Intelligent Solar Power Supply System
Installation Manual

SCAN FOR LATEST

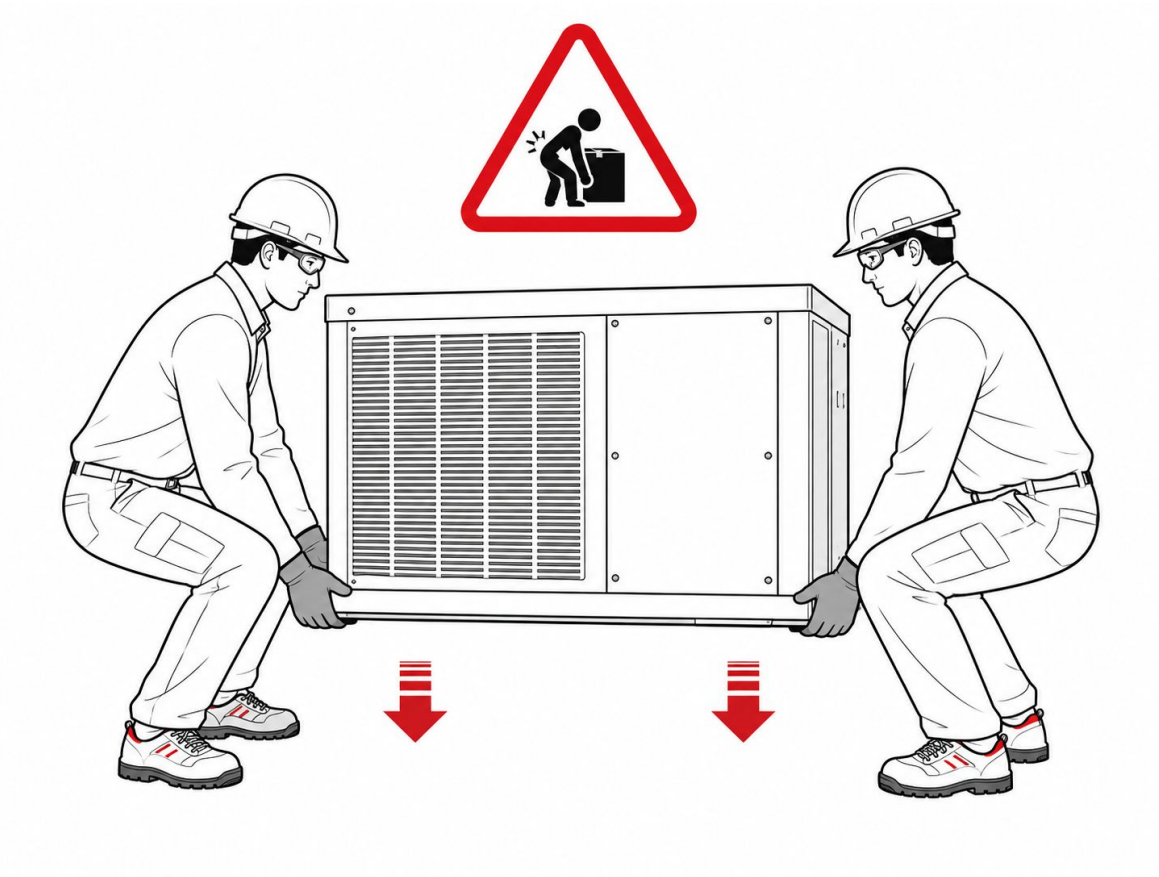
Contents

SAFETY NOTICE

TURING

HANDLE WITH CARE

HEAVY EQUIPMENT — TEAM LIFT REQUIRED



lb 193.1 ≈
kg total assembled 87.6

Weight per product datasheet

Waterproof case: 48.5 lb • Batteries: 58.2 lb total

Solar panels: 39.0 lb total • Rack + back plate: 47.4 lb

SAFE HANDLING

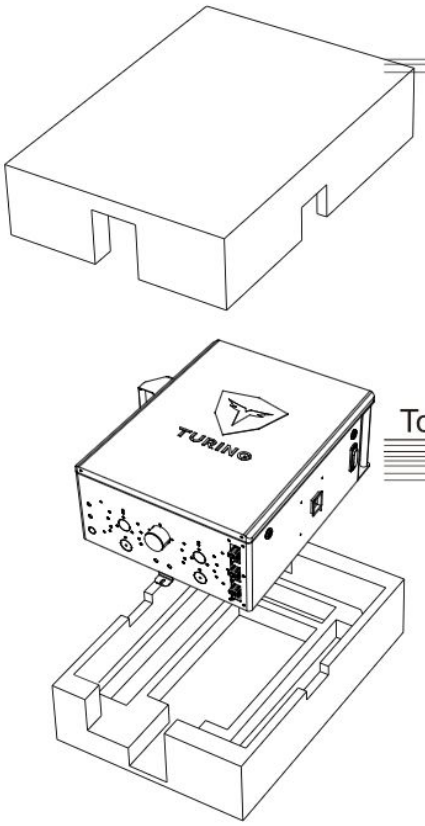
1. Make sure people handling equipment is suitable for the heavy weight.
2. Mount the enclosure first. Install battery modules only after the enclosure is securely mounted.
3. Keep hands and feet clear; use secure grip points, proper lifting technique, and appropriate PPE.

.ATTENTION: Improper handling may cause bodily injury or equipment damage

1. List of Accessories

1.1 Water-resistant Case

LS-KG3-EGEN-XL



Toolbox

Solar X1
Instruction manual

Router X1
Router Configuration Manual

X1
Others

X2
TP-SDLPZ
Camera Bracket

X2
TP-SDC
Rainproof Shade

X2 Key

X2
4G antenna

X1
WIFI antenna

X1
Antenna mounting

Network cable
X6

Intelligent Controller
X1

Router power cable
X1

DC power cable
X2

Stainless steel clamp
X4

X1 Safety rope

X1
M3 Screw wrench

X1 Rain Shade

X1 PTZ camera mounting bracket
(TR-UF45-A-IN)

TA-24BOOST
12-24V Booster
X1

TA-48BOOST
12-48V Booster
X1

Charging Cable

List of Screws

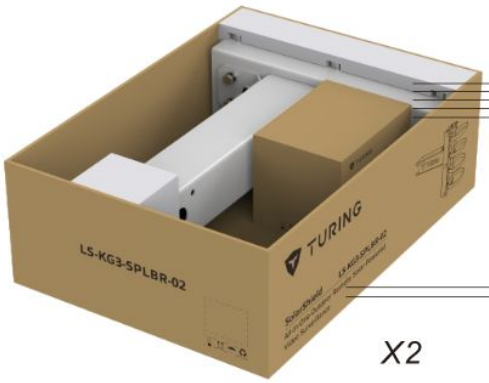
M3X6mm	2
M4X14mm	25
M4X20mm	8
M4X30mm	8
M4X14mm (round head)	8
M8X20mm	4
Router DIN rail clip	1

· Specification and Parameters

22.48 × 12.56 × 23.78 in
Net Wt:48.5 lb
Cold-rolled steel/electro-coating/powder coating

1.2 Solar Panel Racking

LS-KG3-SPLBR-02



X2

Toolbox

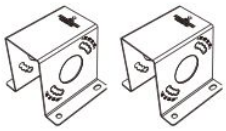
X6 M8×20mm screw

X3 Wrench

Stainless steel clamp

X4

X1 Safety rope



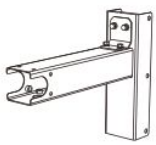
TA-RNGSPBR-02

X2

Mounting Backplate

X1

X3



Bracket

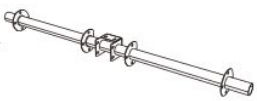
X1

- **Specification and Parameters**

18.43 × 13.78 × 5.91 in
Net Wt:9.7 lb
Cold-rolled steel/electro-coating/powder coating

