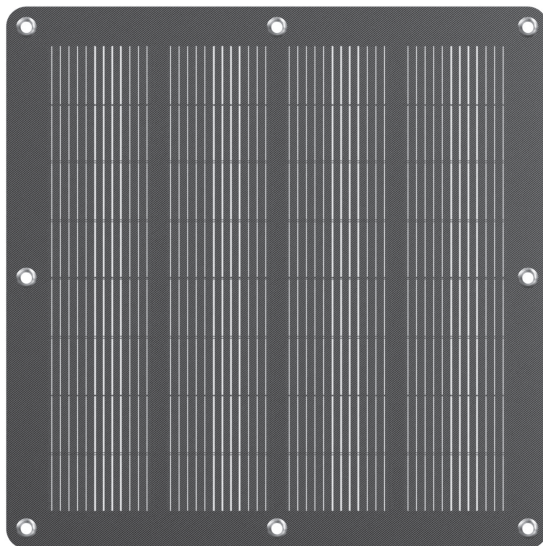
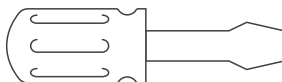




Smart
Connect



FLEXIBLE SOLAR PANEL SET



www.lsc-smartconnect.com

Safety

Important Safety Information

Read it first

This manual contains important instructions for the installation and maintenance of the LSC solar set including Envertech microinverter.

To reduce the risk of electrical shock, and to ensure safe installation and operation of the microinverter, the following safety symbols appear throughout this document to indicate dangerous conditions and important safety instructions.



DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.



WARNING

WARNING indicates a hazardous situation which, if not avoided, can result in death or serious injury or moderate injury.



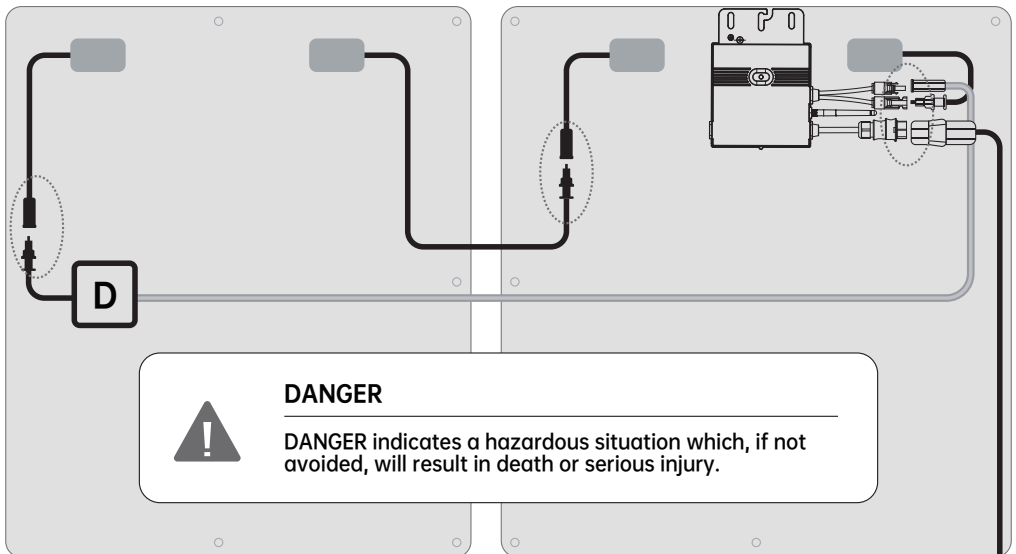
NOTICE

NOTICE indicates a situation that can result in property damage, if not avoided.

1.1 Safety Instructions

- Be aware that only qualified personnel should install or replace the Envertech microinverters, solar panels, cables and accessories.
- Do not use this LSC solar panel set including Envertech microinverter in a manner not specified by the manufacturer. Doing so may cause death or injury to persons, or damage to equipment.
- Do not attempt to repair any parts of this LSC solar panel set; it contains no user serviceable parts. If it fails, contact Action customer service to start the replacement process. Tampering with or opening any parts will void the warranty.
- Do not install any modules when it is raining, snowing, or windy.
- If the AC cable on the microinverter is damaged or broken, do not install the unit.

