Solare®

Trusted Brand Since 2012

# QUICK INSTALLATION GUIDE

## 5G PRO INVERTER

**KSY:- 15kW- 25kW**

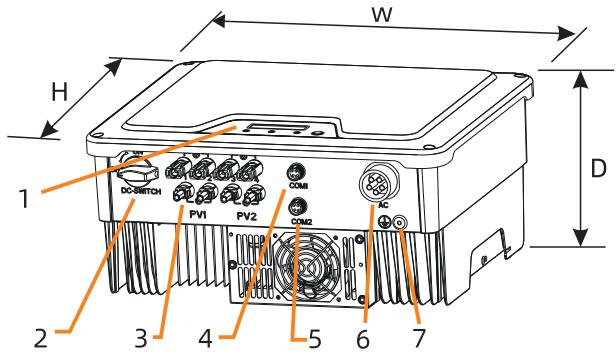
Three-Phase Grid-tied Solar Inverter

# Quick Installation Guide

## KSY-15KW -25KW - 3Ph

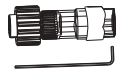
## 1. Product Overview

1. LCD&LED or LED
2. DC switch (optional)
3. PV Terminal (s)
4. COM1: Wi-Fi / RS485 / GPRS / 4G (optional)
5. COM2: Meter/DRED Terminal
6. AC Terminal /Connector
7. Second PE Terminal




Dimension:W×H×D=425×351×200mm

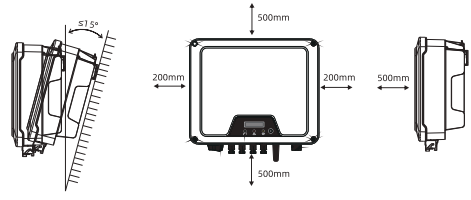
## 2. Packing List

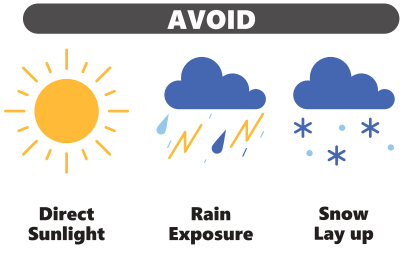
|  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|
| Inverter | Mounting Bracket | Mounting Accessories | DEVALAN DC Plugs (Sealed) | AC Connector | Wi-Fi/GPRS stick (optional) | RS485/Meter / DRED Connector (Optional) | Documents |
| 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 |

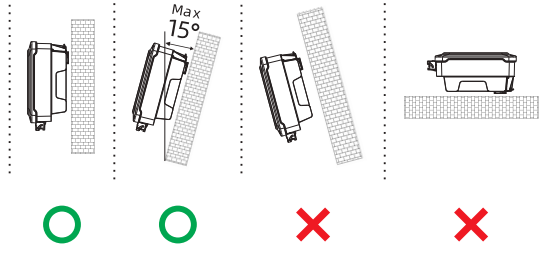
## 3. Installing

### Installation Requirements

1. Please install the inverter(s) in places that can avoid inadvertent contact.
2. Please install the inverter on solid/smooth surfaces.
3. The inverter(s) should not be installed near inflammable or explosive objects.



**Cable Specifications**

| No | Item | Type | Specifications |
|---|---|---|---|
| 1 | PE cable | Outdoor copper cable | • Conductor cross-section: 16 mm² |
| 2 | AC Output cable | Outdoor copper cable | • Diameter:18-25 mm<br>• Cross-section: 15K~17K: 6~16 mm²<br>20K~25K: 10~16 mm² |
| 3 | DC Input cable | Standard outdoor PV cable, PV1-F Model recommended | • Conductor cross-section: 4 -6 mm²<br>• Cable outer diameter:5-8 mm |
| 4 | Meter/RS485/ DRED | Outdoor shielded twisted pair cable | • Conductor cross-section: 0.14-1.5 mm²<br>• Cable outer diameter: approx. 6 mm |

## 3.1 **Mounting**

3.1.1 Use the wall bracket as a template mark the holes on the wall, Drill three holes in the marked position of 10mm diameter and 70mm depth

3.1.2 Fix the expansion bolts and mounting the main bracket with the screws in mounting accessories

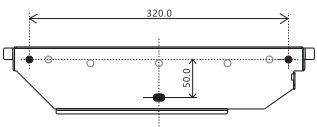
3.1.3 Attach the inverter to the mounting bracket, mounting the suppport bracket on the bottom of the inverter