LS-KG2-SPBR-03

Crossbar



X1

TA-RNGSPBR-03

X1

M10 x 45mm

X6

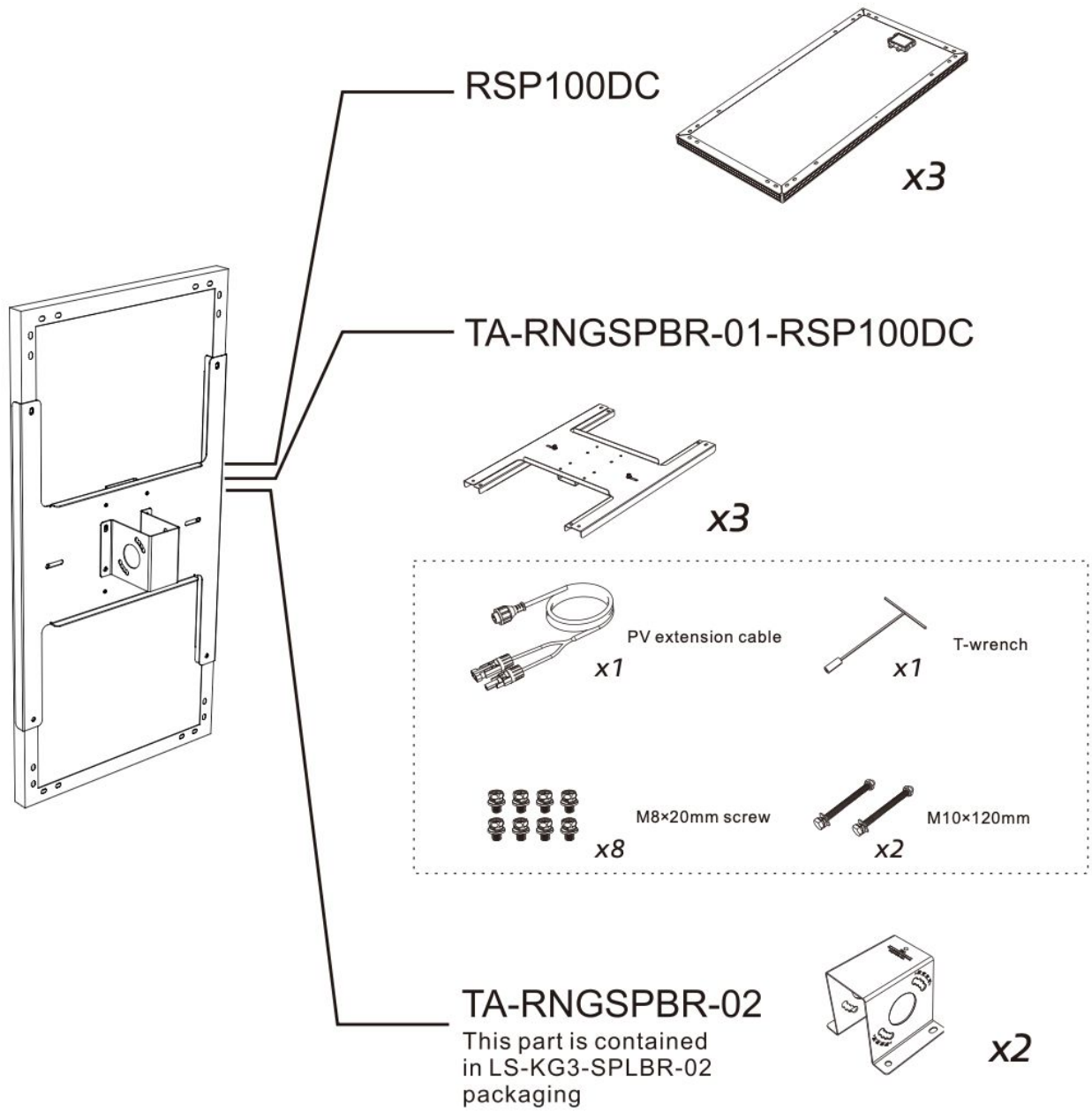
Instruction manual

X1

- **Specification and Parameters**

52.05 × 4.72 × × 4.72 in
Net Wt:10.36 lb
Cold-rolled steel/electro-coating/powder coating

1.3 Solar Photovoltaic Panels



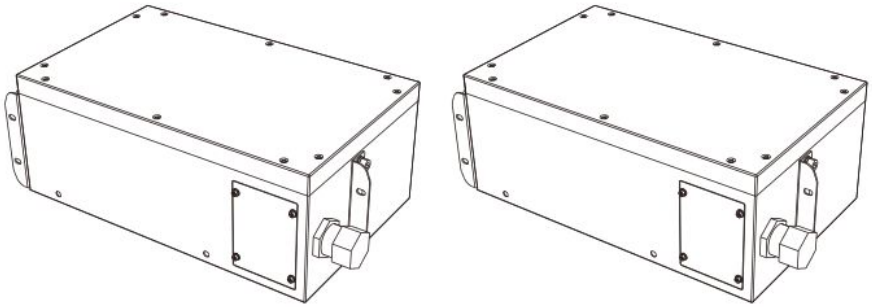
· **Specification and Parameters**

34.06 × 23.07 × 5.91 in
Net Wt:21.8 lb
Cold-rolled steel/electro-coating/powder coating

x3

1.4 Battery Module

TA-C100AH



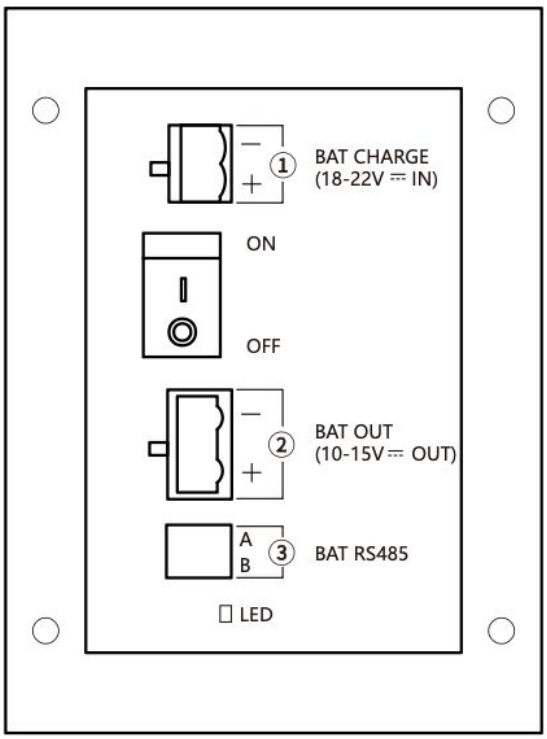
x2

· **Specification and Parameters**

15.14 × 7.9 × 5.14 in
Net Wt:29.1 lb
Cold-rolled steel/electro-coating/powder coating

x2

1.4.1 Battery Module Port Introduction



BAT CHARGE; Battery charging port

ON/OFF: Power button

BAT OUT: Regulated output

BAT RS485: Communication interface

1.4.2 Indicator Introduction:

Indicator	Operating State	Description
LED	Solid Green	PV panel input present,load output normal, battery not fully charged
	Flashing Green	PV panel input present,load output normal, battery fully charged
	Solid Red	No PV panel input,load output normal
	Flashing Red	Load output off
	Indicator Off	Switch o /No PV panel input and battery depleted

Notes:

This equipment may cause radio interference in residential environments.Product operating temperature: -30 ~ 60°C.

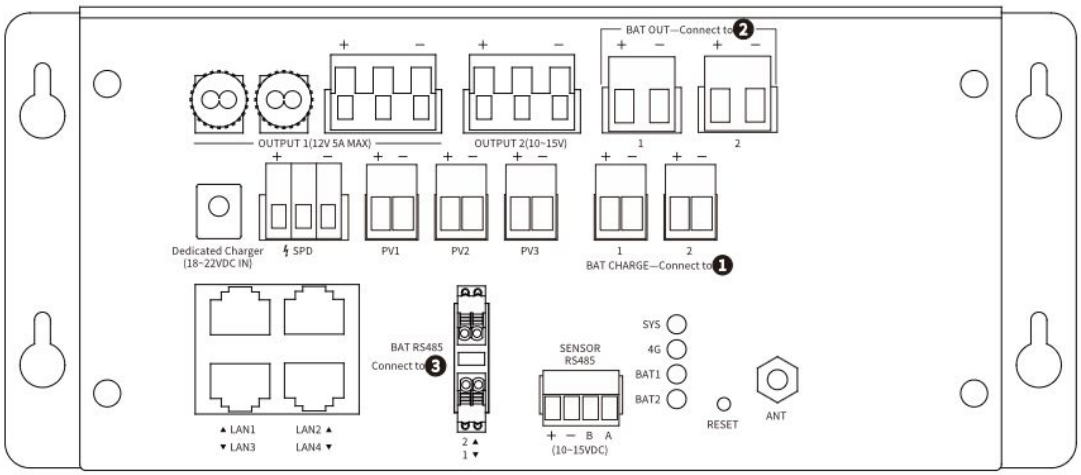
Improper replacement of batteries in the battery module may pose an explosion risk. User replacement is not recommended.

Do not place the battery in environments with extremely high ambient temperature, potential for explosion, or leakage of flammable liquids or gases.

Do not place the battery in environments with extremely low air pressure, potential for explosion, or leakage of flammable liquids or gases.

2.Product Overview

2.1Controller Port Introduction



OUTPUT 1: Regulated output interface. Two DC-JACK ports and one terminal block can be used to connect load devices.
OUTPUT 2: Direct battery output load interface, a single terminal block.
BAT OUT-Connect to ②: Regulated output, connected to port ②of the battery compartment.
Dedicated Charger: Connect to the mains/solar charger.
SPD: Connect to the lightning arrester.
PV1/2/3: Photovoltaic panel interface, connect to the PV panel cable harness plug.
BAT CHARGE-Connect to ①: Battery charging port,connected to port ①of the battery module.
LAN1/2/3/4: Ethernet ports for connecting load devices to the network.
BAT RS485-Connect to ③: Battery communication interface, connected to port ③of the battery module.
SENSOR RS485: Interface for connecting sensors, can provide 10~15VDC power and RS485 communication for sensors.
RESET: Reset interface. Press and hold this port to restore the device to factory settings.
ANT: Antenna interface.

Indicator Introduction:

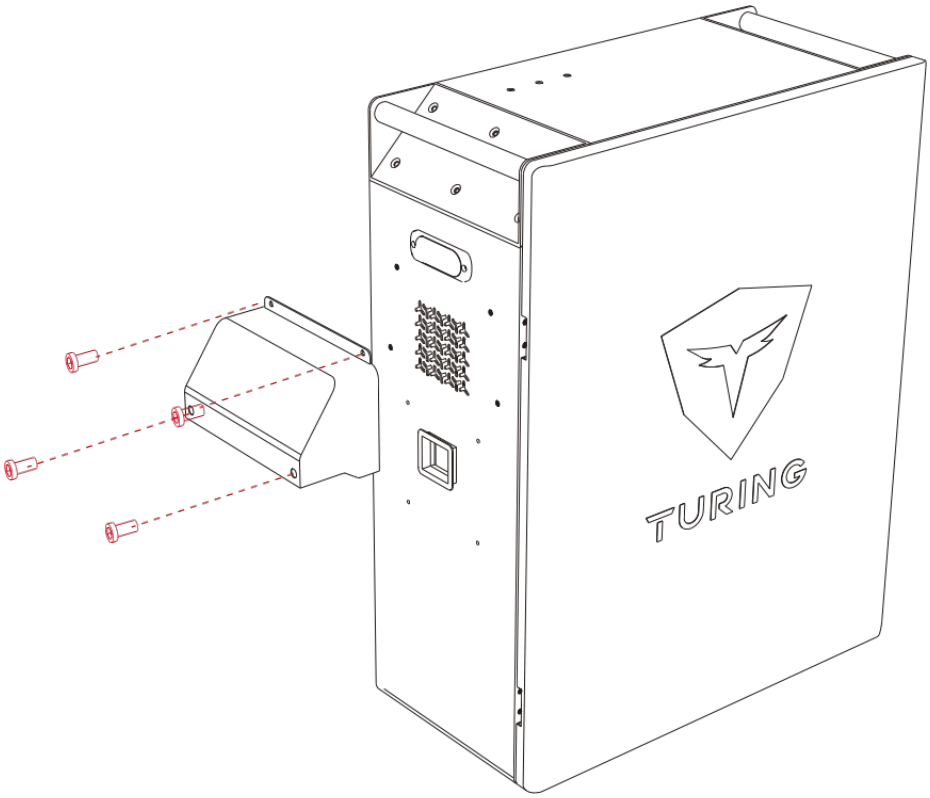
Indicator	Operating State	Description
SYS	Solid On	Working normally
BAT1/2	Solid On	Communication successful and battery level above 80%
	Flashing	Communication successful and battery level below 80%
	Off	Not connected/Communication failure