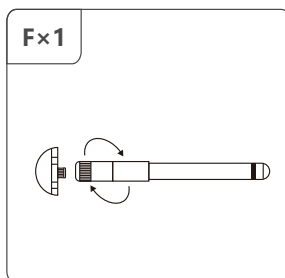
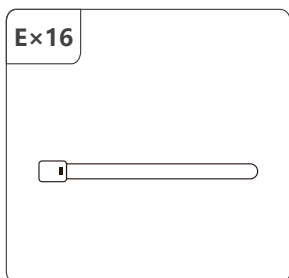
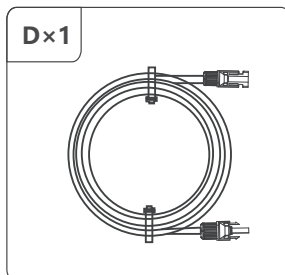
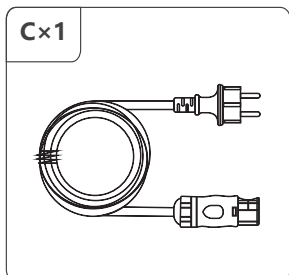
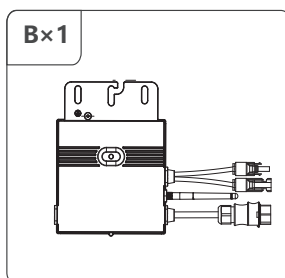
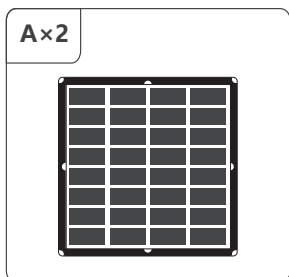
- Before installing or using the LSC solar set including Envertech microinverter, read all instructions and cautionary markings in the technical description and on the Envertech microinverter system and the PV equipment.
- Connect the LSC solar set including Envertech microinverter to the utility grid only after you have completed all installation procedures.
- Inform electric utility company and register LSC solar set including Envertech microinverter: <https://www.energieleveren.nl/>
- Please be kindly note that the Envertech microinverter itself is a heat sink. Under normal operating conditions, its temperature is 20°C above ambient, but under extreme conditions, the microinverter can reach a temperature of 90°C.
- Do not disconnect the LSC solar panels from the Envertech microinverter without disconnecting AC power from Envertech microinverter.
- Maximum of 2 solar panels per inverter.
- Do not mix with panels from other brands.
- Panels generate power when exposed to sunlight, even when not connected to the inverter. So plugs of the panels are energized!
- Do not modify the panels, cables or connectors
- Below connectors marked with grey circle are energized and may cause risk of electric shock when touching metal parts with bare hands:



LSC solar panel set including Envertech microinverter

The LSC solar panel set including Envertech microinverter system is an on-grid microinverter system. This manual give details about the safe installation and operation of the LSC solar panel set including Envertech microinverter.

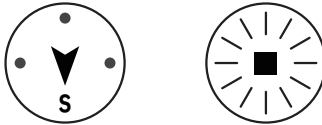
Parts list:



Essential information

The LSC solar panel set including Envertech microinverter set should be installed by an authorized person.

First make a laying 'installation plan, check if there is enough space and everything can be attached properly. Only then start installing and connecting the panels and inverter set.

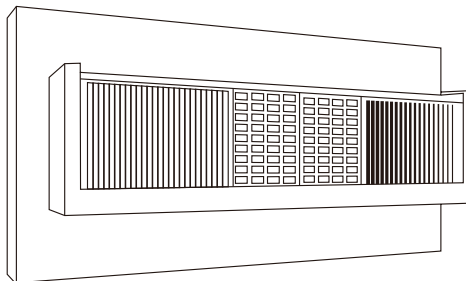


Orient you kit to the south, southeast or southwest. Choose a place that receives sunlight throughout the day.

- Maximum of two panels per inverter
- Circuit protected by a 2.5 mm² 16A circuit breaker
- Note that the panels already generate power when they receive daylight/sunlight even though they are not yet connected. The metal part in the plugs of the panel are then already energized.

