

# TITAN MICROINVERTER QUICK INSTALLATION GUIDE



## Check the Installation Environment and Position

When choosing the position of installation, comply with the following conditions:

- To avoid unwanted power derating due to an increase in the internal temperature of the inverter, do not expose it to direct sunlight.
- To avoid overheating, always make sure the flow of air around the inverter is not blocked.
- Do not install in places where gasses or flammable substances may be present.
- Avoid electromagnetic interference that can compromise the correct operation of electronic equipment.
- It's recommended to install microinverter on structures underneath the photovoltaic modules so that they work in the shade without touching the rooftop.

## Installation Steps

### DANGER

- Only qualified personnel should install, troubleshoot, or replace TITAN micro inverters or the cable and accessories.
- Before installation, check the unit to ensure absence of any transport or handling damage, which could affect insulation integrity or safety clearances.
- Unauthorized removal of necessary protections, improper use, incorrect installation and operation may lead to serious safety and shock hazards or equipment damage.
- Be aware that installation of this equipment includes risk of electric shock

## Step 1. Fix the microinverter

### DANGER

- Do not install the equipment in adverse environment conditions such as flammable, explosive, corrosive, extreme high or low temperature and humid.

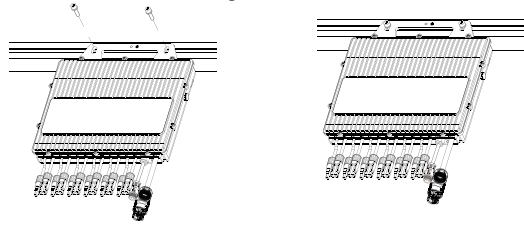
### WARNING

- Choose installation location carefully and adhere to specified cooling requirements. Micro-inverter should be installed in a suitable position with good ventilation and no direct sunshine.
- A 5cm space needs to be left between the microinverter and the roof to ensure its heat dissipation.

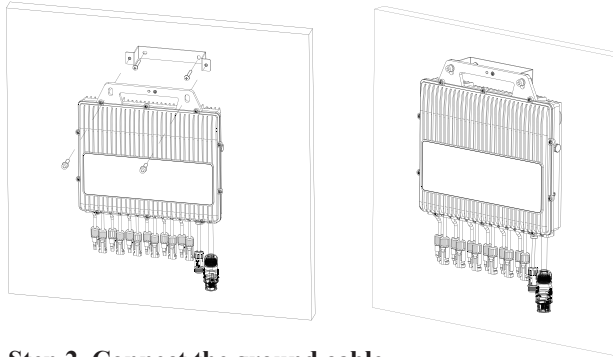
### CAUTION

- There are no screws and nuts in the package.

Choose the best installation position. Use two pairs of screws and nuts to fix the microinverter on the frame. Make sure that the label of microinverter should be upside.



The microinverter can also be mounted on the wall (vertically) using the optional support. In this case, first fix the bracket to the wall with a pair of screws and then fix the micro inverter to the bracket with one pair of nut screws.

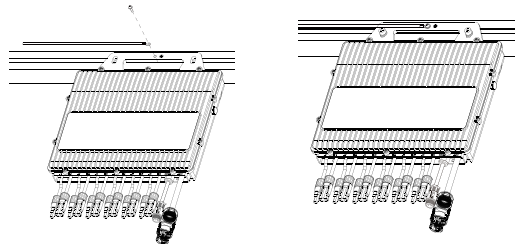


## Step 2. Connect the ground cable

### WARNING

- Ensure that all microinverters are well grounded.
- Use p6 screw for the ground port.

Connect the ground cable to the enclosure of the microinverter.



## Step 3. Connect the AC Cable

### DANGER

- Do not install the AC junction box without first removing AC power from the system.
- To prevent electrical hazards, make sure the micro-inverter system is disconnected from the home distribution network and the AC breaker is open.

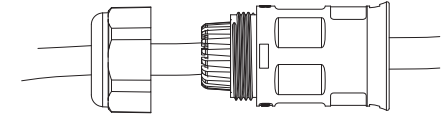
### WARNING

- Ensure that all AC cables are correctly wired and that none of the wires are pinched or damaged.
- Use AWG 12 ( 4 mm<sup>2</sup>) cable for AC end cable.

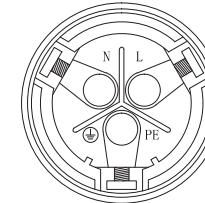
### CAUTION

- The installation technician is responsible for selecting a kind of AC cable and connecting the micro-inverter system into the home distribution network correctly.
- The AC connectors may be provided by different suppliers. The port definitions are subject to actual objects.
- The AC connector and protection cap is not in the package.

Take out the AC connector from the package. Get the AC cable through the shell of AC connector and connect the cable to the right port.

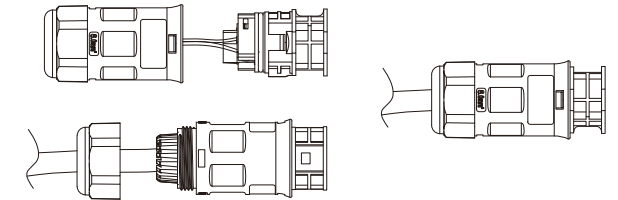


The definition of the port is shown below:

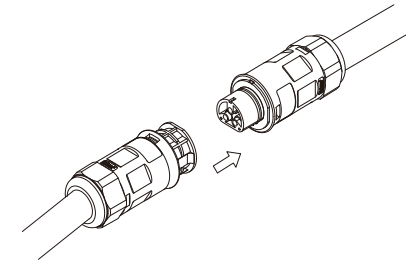


- |     |         |                |
|-----|---------|----------------|
| L:  | Live    | (Brown/Red)    |
| N:  | Neutral | (Blue/Black)   |
| PE: | Ground  | (Yellow-Green) |

Reassemble the AC connector as shown below.