3. Installation

Step 1: How to Setup Your Cameras

Mounting the RainShade 3.1

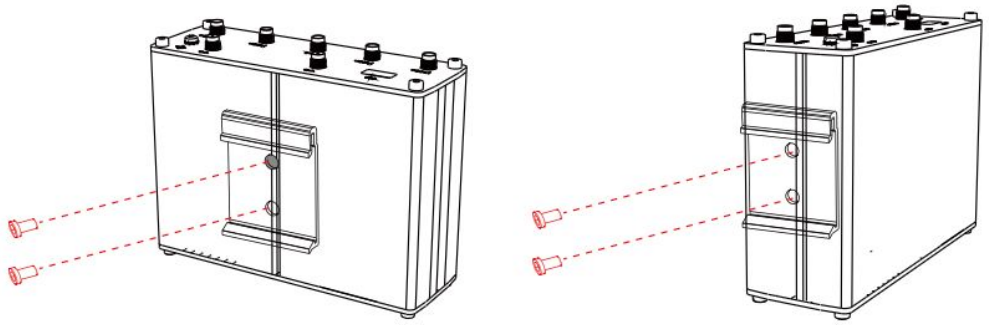
Mount rain shade to the left side of the SkyShield with 4xM4x14 mm Screws.
.Rain Shade can be found in a brown box inside the Enclosure