3.1.4 Check both sides of heat sink and ensure the inverter is stably attached

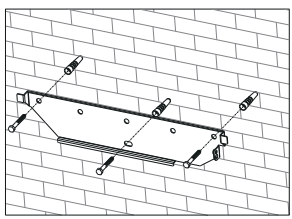
3.1.5 Use M5 screws (torque: 2.5Nm) to attach the heat sink fins to the mounting bracket

3.1.6 It is recommended to attach an anti-theft lock to the inverter

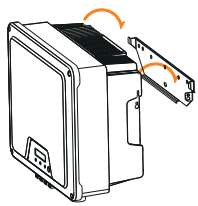
**Step 1**



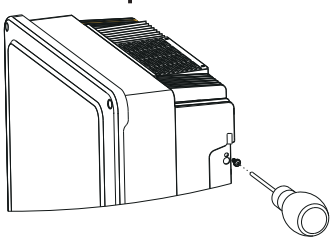

**Step 2**



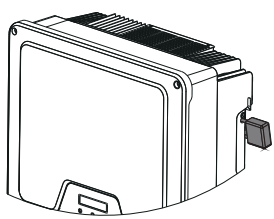
**Step 3**



**Step 4**



**Step 5**

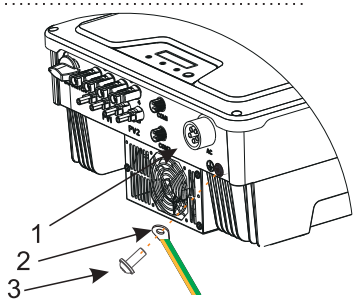


## 3.2 **Installing the PE Cable**

A second PE terminal is equipped at the bottom of the inverter.
Ensure the PE terminal is reliably grounded

| Object | Description |
|---|---|
| 1 | Housing |
| 2 | M6 terminal lug with protective conductor |
| 3 | M6×16 screw |

Tighten it firmly into the housing (Torque: 3.5-5N.m)




**⚠ NOTICE**

Proper grounding connection of the second PE terminal and the AC terminal is mandatory. NOT properly connecting both PE will void all product warranty.

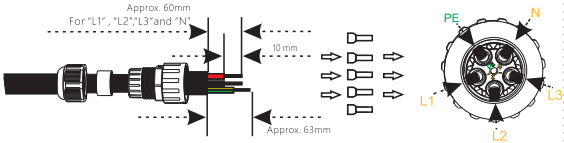
## 3.3 **AC Wire Assembly and Connection**

**⚠ DANGER**

**Danger to Life due to High Voltages in the Inverter**

Before connecting any electrical wires and components, please ensure the DC switch & AC circuit breaker are switched OFF and cannot be reactivated.

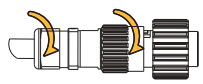
**Step 1**




Unscrew the swivel nut from the threaded sleeve, then thread the swivel nut and threaded sleeve over the AC cable

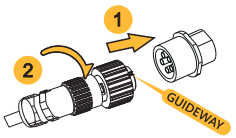
Insert the conductor into a suitable ferrule acc. to DIN 46228-4 and crimp. Insert the crimped conductors, L, N and PE into corresponding terminals and tighten the screws (torque 0.6±0.1N·m).

**Step 2**



Assemble the locking cap, threaded sleeve and swivel nut together.

**Step 3**




Screw the AC connector and tighten firmly into socket.

**Note: Please ensure that the connector has been correctly installed!**

## 3.4 **DC Wire Assembly and Connection**

**Meeting the following requirements is mandatory. All warranty rights will otherwise be invalid.**

3.4.1 Maximum open circuit voltage of each string is less than 1000V [1)].

3.4.2 Maximum short circuit current of each PV input is less than inverter allowable limit.

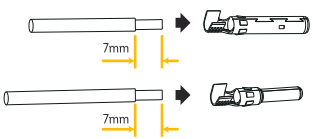
3.4.3 The string is well insulated to ground in all cases.

