Modular Solar Panel / accessories

User manual

About this Manual

This Manual is applicable to Solar Products

The Manual includes instructions for using and managing the product. Pictures,charts, images and all other information hereinafter are for description and explanation only. The information contained in the Manual is subject to change, without notice, due to firmware updates or other reasons. Please find the latest version in the company website.

Please use this user manual under the guidance of professionals.

Legal Disclaimer

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, THE PRODUCT DESCRIBED, WITH ITS HARDWARE, SOFTWARE AND FIRMWARE, IS PROVIDED “AS IS”,WITH ALL FAULTS AND ERRORS, AND OUR COMPANY MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY, SATISFACTORY QUALITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT OF THIRD PARTY. IN NO EVENT WILL OUR COMPANY, ITS DIRECTORS, OFFICERS, EMPLOYEES, OR AGENTS BE LIABLE TO YOU FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, OR INDIRECT DAMAGES, INCLUDING, AMONG OTHERS, DAMAGES FOR LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION, OR LOSS OF DATA OR DOCUMENTATION, IN CONNECTION WITH THE USE OF THIS PRODUCT, EVEN IF OUR COMPANY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

REGARDING TO THE PRODUCT WITH INTERNET ACCESS, THE USE OF PRODUCT SHALL BE WHOLLY AT YOUR OWN RISKS. OUR COMPANY SHALL NOT TAKE ANY RESPONSIBILITES FOR ABNORMAL OPERATION, PRIVACY LEAKAGE OR OTHER DAMAGES RESULTING FROM CYBER ATTACK, HACKER ATTACK, VIRUS INSPECTION, OR OTHER INTERNET SECURITY RISKS; HOWEVER, OUR COMPANY WILL PROVIDE TIMELY TECHNICAL SUPPORT IF REQUIRED.

SURVEILLANCE LAWS VARY BY JURISDICTION. PLEASE CHECK ALL RELEVANT LAWS IN YOUR JURISDICTION BEFORE USING THIS PRODUCT IN ORDER TO ENSURE THATYOUR USE CONFORMS THE APPLICABLE LAW. OUR COMPANY SHALL NOT BE LIABLE IN THE EVENT THAT THIS PRODUCT IS USED WITH ILLEGITIMATE PURPOSES.

IN THE EVENT OF ANY CONFLICTS BETWEEN THIS MANUAL AND THE APPLICABLE LAW, THE LATER PREVAILS.

Regulatory Information

FCC Information

FCC compliance: This equipment has been tested and found to comply with the limitsfor a digital device, pursuant to part 15 of the FCC Rules. These limits are designed toprovide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Conditions

This device complies with part 15 of the FCC Rules. Operation is subject to thefollowing two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that maycause undesired operation.

EU Conformity Statement

This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicableharmonized European standards listed under the EMC Directive 2004/108/EC, the RoHS Directive 2011/65/EU.

2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info.

2006/66/EC (battery directive): This product contains a battery thatcannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info.

[Precautions]

- **Please do not use harsh chemicals or solvents to clean this product, dish soap and warm water applied with a soft sponge or cloth is the safest and simplest cleaning method. It is also recommended to use a squeegee to remove dirty water. Remember – avoid damaging or scratching the surface at all costs!**

- **This product does not contain any parts for purposes other than what it was designed for. Do NOT disassemble or modify the lithium battery circuit, otherwise the warranty will be void. If there are quality or technical problems, please contact the dealer or return the product to LT Security for maintenance. This product is covered by a "Platinum" 3-Years (back to base) Warranty.**

- **The product must be correctly installed by an authorized professional and firmly secured to avoid unnecessary accidents and or damages.**

- **The manufacturer reserves the right to continuously improve the product, and subject to change without notice.**

[Product Introduction]

➢ 2.1 Features & Functions

This product is a professional smart solar power supply system, composed of three parts:

I. Solar panel
II. Lithium battery
III. Mounting bracket

This independent Smart Solar System was designed to be deployed rapidly with ease of use, long operational life & reliability. It can provide stable power output for equipment (within the recommended Current consumption) without being connected to the mains. It is widely used for urban construction, road monitoring, rural properties, environmental governance, water source protection, forest fire prevention, etc.