M4 x 14mm x4 

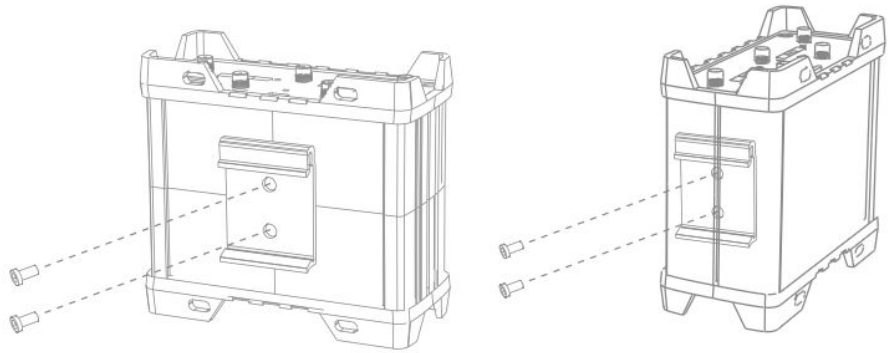
3.2 Mounting Router

3.2.1 Mounting the 5G router rail clip

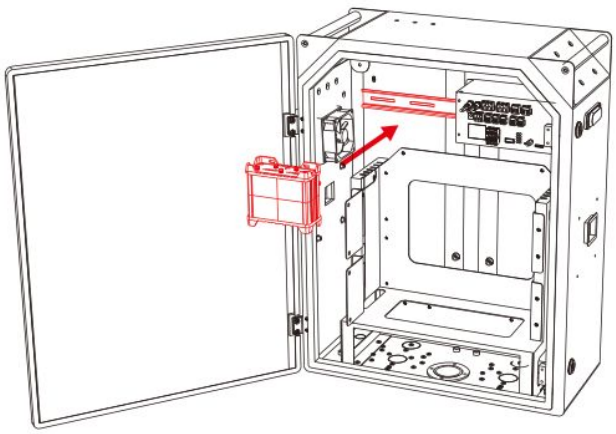


M3 x 6mm x 2

Mounting the 4G router rail clip



3.2.2 Mounting the router onto the DIN rail



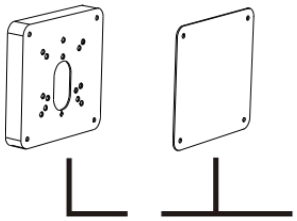
Mounting Cameras 3.3.1

Mounting Cameras to the Left/Right Position

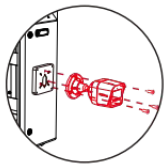
+

M4 x 30mm x 8

M4 x 14mm x 6

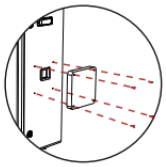


TP-SDLPZ

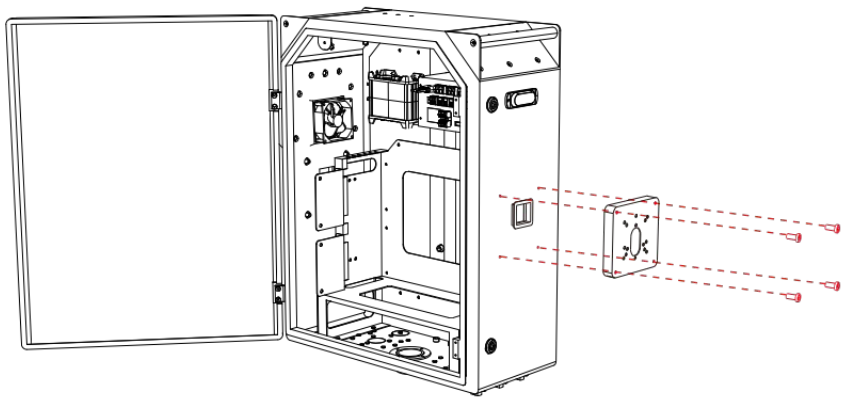


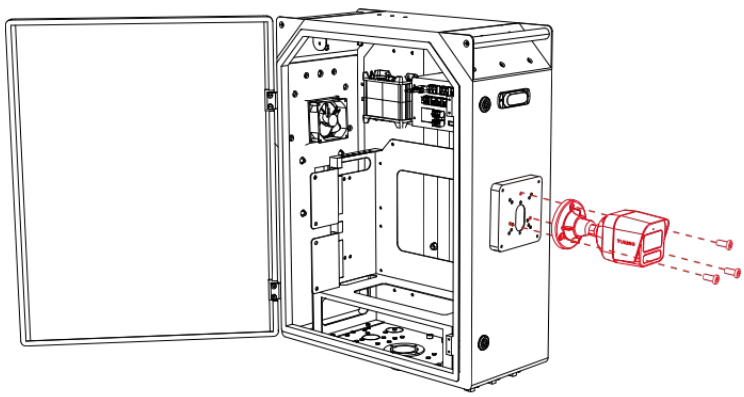
Install the camera

TP-SDC



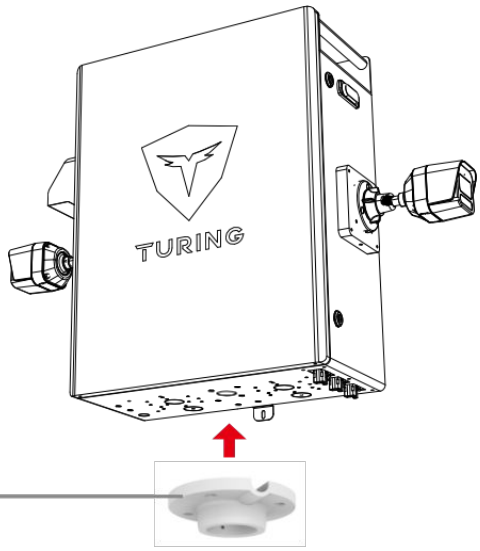
Waterproofing





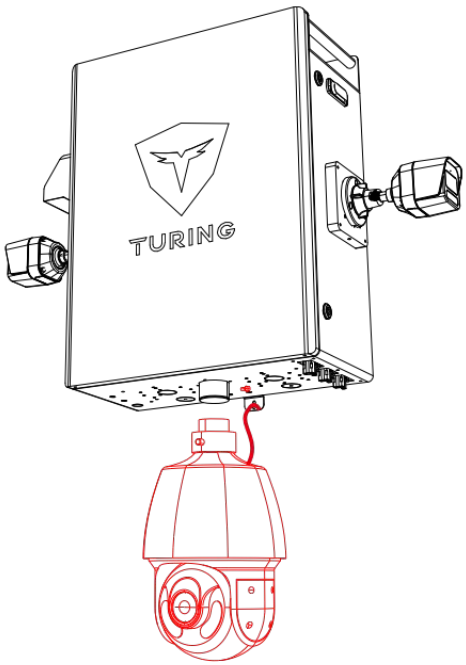
3.3.2 Mounting PTZ Cameras

TR-UF45-A-IN



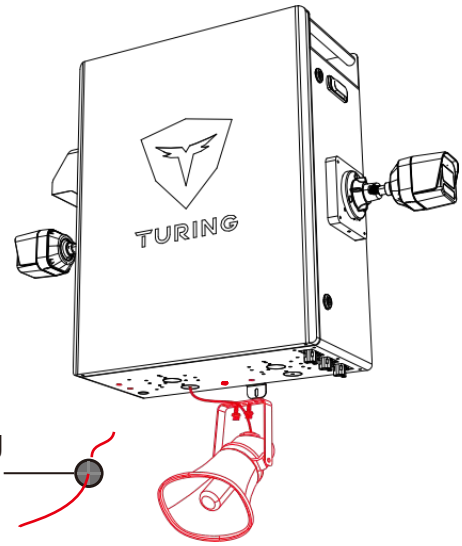
M8 x 20mm x 4

Security Lock



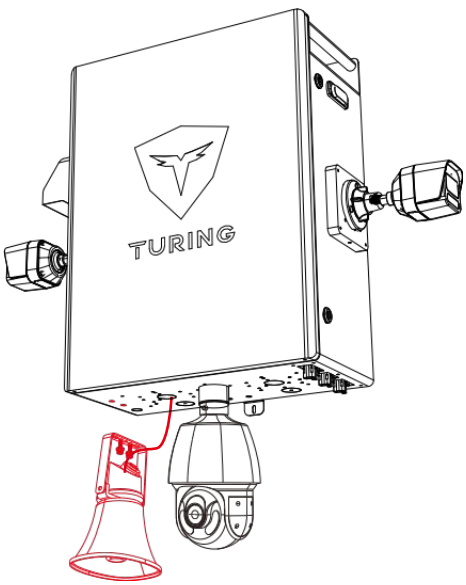
Mounting 3.4

Speakers



Through the rubber ring

M8 x 20 mm x 2



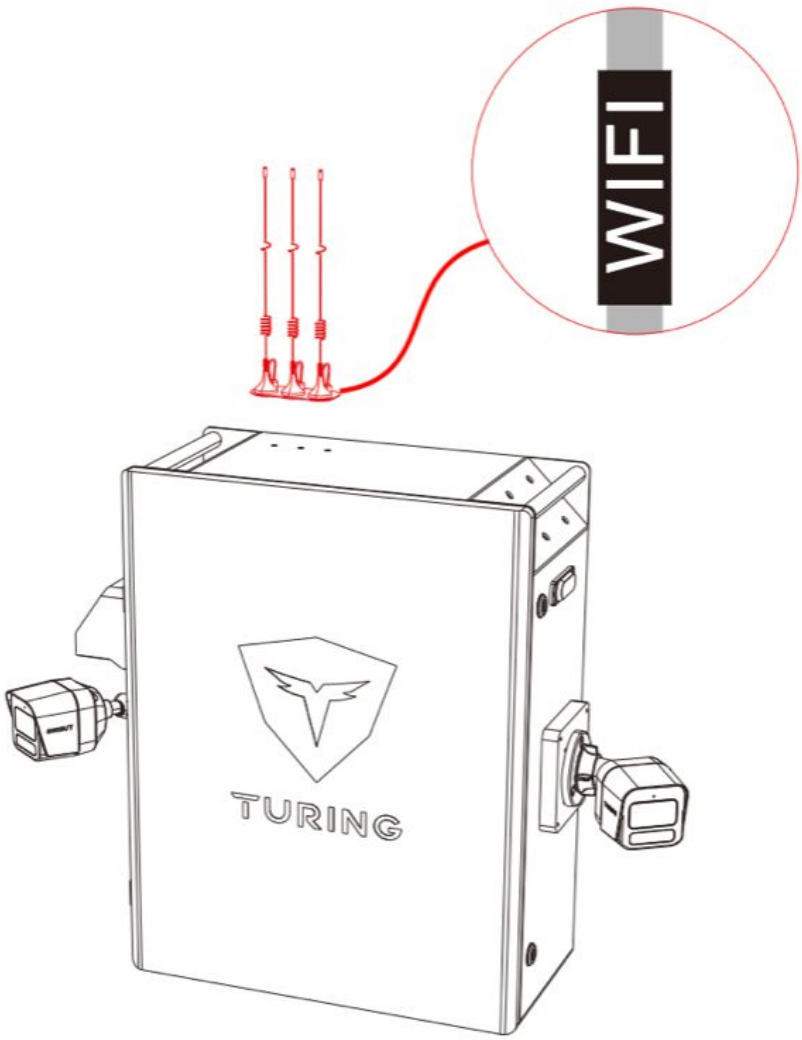
Through the rubber ring

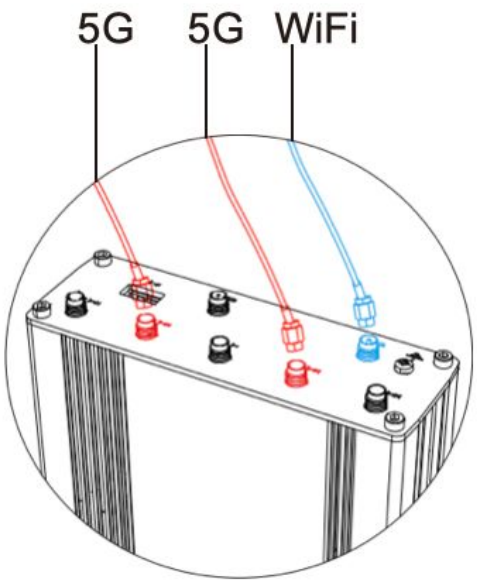
M8 x 20 mm x 2

3.5 Install Antennas

Note: Antennas are required otherwise router network signals would be blocked by the metal box.

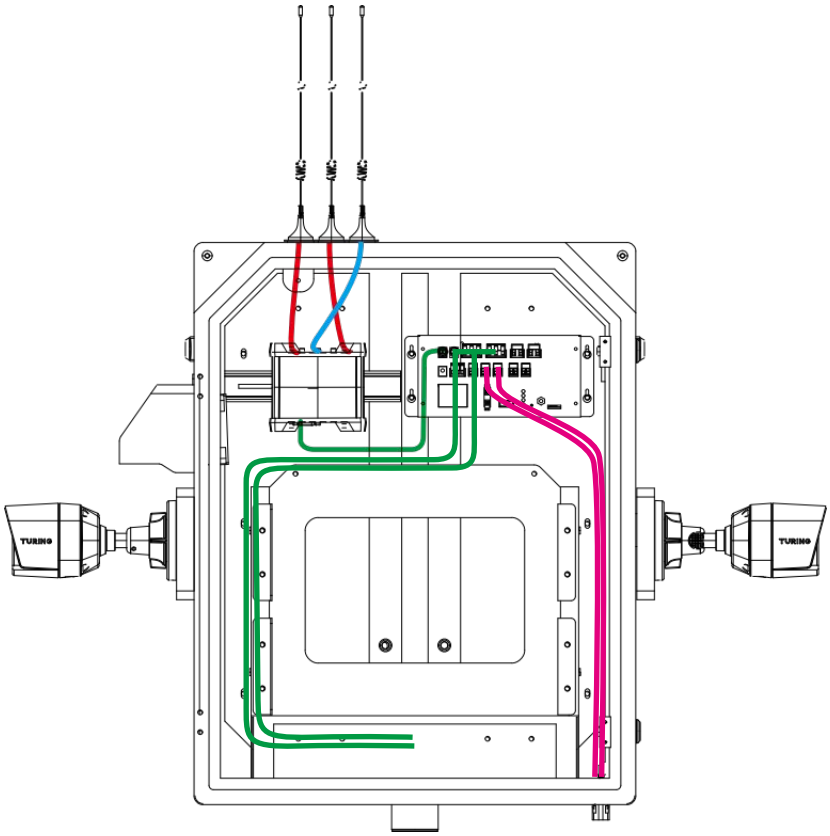
Note: Wi-Fi logo and fixed order.

