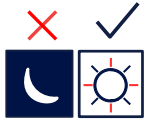


4 Start and follow SetApp

5 Disconnect and remove power bank

6 Turn switches to OFF

7 Wait until inverter turns-off (all LEDs turn-off)



16 Commissioning with DC and AC Power (Option 2)

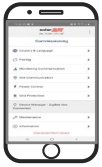
1 Download SolarEdge SetApp

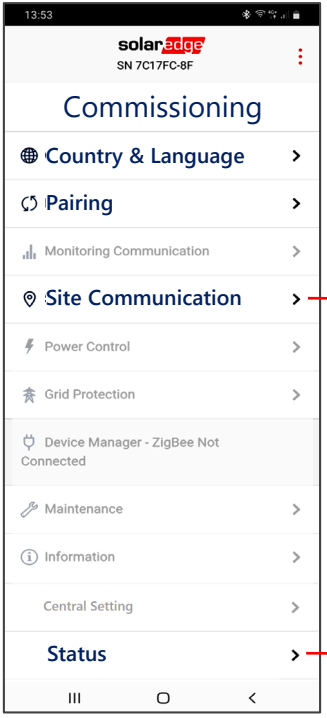
GET IT ON Google Play

Download on the App Store

2 Turn switches to ON

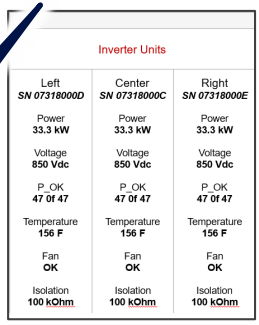
3 Start & follow SetApp



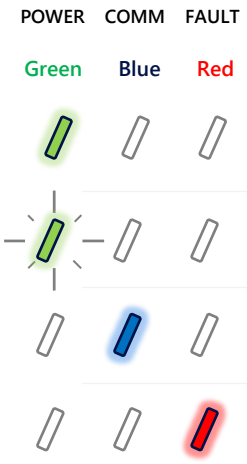


RS485-1 → Protocol → SolarEdge → **Solaredge Leader**

RS485-1 → **Follower Detect**



18 LED Indications



System is producing Power

AC is connected but the system is not producing power

Inverter is communicating with the monitoring platform

System error

Notes

Notes

Support Contact Information
If you have technical problems concerning SolarEdge products, please contact us:
https://www.solaredge.com/service/support

MAN-01-00822-1.3