- This product is supplied with an integrated fixed bracket, adaptable to suit all **LTS** Turret, Dome & PTZ cameras. (**Appropriate Bracket will be supplied to match the Camera**).
- This product is supplied with a U-shape pole-mount clamp, suitable for "Pole" (diameter 80~110 mm).
- All connectors are IP rated "**aviation**" style inline Plugs made for easy to installation.
- This product uses high-performance micro-controller to monitor lithium battery activation and pre-charge functions, real-time (**BMS**) battery management system protection with an efficiency of more than 90%.
- An easy viewing illuminated indicator used for real-time feedback of the solar panel, battery, and to monitor the overall operational conditions.
- This product supports RS-485 to communicate back, and supports real-time condition of battery load, remaining power, temperature and other information through the communication device.
- The power generation unit of this product uses high-efficiency monocrystalline silicon wafers with a conversion efficiency of 21.6% or more and a service life of 20+ years. (**3-Years back to base Warranty**).
- The energy storage unit of this product adopts deep cycle lithium battery technology, which is safe and reliable. (**3-Years back to base Warranty**).
- This product is manufactured using die-cast aluminum & fully galvanized mild steel, made with precision workmanship, designed to withstand rigorous environmental conditions.
- All components are IP67 rated for outdoor use and protection from the elements.
- (Optional) heating version supports "**0℃**" automatic heating, suitable for sub-Zero temperatures.

Working temperature:

Conventional version: discharge temperature: -20~40℃, charging temperature: 0℃~50℃,
Heating version: Discharge temperature: -20~40℃, charging temperature: -20℃~50℃.

[Product Installation]

➢ 2.1 Packing List

Prior to installation, please confirm the equipment in the packing box is in good condition according to the packing list and all the parts are complete.

Name	Quantity
Solar kit (without camera)	1 Set
U shape pole clamp	2pcs (including fixing hardware)
Battery bracket (Default simple installation bracket)	1pcs (depending on the model)
Bracket (mounting bracket for dome camera)	
Certificate of conformity	1pc
Inner hexagon (M6)	1pc
Power output line	1pc (**LTB371** camera bracket)
Compass	1pc

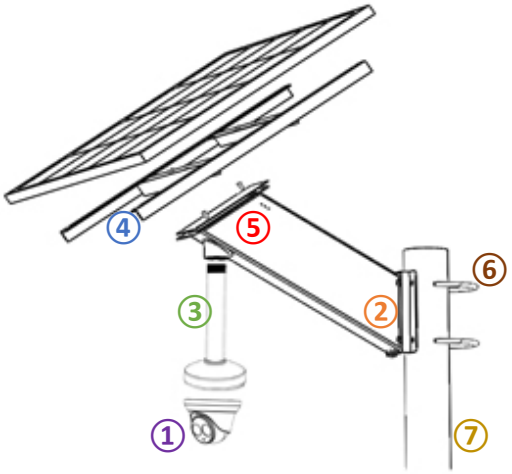
➢ 2.2 Installation Method

Note: All hardware must be installed & tensioned securely.

Pole equipment installation as per the image/instructions below.

Accessory

① PTZ Camera
② Battery Pack & Bracket (combo)
③ Camera bracket
④ Solar panel bracket
⑤ Indicator light
⑥ U-shape pole-mount clamp
⑦ Pole
⑧ DC Power & RS-485 Connection



1) Check all products are in complete sets.
2) Securely attach the Battery Pack & Bracket (combo) ② to the Solar panel bracket ④ with supplied hardware. Connect matching plugs.
3) Securely attach the other side of the Battery Pack & Bracket (combo) ② using the U-shaped clamp ⑥ to the pole.
4) Fix the Camera bracket ③ to the underside of the Battery Pack & Bracket (combo) ② with supplied hardware.
5) Mount the Camera ① to the Camera bracket ③ and connect to the DC Power ⑧ Plug.
6) Check the status of the indicator light ⑤ to confirm that the camera is functioning.
7) Adjust the Camera angle, Battery Pack & Bracket (combo) ② to the (left or right), finally tighten securely all hardware. (The installation is complete)

Note:

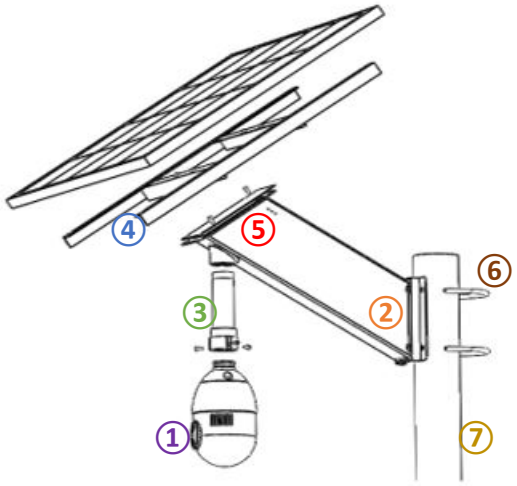
- The above procedure is used for cameras featuring internal "**WiFi**" connectivity within proximity.
- For longer distances, additional hardware is required (**options below**):
  a) **WiFi** – (Enstation5)
  b) **WiFi** – (EnstationAC)
  c) **WiFi** – (ENS620EXT)
  d) **WiFi** – (ESA-7600G)
  e) **4G LTE** – (LT-4GPOEW1)

➢ 2.3 Installation Method of PTZ Camera Version

Pole equipment installation as per the image/instructions below.

Accessory

① PTZ Camera
② Battery Pack & Bracket (combo)
③ Camera bracket
④ Solar panel bracket
⑤ Indicator light
⑥ U-shape pole-mount clamp
⑦ Pole
⑧ DC Power & RS-485 Connection



1. Check all products are in complete sets.
2. Securely attach the Battery Pack & Bracket (combo) ② to the Solar panel bracket ④ with supplied hardware. Connect matching plugs.
3. Securely attach the other side of the Battery Pack & Bracket (combo) ② using the U-shaped clamp ⑥ to the pole.
4. Fix the Camera bracket ③ to the underside of the Battery Pack & Bracket (combo) ② with supplied hardware.
5. Mount the Camera ① to the Camera bracket ③ and connect to the DC Power ⑧ Plug.
6. Check the status of the indicator light ⑤ to confirm that the camera is functioning.
7. Adjust the Camera angle, Battery Pack & Bracket (combo) ② to the (left or right), finally tighten securely all hardware. (The installation is complete)

Note:

- The above procedure is used for cameras featuring internal "**WiFi**" connectivity within proximity.
- For longer distances, additional hardware is required (**options below**):
  f) **WiFi** – (**Enstation5**)
  g) **WiFi** – (**EnstationAC**)
  h) **WiFi** – (**ENS620EXT**)
  i) **WiFi** – (**ESA-7600G**)
  j) **4G LTE** – (**LT-4GPOEW1**)

➢ 3.1 Technical parameters

Technical data								
	Model number	**Solar modules**	**battery**	**Load voltage**	**Maximum load power**	**Load conversion efficiency**	**Maximum charging current**	**Solar input voltage**
	LT-MSP-369	100	40	9~12.6 V	40W	90%~98%	10A	18V

➢3.2 Schematic & Dimensions

3.2.1 Dimensions

The external dimensions of the equipment are shown in Figure 3-1, and the corresponding relationship between model number and size is shown in Figure 3-3. Packaging and weight 3-4.