Verify that your electrical installation complies with the recommendations

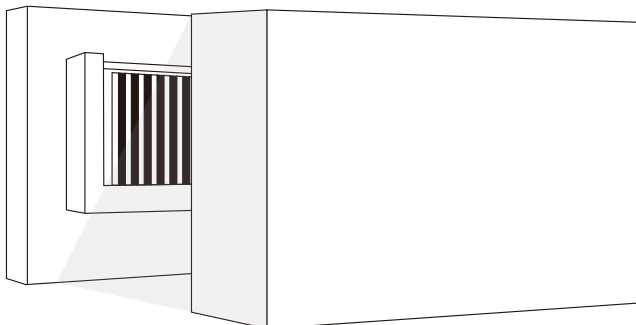
Correct installation position



Incorrect installation position

- Please note that the warranty applies only to installations that comply with the optimal configuration.
- Other configuration may result in premature kit degradation, reduced performance, and increased risk.

-Avoid shading the components.



Installation

Specifications

Microinverter

3.3 Datasheet

Model	EVT400
Input Data(DC)	
Recommended Input Power Range (STC)	180W~550W+
Max. Dc input (v)	60V
Isc PV (Absolute Max.) (A)	25 A
Operating Range (V)	16V~60V
Max. input Current (A)	14A
Mppt Voltage Range (V)	22V~50V
Output Data(AC)	
Nominal Voltage (Vac)	220V/230V
Voltage Range (Vac)	189V~260V
Current (Max. continuous)(A)	1.81A
Frequency (Hz)	50Hz/60Hz
Frequency Range (Hz)	47.5~52.5Hz/57.5~62.5Hz
Power (Max. continuous) (W)	400W
Power Factor /Rated(default)	+/-0.90
Total Harmonic Distortion	<3%
Maximum Units Per Branch(12AWG Cable)	NA
Efficiency	
Peak Efficiency	96.5%
MPPT Efficiency	99.9%
Nighttime Power Consumption	<100mW

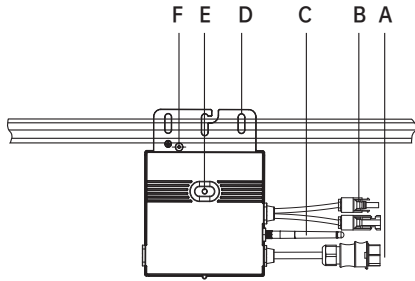
Features	
Communication	PLCC(Power Line Carrier Communication)/Wi-Fi
Compliance	VDE-AR-N 4105,IEC/EN61000 IEC/EN62109-1/2,EN50549-1/2019,TOR 2019,C10/11:2019 CEI 0-21,UTE C15-712-1:2013. VFR 2019(See individual datasheet for specific product certifications)
Warranty	15 Years (20 years optional)
Others	
Ingress Protection (IP)	IP 67
Protective Class	Class I
Temperature(°C)	-40°C to +65°C
Relative Humidity	0% ~98%
Overvoltage Category	OVC III (AC Main), OVC II (PV)
Inverter Isolation	<input checked="" type="checkbox"/> High Frequency Isolated
Weight	2.1kg
Dimensions (W*H*D)	163.3mm*163.7mm*35.5mm

4. Preparation

4.1 Packing Checklist

After you receive the Envertech microinverter, please check if there is any damage on the carton, and then check the inside completeness for any visible external damage on the microinverter and accessories. Contact your dealer if anything is damaged or missing.

4.2 Product Description



Item	Description
A	AC Connector
B	DC Connectors
C	L-type Antenna
D	M8 x 25 screws (Prepared by the installer)
E	LED Light
H	Grounding Hole

4.3 Further Information

If you have any further questions concerning accessories or installation, please check our website www.envertec.com or send an email to tech@envertec.com.

4.4 Symbols on inverter

symbol	Description
	<p>Dangerous electrical voltage</p> <p>This device is directly connected to public grid, thus all work related to the inverter shall only be carried out by qualified person</p>
	<p>NOTICE, danger!</p> <p>This device directly connected with electricity generators and public grid</p>
	<p>Danger of hot surface</p> <p>The components inside the inverter will release a log of heat during operation. Do NOT touch aluminum casing during operating.</p>
	<p>An error has occurred</p> <p>Please go to chapter 10 "Trouble shooting" to repair the error.</p>
	<p>This device SHALL NOT be disposed of in residential waste. Please go to chapter 9 "Recycling and Disposal" for proper treatments.</p>
	<p>No unauthorized perforations or modifications</p> <p>Any unauthorized perforations or modifications are strictly forbidden. If any defect or damage (device/person)s occurred, Envertec shall not take any responsibility for it.</p>

ATTENTION:
 No unauthorized perforations or modifications are allowed on this device.
 Any unauthorized perforations or modifications are strictly forbidden.
 If any defect or damage (device/person)s occurred, Envertec shall not take any responsibility for it.