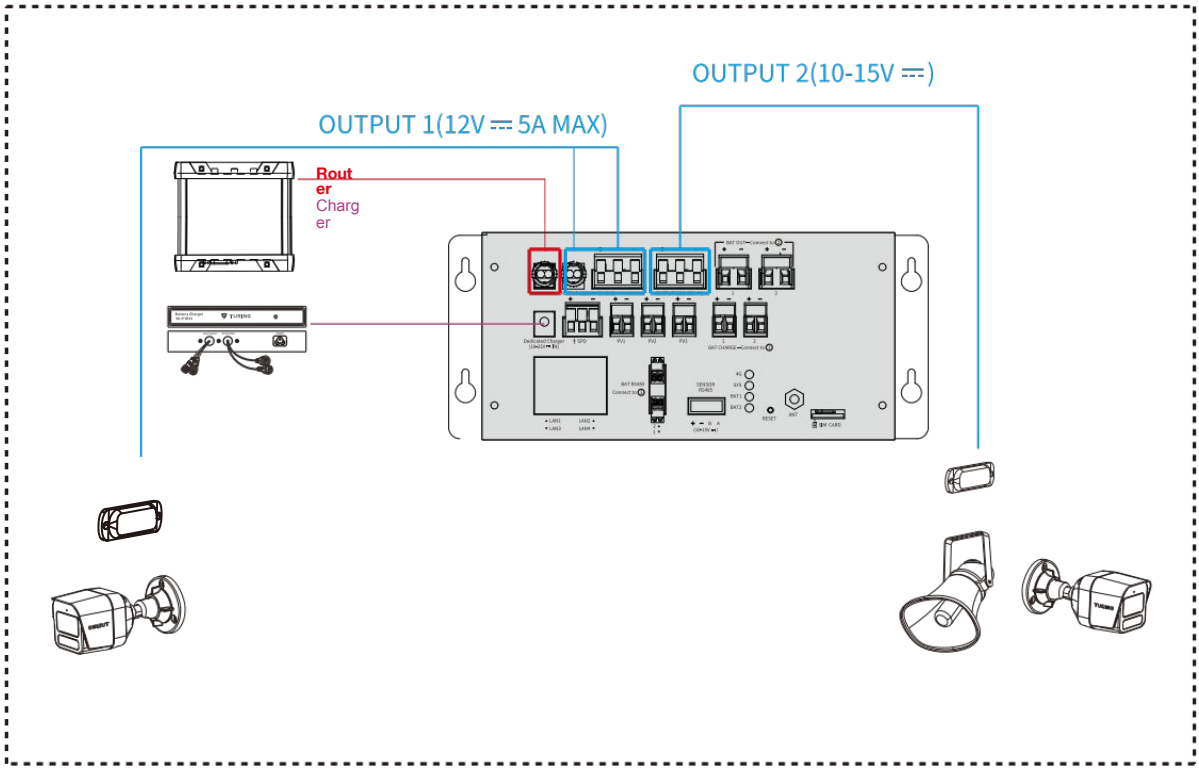




3.6

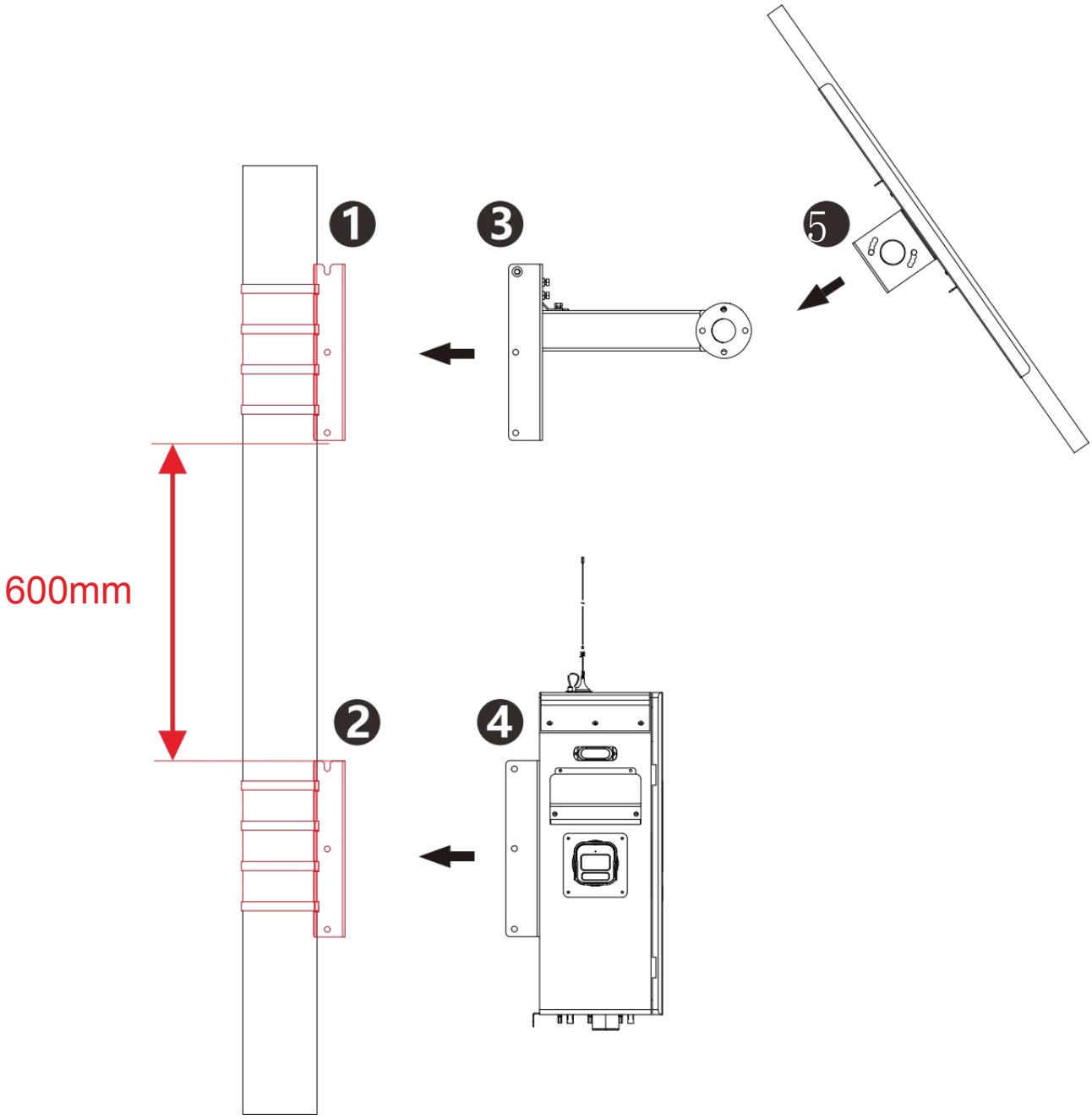
Wiring





4. Installation

4.1: Mount back plate



Note:
Install brackets 1, 3, and 5 facing due south, so that the solar panels ultimately face due south. Before installation, use a compass or digital map tools to confirm the direction, ensuring stable long-term power generation.

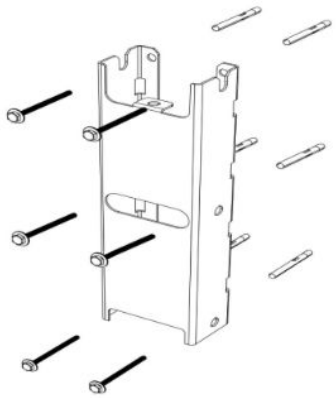
IMPORTANT: Use a structurally sound wall and foundation sized for the enclosure, solar panels, and local wind load. An undersized or poorly founded wall may tip over or fail, causing the system to fall .and potentially result in injury

TURING

4.1 Mounting Backplane

Wall Mount

MOUNT OPTIONS

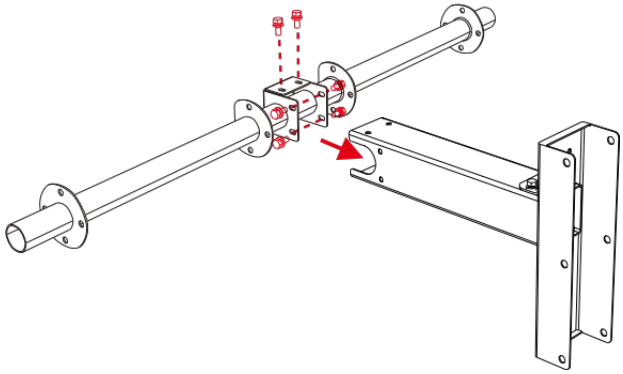


Recommended Bolt:
M8 x 80mm x6
(Not included in Product)

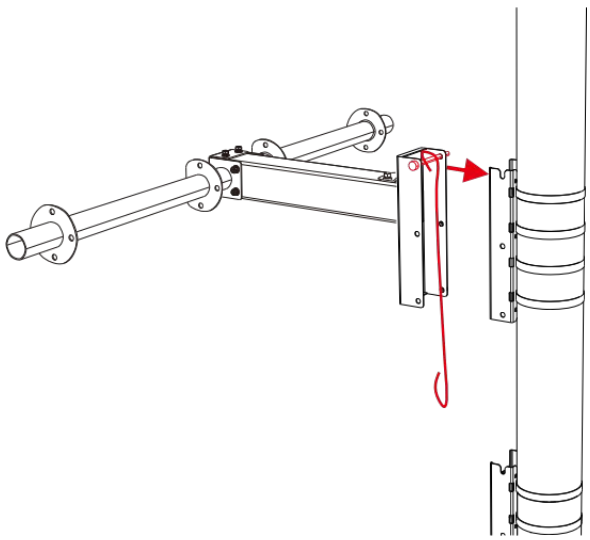
Wall mounting must be secured to a structurally sound concrete, masonry, or structural framing surface using properly rated anchors,with the wall and mounting hardware verified to support the full equipment weight and applicable wind load; installation on non-structural surfaces is not recommended.

IMPORTANT: Use a structurally sound wall and foundation sized for the enclosure, solar panels, and local wind load. An undersized or .poorly founded wall may tip over or fail, causing the system to fall and potentially result in injury