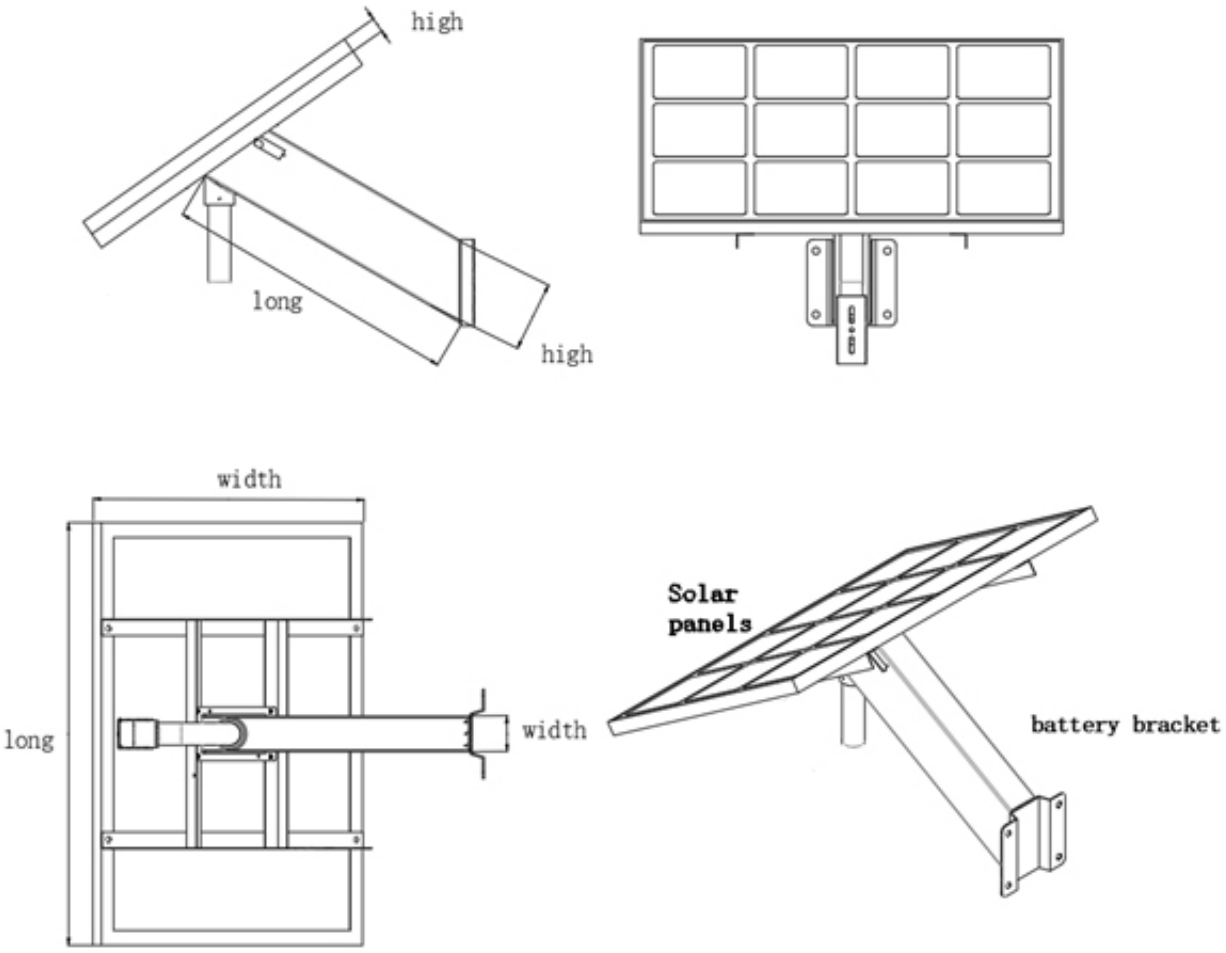


Figure 3-1Dimensions

Model number	specification	Main items	Size mm	accessories	Size mm
LT-MSP-369	100W40AH Solar powered accessory	Support arm	535*80*160	Components (solar panels)	870*670*30

Figure 3-3 Dimensions

Model number	Main items	Weight （kg）	Carton size mm	accessories	Weight （kg）	Carton size mm
LT-MSP-369	Battery kit	10.4	665*290*205	Solar panel	8.7	940*740*100

Figure 3-4 Packing and weight

3.2.2 Dimensions

The external dimensions of the equipment are shown in Figure 3-2, and the corresponding relationship between model number and size is shown in Figure 3-3, Packaging and weight 3-4.