Solar panel

ELECTRICAL DATA(STC)

Model Type	YH110W-17.5M
Peak Power(Pmax)	110
Maximum Power Voltage(Vmp)	17.92
Maximum Power Current(Imp)	6.14
Open Circuit Voltage(Voc)	22.13
Short Circuit Current(Isc)	6.71
Module Efficiency(%)	16.77

* STC: Irradiance 1000 W/m², AM 1.5G, and cell temperature of 25°C

TEMPERATURE&MAXIMUM RATING

Maximum System Voltage(V)	1000
Maximum Series Fuse Rating(A)	10
Power Tolerance	0~+3%
Pmax Temperature Coefficients(W/°C)	-0.350%
Voc Temperature Coefficients(W/°C)	-0.270%
Isc Temperature Coefficients(A/°C)	+0.048%
NOCT Nominal Operating Cell Temperature(°C)	45±2
Operating and Storage Temperature(°C)	-40~+85

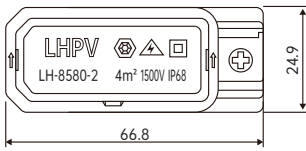
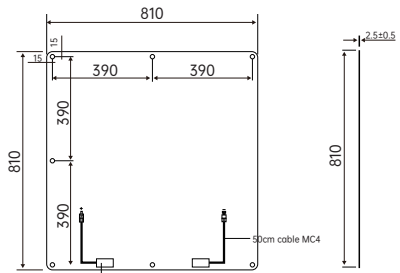
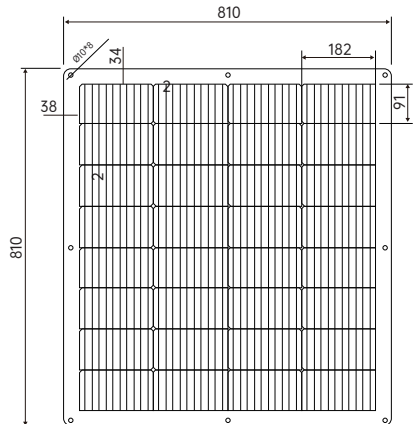
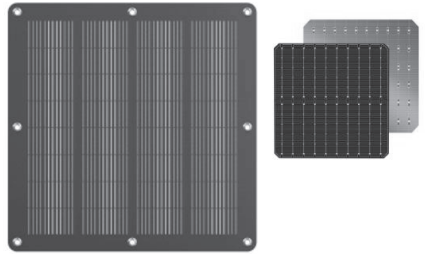
MECHANICAL CHARACTERISTICS

Cell Type	182x91Mono
No. of Cells	32(4x8)
Dimensions	810*810*2.5mm
Weight	2.33kg
Junction box	IP67/IP68
Output cables	4mm ² cable50cm+mc4
MaxWind Load/Snow Load	2400Pa/5400Pa

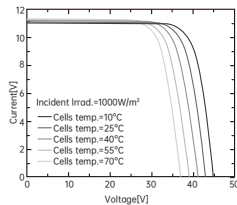
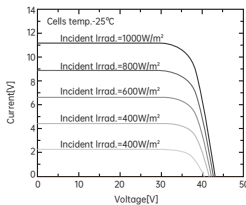
PACKING WAY

20FT	Packages/PCS
40HQ	Packages/PCS
Junction box	

PV DRAWINGS



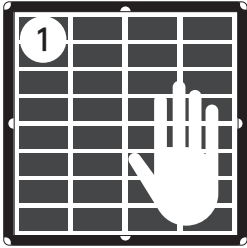
I-V Curve



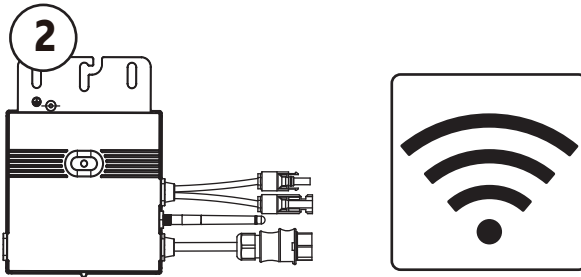
Read the instructions before installation.
 Damage caused by failure to follow instructions
 is not covered by warranty.