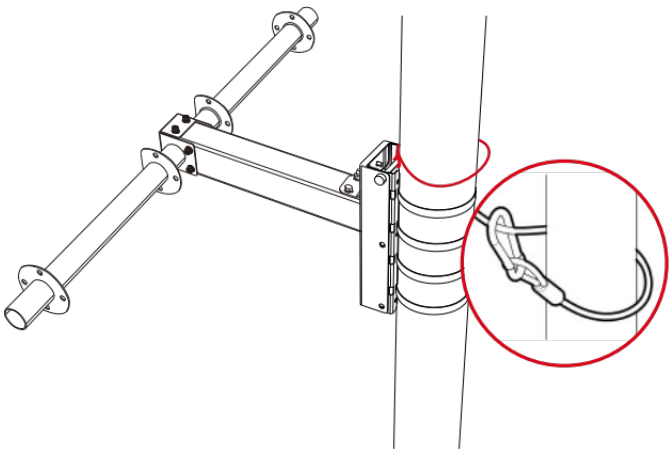
4.2 Mounting Bracket



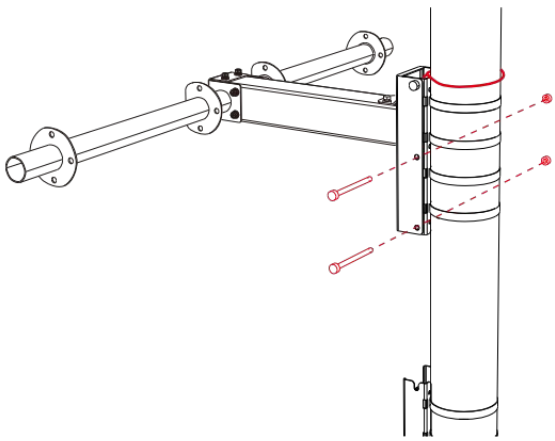
4.2.1



4.2.2

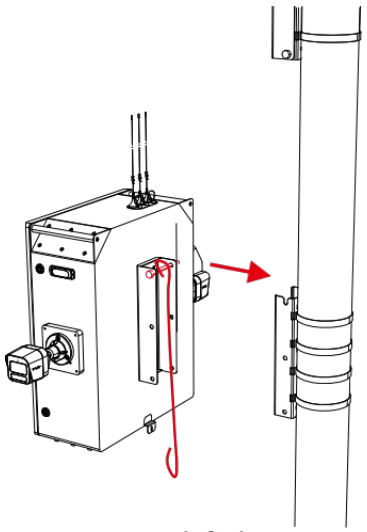


4.2.3

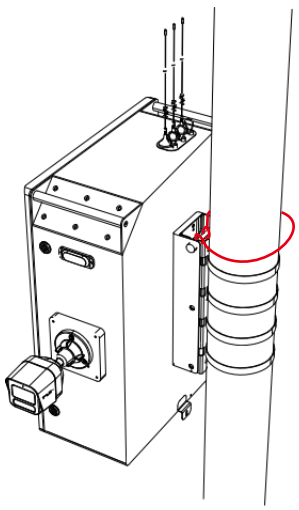


4.2.4

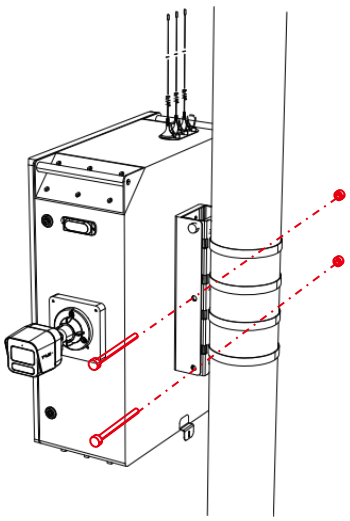
IMPORTANT: Follow the installation procedure exactly and fully secure all required clamps and safety ties; missing clamps or loose/improper ties may cause equipment failure or falling equipment, resulting in property damage or serious injury.



4.3.1

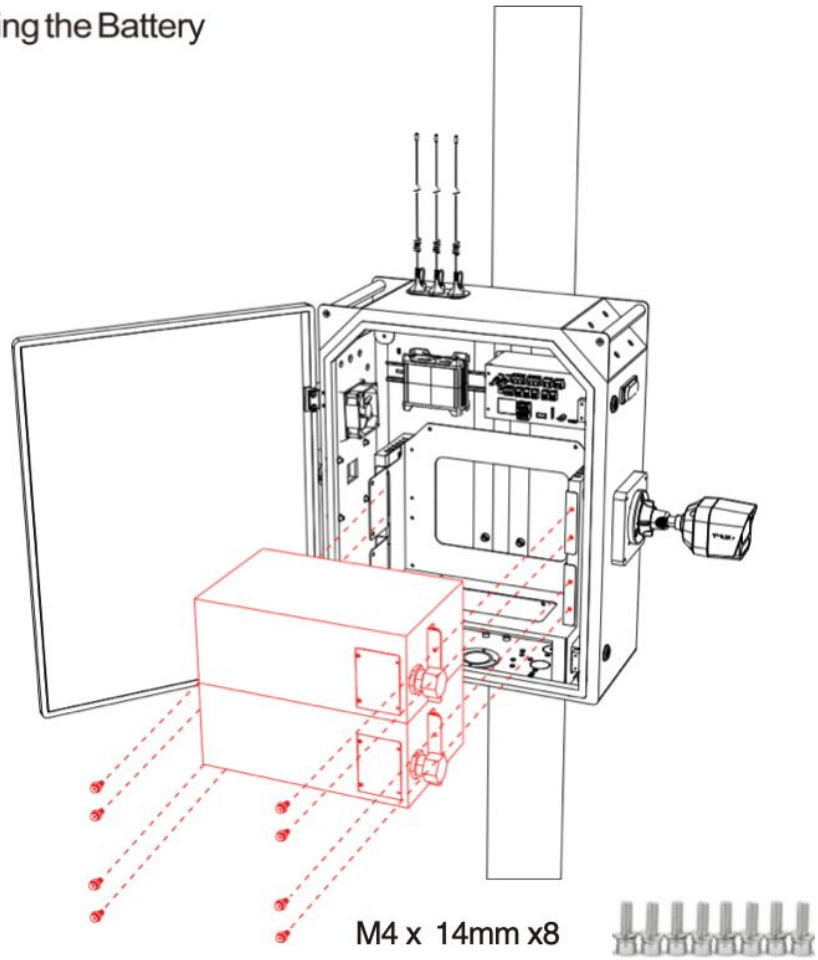


4.3.2

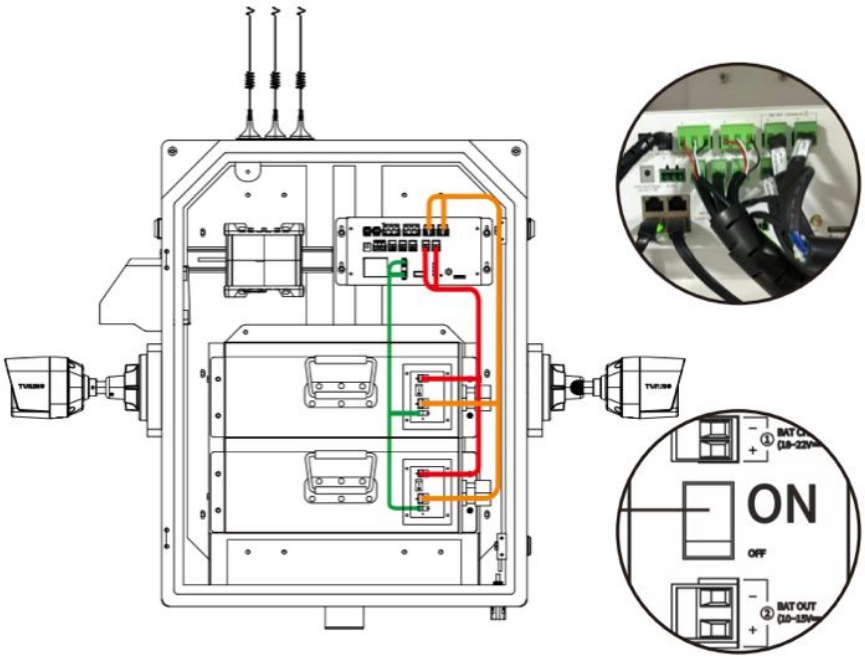


IMPORTANT: Follow the installation procedure exactly and fully secure all required clamps and safety ties; missing clamps or loose/improper ties may cause equipment failure or falling equipment, resulting in property damage or serious injury.

4.4 Mounting the Battery



Wiring



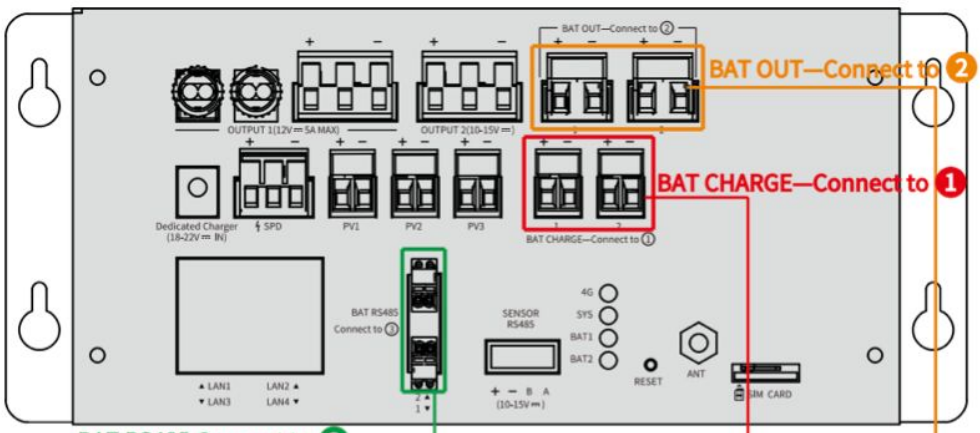
Note:
The cover must be opened to activate the battery switch.

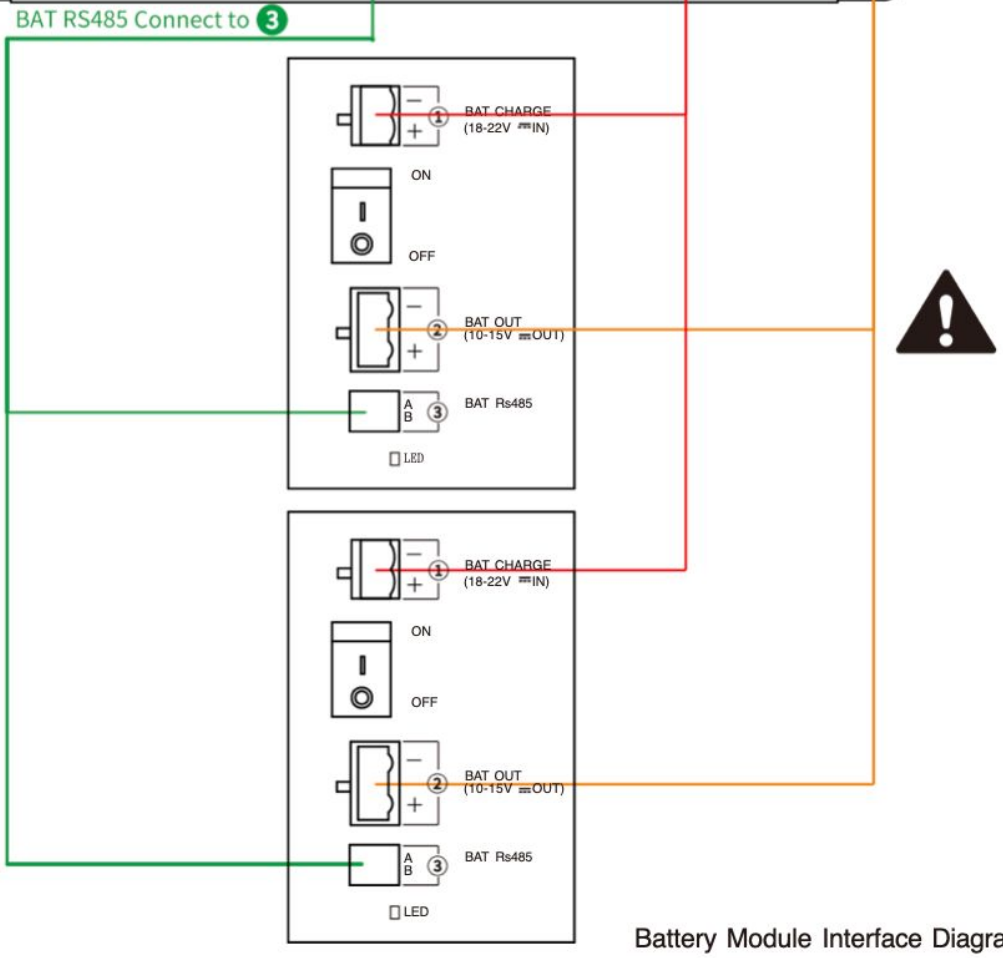
Device Connections

Connecting the Controller and Power Module

Connect the BAT CHARGE (battery charge), BAT OUT (battery discharge), and BAT RS485 (battery communication) interfaces between the battery module and the controller respectively.
The battery module comes with a combined cable. Connect it to the corresponding numbered interfaces on the controller according to the labels on the cable. Connect all battery modules based on the number of batteries.