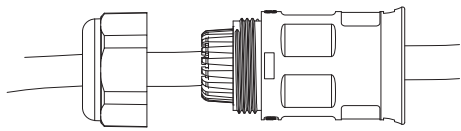


Plug the AC connector into the microinverter and connect the AC cable to the AC distribution box.

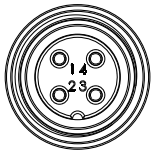


## Step 4. Connect the RS485 Connector

Take out the four core cable from the package. Get the four core cable through the shell of four core connector and connect the four core cable to the right port.

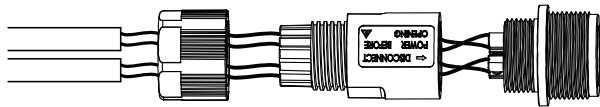


The corresponding relationship between each port connection is as follows:

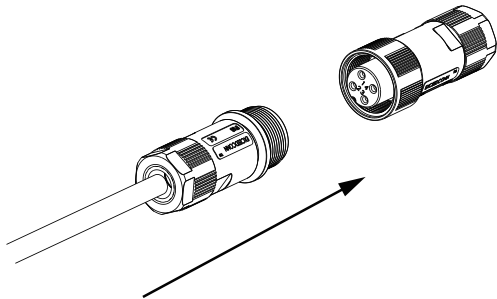


Terminal	Corresponding RS485 port connection cable
Pin 1	RS485-A
Pin 2	RS485-B
Pin 3	RS485-A
Pin 4	RS485-B

Reassemble the four core connector as shown below:



Plug the four core connector into the microinverter communication terminal and connect the four core connector to the RS485 connector.



The wiring diagram of the RS485 communication series system for microinverter can be found in the DTU User Guide.

### Step 5. Connect the DC cable

#### DANGER

· When photovoltaic panels are exposed to light, it provides a DC voltage to the inverter.

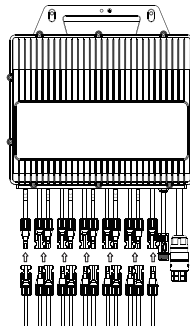
#### WARNING

- Make sure that all DC cables are correctly connected and that none of the cables are stripped, pinched or damaged.
- The maximum open circuit voltage of the photovoltaic module (panel) must not exceed the specification of the maximum input DC voltage of the microinverter.
- If the DC cable is short for installation, use a DC extension cable to connect PV modules to the micro inverter.
- Use MC4 compatible DC connectors for the DC extension cable on the micro inverter side or get DC connectors from TSUNESS.

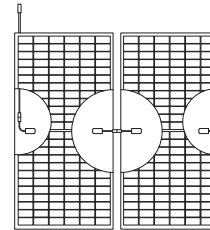
#### CAUTION

- If the DC cable is too short for installation, use a DC Extension Cable to connect PV modules to the microinverter.
- Use MC4 compatible DC connectors in the inverter side of DC extension cable, or get the DC connectors from TSUN.
- Contact PV module manufacturers for the requirements of DC connectors in the module side of DC extension cable.

Install the PV modules and connect the DC cable to the microinverter.



While using TSOL-MS3000 microinverter, each DC input of microinverter can connect two PV modules in series.



### Step 6. Make an installation map

#### CAUTION

- If there are more than one installation site, please make the installation map separately and give a clear description about the installation site.
- The row of the table corresponds the shorter side of PV module and the column of the table corresponds the longer side of PV module. The direction on the upper left corner means the actual installation orientation.

Take out the SN labels and installation map from the package. Paste the SN labels on the installation map as below and complete the information of the solar plant .

Customer: (Name of customer or power station)	Installation Direction: (Direction that the PV modules face to)						Installation Site: (If there are other installation sites, Use different installation map and give them different Map No.)
	1	2	3	4	5	6	
A							
B							
C							

### Step 7. Start the System

#### DANGER

- Only qualified personnel may connect this system to the utility grid.

#### CAUTION

- Do not connect the microinverter(s) to the grid, nor energize the AC circuit(s) until you have completed all installation procedures and have received prior approval from the electricity utility company.

While installation is all finished, turn on the main utility-grid AC circuit breaker. Your system will start producing power after about a two-minute wait time.

The LED will flash green and red on startup. The LED definition is shown below:

Status	Indicates
Solid Green	Stand by/Waiting /Checking Status
Flashing Green (1s)	Working normally
Flashing Red (1s)	Working abnormally
Solid Red	Fault

### Step 8. Other information explanation

After completing the installation, please read the DTU User Guide to use.

For more detailed information, please scan the QR code to read.



EU Declaration  
of Conformity  
(DOC)



Full Manual  
Microinverter

TSUNESS Co., Ltd

E-MAIL : sale@tsun-ess.com

WEB : www.tsun-ess.com

TEL : +86-512-66186028