3.4.4 Make sure that the DC connectors have the correct polarity.

3.4.5 If the PV connectors are not assembled properly and locked into place, arc or overheat may be induced.

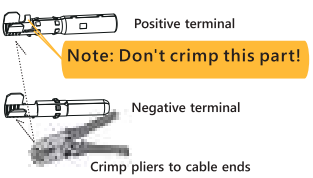
**Step 1**

Strip off the insulation



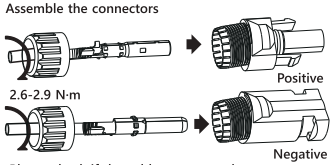

**Step 2**

Assemble the cable ends



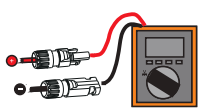

**Step 3**

Assemble the connectors




Please check if the cables are securely installed by pulling outwards

**Step 4**

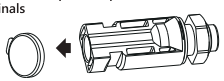


Check the polarities of the PV strings

Check the open-circuit voltage is less than inverter input limit1000V

**Step 5**

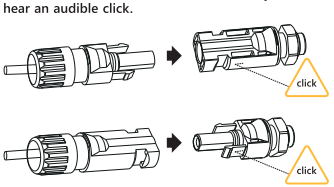
Remove the waterproof caps from PV terminals



If there is an unused terminal, please seal it with the cap

**Step 6**

Insert the connectors into the terminal till you hear an audible click.

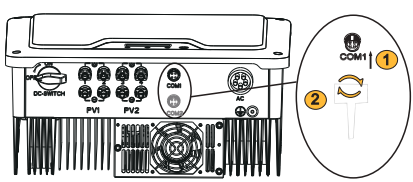



## 3.5 **Wi-Fi/GPRS/4G Connection** (Optional)

**The stick is included in the scope of delivery as an option.**

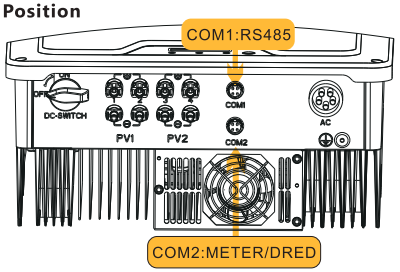
3.5.1 Tighten the stick into the COM1 port. Make sure the stick is securely connected.

3.5.2 For the connection and configuration of the stick please refer to <Wi-Fi stick User manual> .

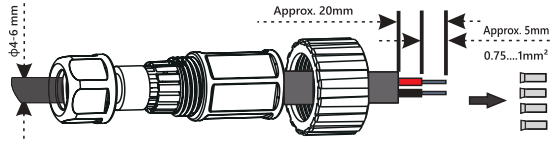


## 3.6 RS485/Smart Meter/DRED Connection

**Position**



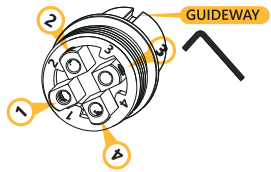

**Step 1**




Insert the wires into suitable ferrules (DIN 46228) and crimp.

**Step 2**

Insert the crimped conductors accordingly into their corresponding terminals and tighten the screws use the screwdriver in the attached bag.




**RS485 FOR COM1**

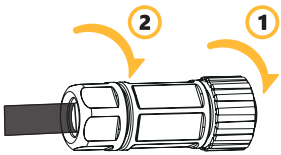
Power + ▸ PIN 1
Power - ▸ PIN2
RS485 A ▸ PIN3
RS485 B ▸ PIN4

**METER OR DRED FOR COM2**

RS485 A ▸ PIN2
RS485 B ▸ PIN3
COM LOAD/0 ▸ PIN1
REF GEN/0 ▸ PIN4

**Step 3**

Assemble the locking cap, threaded sleeve and swivel nut together.




**Step 4**

Screw the connector into the socket and tighten firmly.


# 4. Commissioning

**Please check if**

1. The inverter and mounting bracket have been correctly installed. 2. The inverter's exposed metal surface has a ground connection. 3. The resistance between PV arrays and ground is greater than 1Mohm. 4. For any unused DC terminals, there are DC connectors inserted to the terminal and sealed with waterproof caps. 5. The grid voltage at the point of connection of the inverter is within the permitted range. 6. The AC circuit breaker must be correctly rated and wired. 7. The cable communication connectors have been correctly wired an and tightened

**Startup**

Switch on the DC switch after finishing the above checks, then switch on the AC circuit breaker. When there is sufficient DC power applied and the grid conditions are met, the inverter will start to operate automatically.