Important:

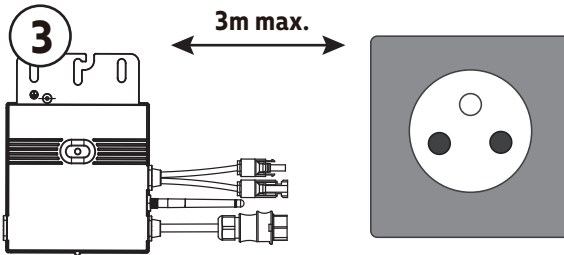
1. Handle with care. If in doubt during installation, consult a certified electrician for advice.



2. Make sure Envertech microinverter is placed within your local wifi range.



3. The maximum distance between the inverter and wall socket may not exceed 3 meters. Do not use extension cables or power strip.



Warning:

-Be aware, when the panels receive sunlight, the connectors of the solar panels are energized!

-The solar panel set delivers power back to the grid. The wattage generated is combined with the wattage already used by other appliances. The total wattage may never exceed 3680 Watt. When in doubt, consult an authorized person.

- Do not attach more than 2 Solar panels to the inverter.
- The inverter must be plugged into a properly grounded outlet.
- Never plug the inverter in an ungrounded outlet.
- The metal housing of the inverter must be connected to a properly grounded point.
- State that plugs should be snapped together properly.
- Check plug(s) are clean before connecting.
- The cable connectors are not properly connected until an audible 'click' had been heard.
- Even though the panels are flexible, do not attempt to bend them.
- Mount the solar panels properly without overstressing the mounting points.
- Keep in mind of possible windy conditions when choosing the location of installation.
- The solar PV system is grid-tied. Check with your local authorities to see if installation is allowed, and the process may require approval before or after installation.
- Install or remove the PV system with caution. There must be no people or property beneath the work area as it is a danger zone.
- During installation or removal, we recommend that at least three people work together. Ensure the solar panel is firmly secured before tightening the metal ties.
- The Mounting Auxiliary Rope must be connected to the balcony railing before the solar panel can be mounted.

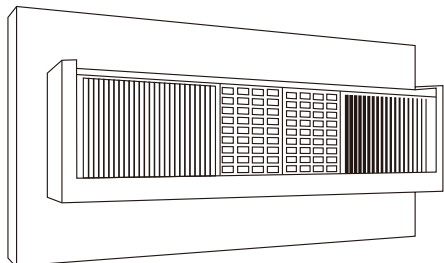
All installations should follow local electrical codes. Further protection of AC wiring from inverters should be provided and may be required by local and national wiring regulations. This protection may include Residual Current Devices, Earth Fault Monitors, and Circuit Breakers.

- There should be no changes made inside the microinverter other than the cable connectors.

How to install

Step 1: Install the solar panels

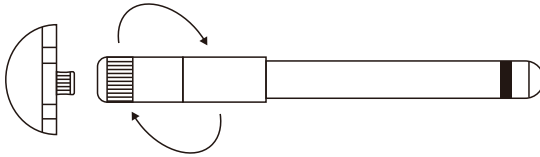
- Install the Balcony PV modules to the Balcony railing. Please use the metal ties to fix the flexible PV modules to the Balcony.
- It is necessary to fix the PV modules tightly especially when the balcony is high or the wind is strong usually.
- If necessary, please increase the ropes to enhance the fixing



Step 2: Install the microinverter

- Install a Wi-Fi antenna. For better Wi-Fi signal, rotate the antenna clockwise until it is firmly secured to the EVT400.
- Install the microinverter in proper position.

The microinverter can be fixed to the railing using metal ties. Select an Suitable installation location based on your actual scenario to ensure that the microinverter is securely installed.