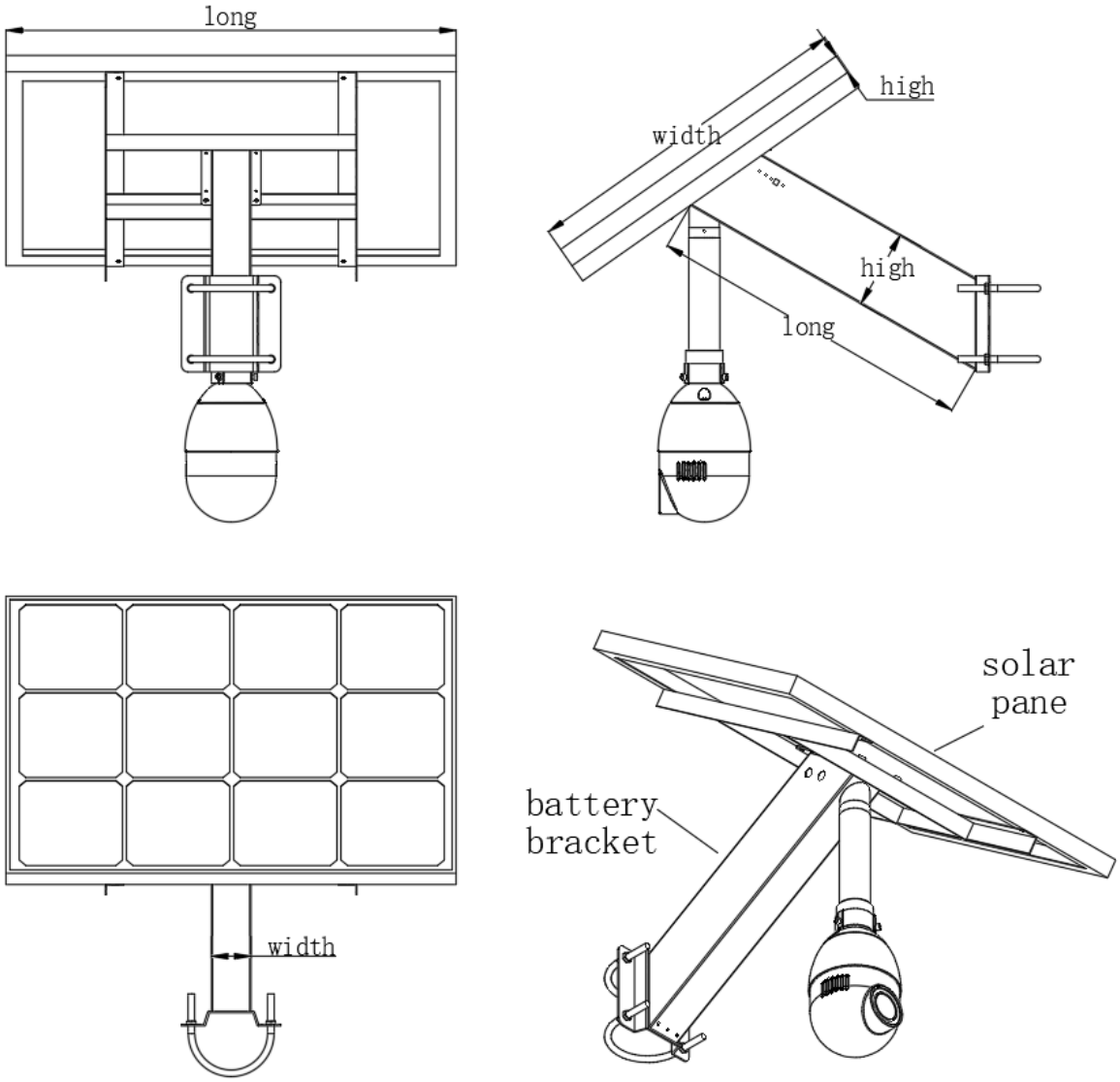


Figure 3-2Dimensions

➢4.1Maintenance

- To generate maximum power efficiency, place the solar panel facing 5-10° North/West; Please avoid shadow from obstacles such as houses, trees, etc. during installation.
- Please ensure to plug the matching male and female connectors (Solar Panel / Battery) in the correct orientation to avoid potential damage.
- Clean the surface of the solar panels on a regular basis by removing (dust layer, leaves, stains, etc.) to maintain maximum operating efficiency.

➢4.2 Indicator Status LED's

SOLAR PANEL – LED

Colour	Status	Reference
Green	ON	Charging
Green	Flashing	Maximum Charge
-	OFF	Low Voltage

BATTERY – LED

Colour	Status	Reference
Green	ON	Battery Normal
Green	Flashing	Fully Charged
Red / Green	ON	Low Voltage
Red	ON	Fully Discharged

OUTPUT – LED

Colour	Status	Reference
Yellow	ON	Output ON
-	OFF	Output OFF
Yellow	Rapid Flashing	(**Short**) or (**Open**) circuit
Yellow	Slow Blink	Overload