Controller Interface Diagram





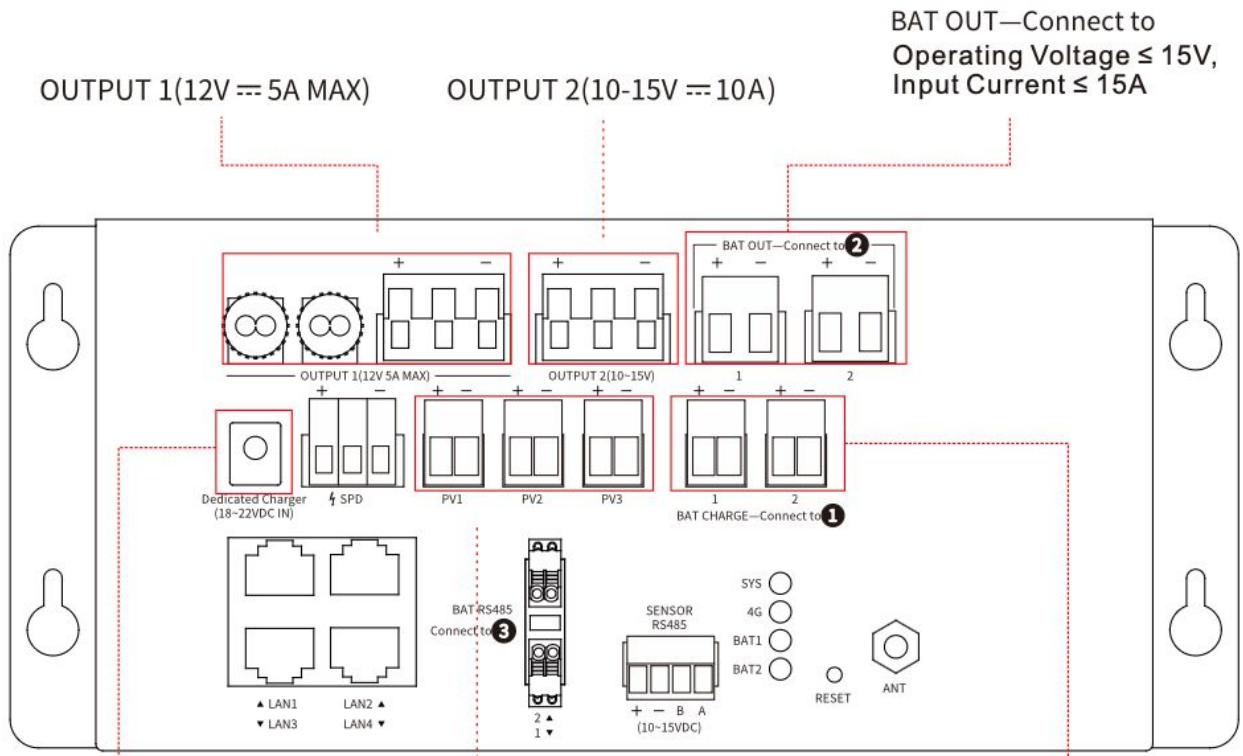
Battery Module Interface Diagram

Note: Please be careful not to use the wrong interface.

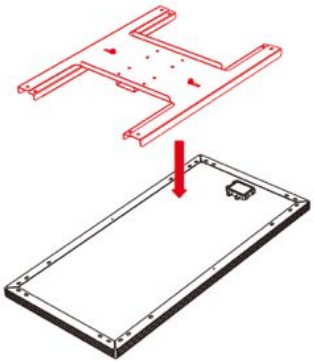
Recommended Load Wire Gauge Table

Load Power	Wire Gauge (mm²/AWG)
10W	1.3/16
20W	2/14
50W	3.3/12

Note: For long-distance, high-power supply, you can add a booster accessory or use wires with a larger gauge to reduce voltage drop and improve system performance. Otherwise, the voltage at the load end may be too low, potentially causing abnormal device operation.