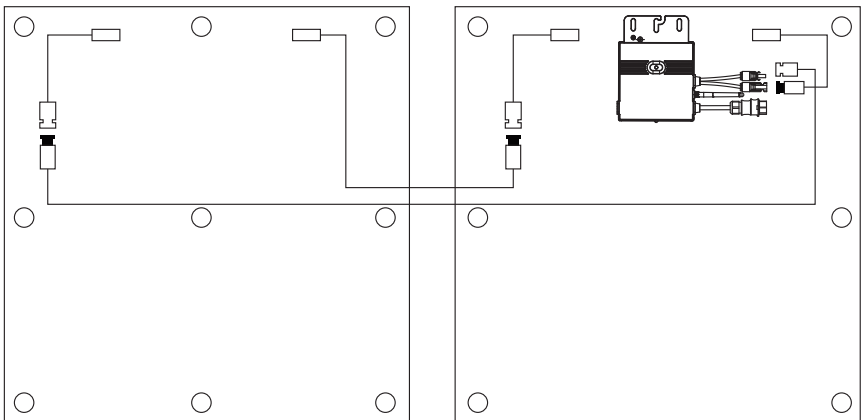


NOTE:

- Install the microinverter in proper position to avoid direct exposure to rain, UV or other harmful weather events.
- Install the microinverter in proper position to avoid impact damage to PV modules.

Step 3: Connect the microinverter to the solar panels

Connect the PV modules (2 pcs should be connected in series) and then connect the Microinverter to the PV Modules(Using DC extension cables).

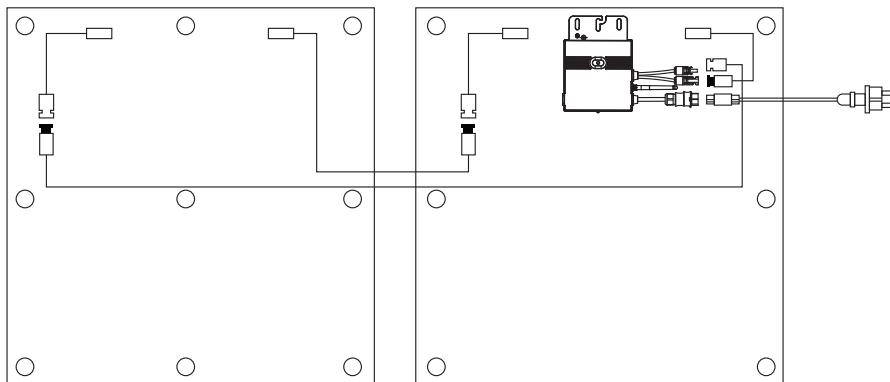


Note:

When plugging in the DC cables, the microinverter should immediately blink red.

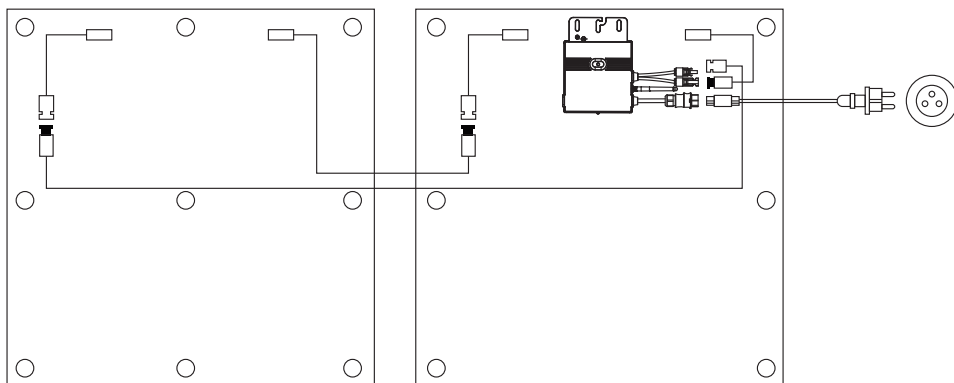
Step 4: Connect the microinverter to AC cable

-Insert the microinverter AC connector into the AC cable connector.



Step 5: AC Cable Connection

-Insert the AC cable into the socket.



Step 6

Indicator light

Flashing green: normal operating status.

Flashing red: installation is not yet completed

-The red light flashes every 2-3 seconds: not enough sun light.

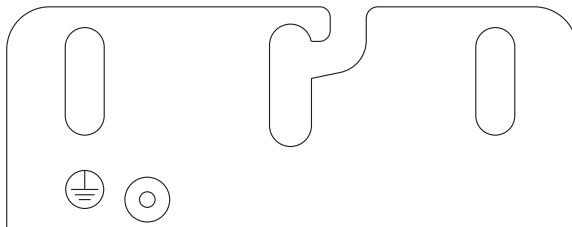
Wait for the sun to appear.

-The red light keeps flashing: operating voltage or frequency range is not correct.