### 3.6 5G Pro Error Codes

| Error Code | Error Code |
|---|---|
| 5 | PV Voltage too high |
| 6 | Surface insulation resistance error (DC Leakage) |
| 7 | Ground Fault circuit interruoter(GFCI) exceeds the Permissible range |
| 8 | Inverter temperature too high |
| 9 | Utility grid disconnected (Grid Voltage Unavailable) |
| 10 | Grid voltage exceeds the permissible range |
| 11 | Grid Frequency exceeds the permissible range |
| 15 | Bus-voltage too high |
| 16 | Bus-voltage too low |
| 19 | N-PE Voltage too high |

NOTICE : Make sure the cover & the communication cable gland has been mounted properly & adequately

## Panel Configuration

| S.N | Capacity | Panels | Qty | Connection | Y connector | Strings |
|---|---|---|---|---|---|---|
| | | | | | | |
| 1 | 15kw 3ph 2 mppt | 540wp / 530wp | 28 nos | 2 in 2 out | No | 2 |
| | | | | | | |
| 2 | 20kw 3ph 2mppt | 540wp /530wp | 38 nos | 2 in 2 out | No | 2 |
| | | | | | | |
| 3 | 25kw 3Ph 2 MPPT | 540wp /530wp | 45 nos | 3 in 3 out | No | 3 |
| | | | | | | |

### DO's & Don'ts:

- String configuration according to DS
- Cable size and type selection should be accurate (mostly copper)
- MC4 crimping- proper
- Polarity check
- DC/AC voltage check using DMM
- Proper ventilation
- If installing outside please prefer canopy for extra safety
- Proper Earthing
- Use extra protections (AC side MCBs & DC fuses) for maintenance
- Fuse & MCB ratings selection should be proper
- Don't do parallel connection in DCDB
- Check DC leakage of strings

# KSOLARE INVERTER WARRANTY CARD

Thank you for becoming our valuable customer & for purchase of KSolare products from KSolare Energy Pvt. Ltd.

**Warranty Terms:**

- Applicable for Manufacturing Defect/workmanship under normal condition from date of supply.
- The Warranty covers the cost of repairs or replacement parts. The Goods must be returned to the Company for inspection.
- The company may repair or replace faulty components at its discretion free of cost
- In case of old, totally damaged unit the inverter should be send to factory for repair.

**1. Warranty Extension**

Can be given (Upto 11 Years) by additional cost. Contact: service@ksolare.com

**2. Warranty Limitations**

The Warranty is valid only for Goods purchased either directly from the Company or from an authorized reseller/ Distributor of the company

- The Warranty is not transferable and applies to brand new Goods only.
- Defective parts replaced under Warranty become the property of the Company.
- The Warranty does not cover:

(a) Consequential damages including but not limited to loss of revenue;

(b) Claims by third parties other than the Customer;

(c) External protection accessories to installation not supplied by the Company;

(d) Damage/loss to Goods caused by misuse, improper handling, unauthorized modification, accidental or willful damage

(e) Damage/loss of goods due to not connecting external protections like SPD, MCB,MCCB,RCB,AC/DC Earthling, Lighting arrestor, High string voltage, exceeding the VOC limits at DC side (Except installation done by company)

(f) Warranty does not include if AC voltage goes above 40%

(g) Company will not be responsible for any natural calamities and pandemic situations due to act of god such as Earth quakce, droughts, flood, drains, cyclone, strikes, heavy rain, lockdown etc.

(h) Company will not be responsible for any generation losses held due to permissible delay in service.

(i) The inverter should be installed as per the guidelines given in user manual. Improper installation practices may lead to the warranty termination.

(J) Replacement unit not installed by ksolare service.

- Wifi / Zero export Installation cost is extra.
- 1 Year warranty for wifi/ GPRS/ RS485/Zero Export.

**3.Warning:**

We strongly recommend to use SPD's, LA's,AC Cables as per link www.ksolare.com with proper lugs Crimping, also to use SPD's/Fuses compulsory in maximum voltage fluctuation area. If you are not using ACBD/DCDB then it is complsory to use MCB's/DC/fuse respectively inunstable grid condition.

**4. Warranty Claims Procedure**

To make a warranty claim the following information needs to be provided:

- Completed KMS Inspection Form (can be downloaded from www.ksolare.com with Sr.No. Date of purchase, invoice copy etc. to be mailed.
- Copy of the installation report and Warranty certificate

The company engg./authorized reseller will liaise with the Company regarding repair or replacement. The cost of repair or replacement will be borne by the Company provided the Warranty has been validated as per above terms and the Warranty period has not expired.

Where repairs must be affected at the Company's headquarters, the Company will endeavor to minimize the down time for the Goods.

Model: _____ Dt:_____

Client Name: _____

Address: _____

Ksolare Energy Pvt. Ltd. Pune

*Note: For duplicate certificate Rs. 150/- INR will be charged.

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Trusted Brand Since 2012

Sr.No. 3, KSolare Technology Park, 7/B/1/4, opp.
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Pune, Maharashtra 411046

Service Email: service@ksolare.com

Enquiry Email: Sales@ksolare.com

Contact: 8530111222