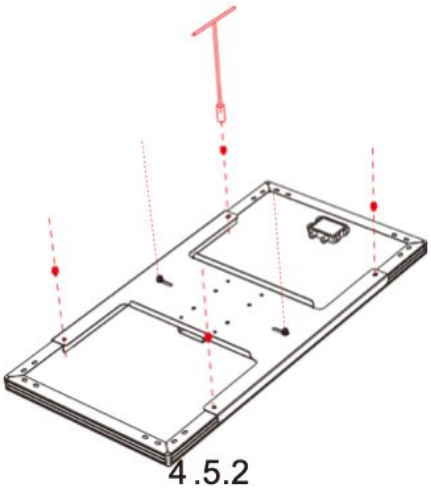


4.5 Installation of Solar Module



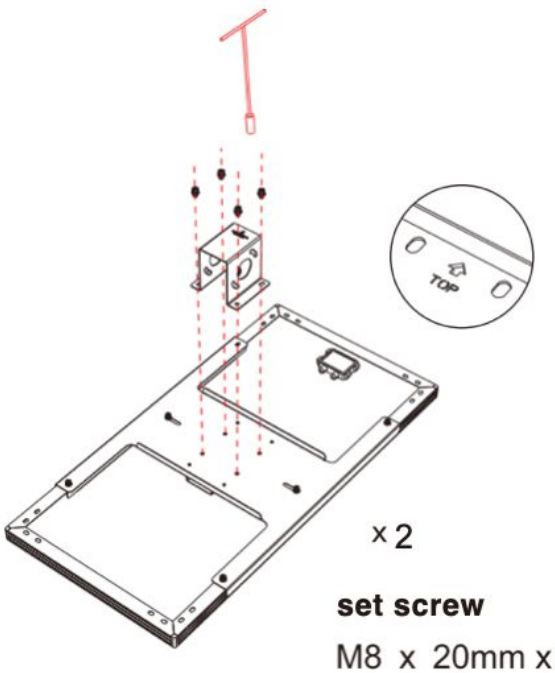
4.5.1

TA-RNGSPBR-01-RSP100DC
Integrated into the solar panel



4.5.2

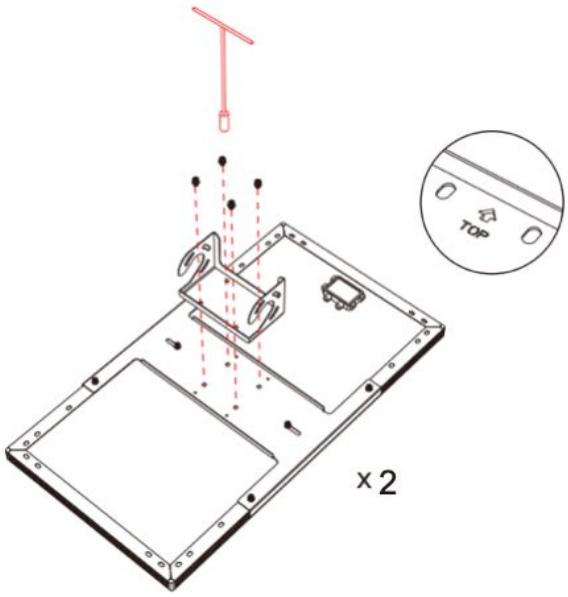
set screw
M8 x 20mm x 6



x 2

set screw
M8 x 20mm x 4

4.5.3

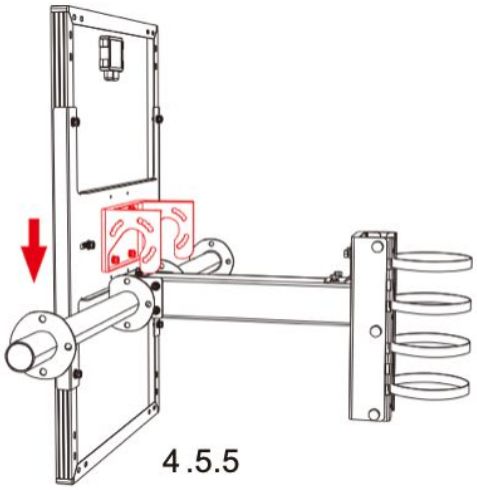


x 2

4.5.4

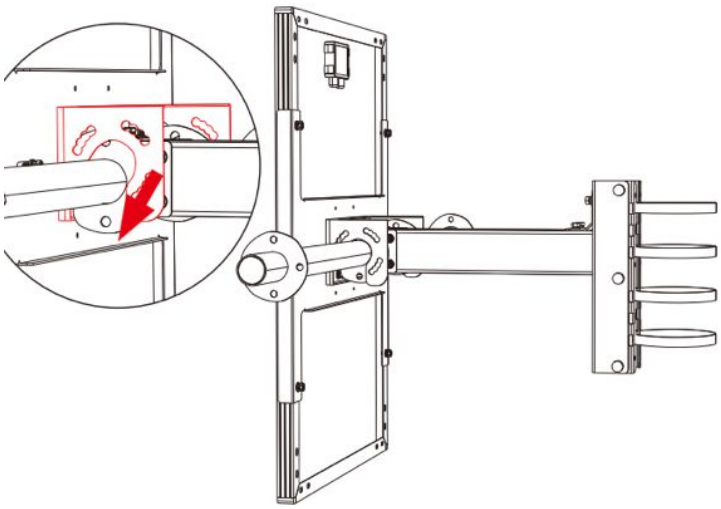
TURING

4.6 Installation of Solar Module



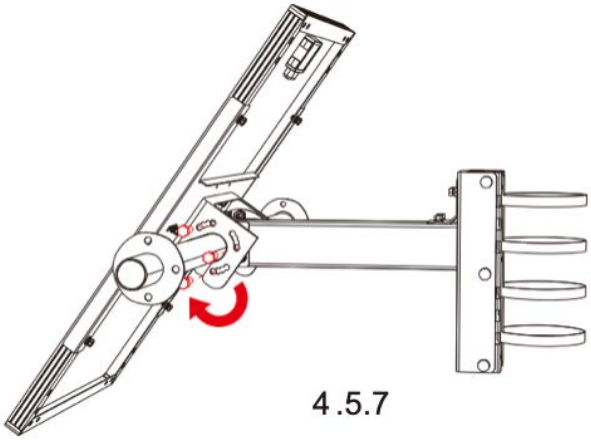
4.5.5

Lower the product vertically into position



4.5.6

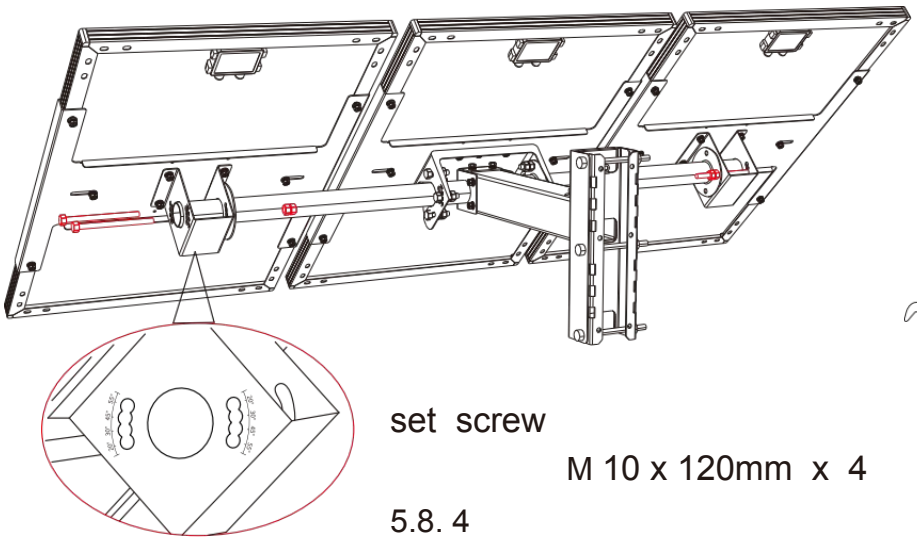
Slide down



4.5.7

Rotate to the desired angle
set screw

M10 x45 mm x 6



set screw

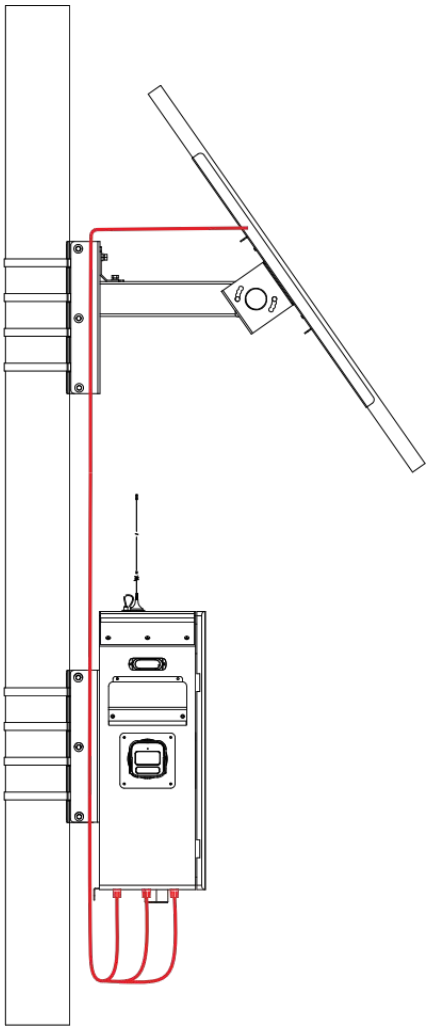
M 10 x 120mm x 4

5.8. 4

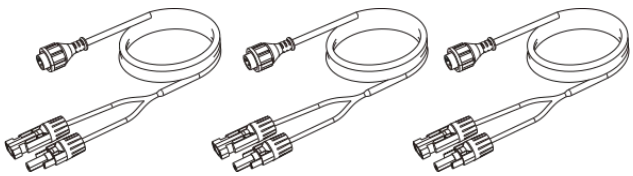
Note: Please ensure that the solar panels ultimately face due south. Orienting them toward southeast or southwest will reduce their power generation efficiency. Adjust the tilt angle of the panels according to .the local latitude

U.S. City	Longitude (W)	Latitude (N)	Recommended Tilt Angle
New York	74.0°	40.7°	45°
Chicago	87.6°	41.8°	55°
Houston	95.4°	29.8°	20°
Dallas	96.8°	32.8°	20°
St. Louis	90.2°	38.6°	20°
Denver	104.9°	39.7°	55°
Orlando	81.4°	28.5°	30°
Miami	80.2°	25.8°	20°
New Orleans	90.1°	29.95°	55°
Minneapolis	93.3°	44.9°	55°
Honolulu	157.8°	21.3°	20°
Atlanta	84.4°	33.7°	30°
Nashville	86.8°	36.2°	30°
Kansas City	94.6°	39.1°	45°
San Antonio	98.5°	29.4°	30°
Los Angeles	118.2°	34.05°	30°
Detroit	83.0°	42.3°	55°
Philadelphia	75.2°	39.9°	45°
Seattle	122.3°	47.6°	55°

4.6 Wiring



Solar Panel Extension Cord



Check the status of the controller indicator and make sure that the controller, smart cell module, solar module and load device are working properly.

Appendix
Installation Precautions and Common Fault Processing

1. Installation of solar panels

- Please handle gently during the transportation and installation. Collision and knocking are strictly prohibited to avoid product damage;
- Install the solar panel in a manner that the front side is horizontally facing upwards as it may be scratched or damaged by uneven ground;
- Make sure that there is no obstruction around the installation point. If the solar panel is installed around houses or trees, it must be installed higher than the obstacles;
- All solar panel connectors must be properly protected against water to avoid short circuit or leakage.

2. Installation of Li-ion battery

- Please handle the Li-ion battery gently during the transportation as it is very heavy. Be careful not to drop or smash the battery.
- The battery box must be properly protected against water to avoid the failure of the battery and wire due to moisture.

3. Common Fault Processing

a. Abnormal status of controller indicator

- System indicator not ON: The solar module or battery is working abnormally or not connected and there is no power input;
- LAN indicator not ON: There is no network connection;
- PV panel indicator not ON: The PV panel is not connected or working abnormally without power;
- Battery indicators not ON: The battery is not connected or working abnormally.

b. Short system running time and monitoring time

- Low battery power: Check whether all battery connectors are properly connected and make sure that all batteries are in working condition;
- Solar panel disconnected: Check whether the solar panel connector is properly connected and make sure that the solar panel is in working condition;
- Solar panel blocked: Check whether the solar panel is blocked or whether the front of the panel is dirty. The power generation efficiency will be affected due to blockage or dirt.
- Unreasonable system model: Confirm the power consumption of the equipment. If the consumption is too high, it is recommended to replace it with a higher model of solar power supply system.

c. Camera not online and AP unable to access the internet

- Insuffiicient power supply: Check the battery connector, solar panel connector and network interface to ensure that all equipment is in normal working condition;
- SIM card error: Check whether the SIM card of the 4G device and 4G transmission device is connected properly, whether it is inserted backwards, whether the 4G signal strength meets the requirements and whether the 4G card is overdue on payment;
- Network bridge blocked: Check the transmission quality of the bridge and resolve the connection problems.

TURING

IMPORTANT SAFETY NOTICE

INSTALLATION DISCLAIMER

INSTALLATION MUST BE PERFORMED PROPERLY AND SAFELY.

The installer is responsible for selecting suitable mounting structures, foundations, anchors, clamps, ties, and hardware; verifying that they can safely support the complete system and applicable wind loads; and following all installation instructions and local requirements.

INSTALLER RESPONSIBILITY

1. Verify the pole, wall, foundation, and mounting hardware are structurally adequate for the full assembled equipment weight and site-specific wind conditions.
2. Install every required clamp, anchor, safety tie, fastener, and bracket exactly as instructed, and inspect the completed installation before use.
3. Do not install on an unstable, undersized, damaged, or poorly founded support. Improper installation can cause tip-over, detachment, or falling equipment, resulting in serious injury or property damage.

LIMITATION OF LIABILITY

To the extent permitted by applicable law, Turing is not liable for injury, property damage, equipment damage, system failure, or other loss caused by improper installation, inadequate structural support, incorrect or missing mounting hardware, failure to follow installation instructions, or other installer error.

When site conditions, structural capacity, or wind-load requirements are uncertain, installation should be reviewed by a qualified professional before mounting the system.

TURING