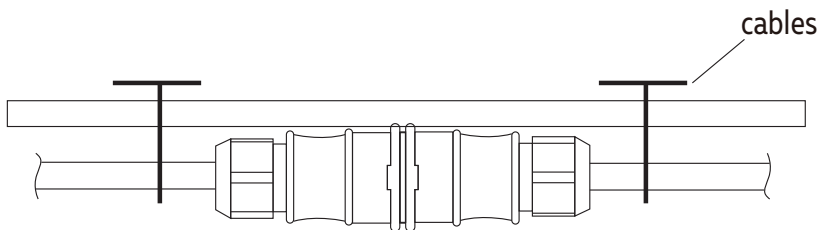
Please check the section "Troubleshooting an Maintenance"

Ground the system

-Micro-inverters and modules must be connected to the grounding conductor in accordance with national standards. Fix the grounding wire with screws to the micro-inverter's grounding hole, so that the grounding of micro-inverter can be realized.

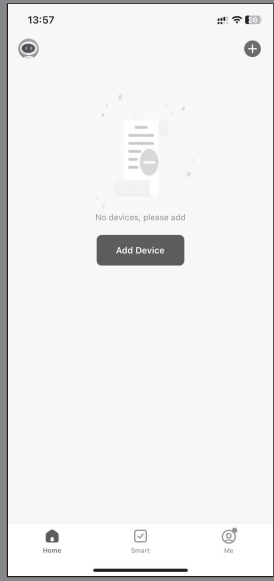


-Fasten AC cables and seal the unused connector. Fasten AC cables and grounding cables to the rack with cable ties.

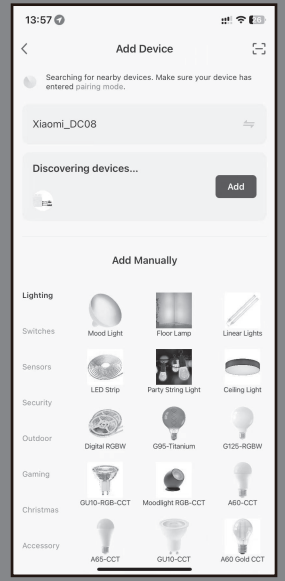


Step 7: How to add in LSC app

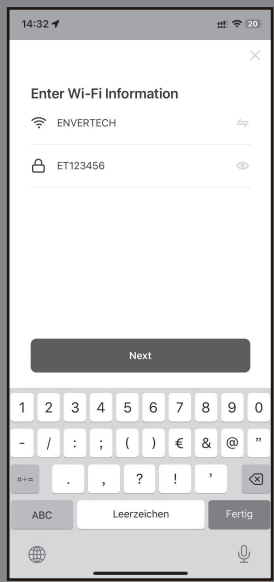
-Click the "+" sign in the upper right corner to add a device



-Wait for the device to be discovered and click Add



-Enter the router device name and own network password required for network distribution



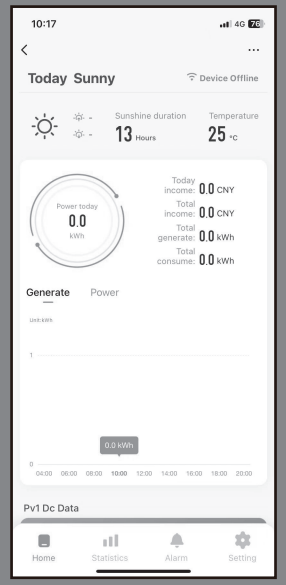
-Waiting for network distribution

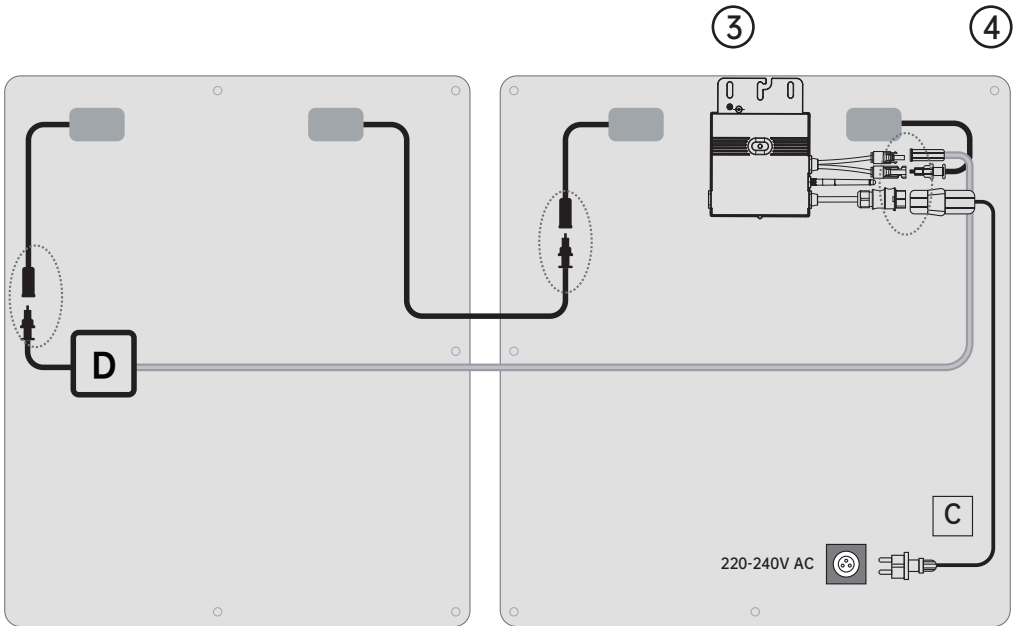
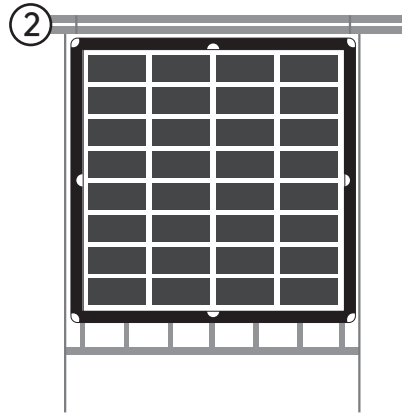
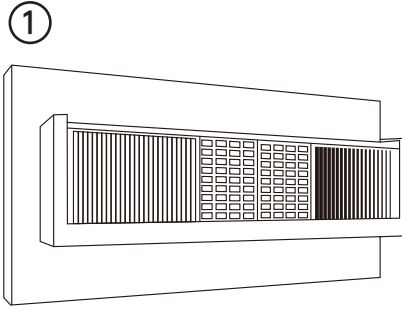


-Network
distribution
successful



-Now you
can check
the data





Troubleshooting an Maintenance

Adhere to all the safety measures described throughout this manual. If the LSC solar panel set including Envertech microinverter does not operate correctly, the following troubleshooting measures can be applied by qualified personnel.



WARNING

Do not attempt to repair the Envertech microinverter. It contains no user-serviceable parts. If the microinverter fails, contact your direct supplier or Envertech customer service to obtain an RMA (return merchandise authorization) number and start the replacement process.

LED status indications and Error Report

Led startup:

The LED of each micro-inverter blink red for a while at the beginning, and then blinks → green to indicate normal start-up approximately 10 seconds after DC power is applied. If → the LED blinks red after DC power is on, it indicates a failure during the start-up.

Post-Startup LED indications

Check LED status to conform the present situation.

Flashing Green

It indicates normal operation.

Flashing Red

- If red light flashes every 2 or 3 seconds, it indicates that the micro-inverter is waiting for sun or prepare to produce energy.
- If red lights flashes continuously, it indicates that the micro-inverter is not operating normally. The micro-inverter does not detect that the utility grid is within operable voltage/frequency range. The micro-inverter cannot produce power until this is solved.

WARNING: Be aware that only qualified personnel should troubleshoot the LSC solar panel set including Envertech microinverter.

- Check the connection to the utility grid. Verify that the utility voltage and frequency are within the allowable ranges shown on the label of the microinverter.

- Verify if utility power is present in the inverter by removing AC, then DC power. Do not disconnect the DC wires when the microinverter is producing power. Reconnect the DC module connectors and the LED should blink.
- Check the interconnection harness of the AC branch circuit. Verify that the microinverter is powered by the utility grid as described in the previous step.
- Ensure all AC disconnects are closed and functioning properly.
- Make sure the DC voltage on the solar panels does not exceed the range listed on the microinverter label.
- Check the DC connections between the microinverter and the solar panel.
- When changing Wi-Fi networks, disconnect the AC wires first