

SOLAR BOX

MAX3000P-V2

User Manual

Safety, installation, and operating instructions

Important Safety Instructions

Read all safety, installation, and operating instructions before installing or using the solar-powered platform.

1. Hazardous voltage is present inside the power-supply platform. To prevent personal injury, do not disassemble the unit. Service must be performed by qualified maintenance personnel.
2. Do not install the platform in damp, oily, flammable, explosive, or heavily dusty environments.
3. When mains power is connected or the inverter is producing high-voltage AC output, do not touch the wiring.
4. Reversing the positive and negative connections from the solar panels or battery can damage the main unit. Confirm polarity before installation.
5. Before installing or adjusting wiring, disconnect the solar panels and mains supply, and switch off the battery pack.
6. After installation, confirm that every wiring connection is secure. Loose connections can generate dangerous heat.
7. This is an off-grid solar power-supply platform. The load equipment must use this platform as its only AC input. Do not connect it in parallel with another AC source.



WARNING: This operation is hazardous. Complete all required safety preparations before proceeding.



ATTENTION: This operation may damage equipment if performed incorrectly.

1 Basic Information

1.1 Statement

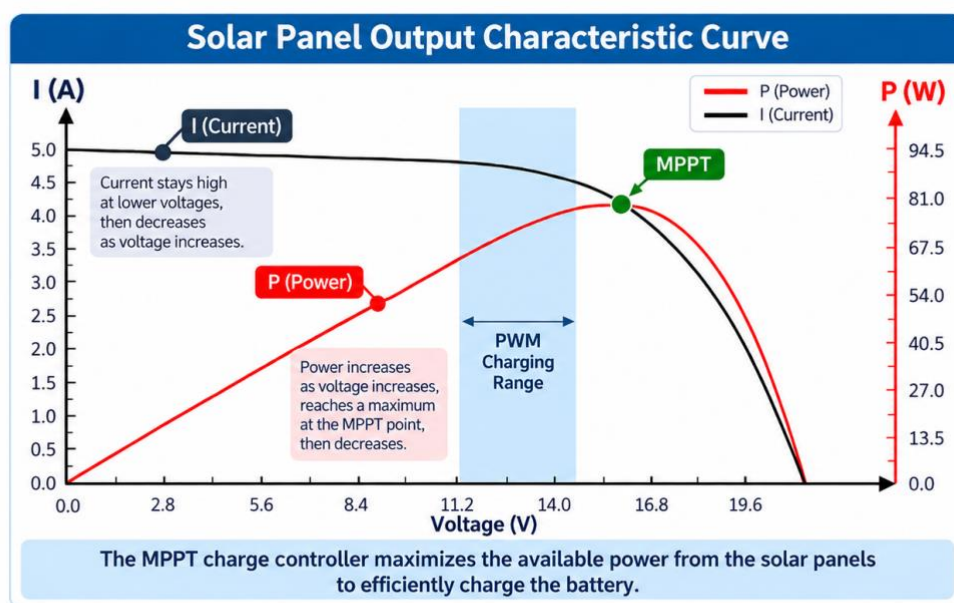
All product images, models, specifications, and installation methods in this manual are provided for reference. Software updates, hardware upgrades, and appearance changes may cause the actual product to differ from the illustrations. For current product details and related information, contact the company's sales or technical service personnel.

1.2 Maximum Power Point Tracking Technology

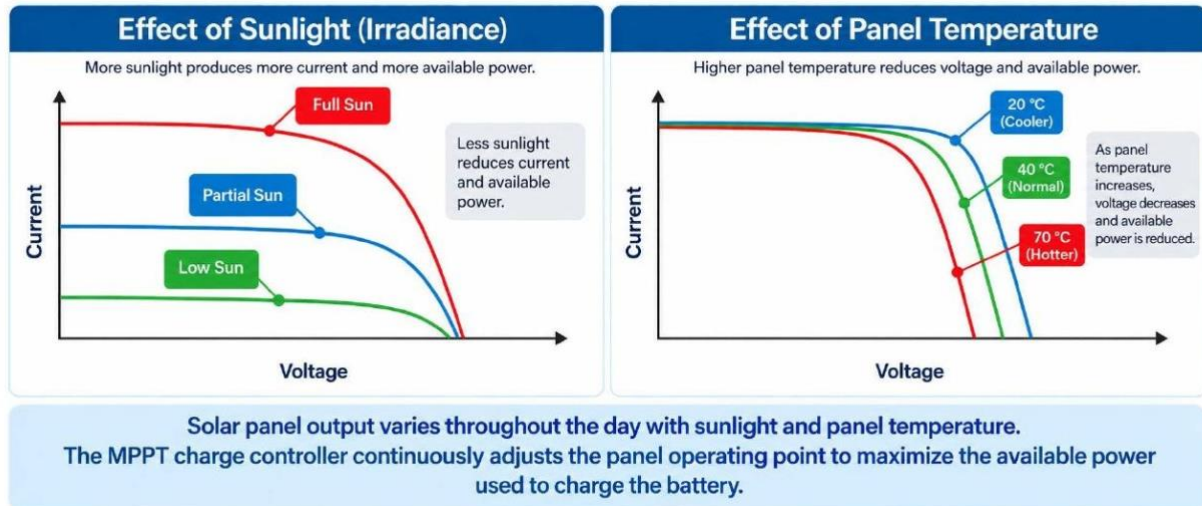
Maximum Power Point Tracking (MPPT) is an advanced solar-charging technology. Because a solar array has a nonlinear output curve, its maximum power point changes with sunlight, temperature, and other operating conditions. An MPPT controller continually adjusts the solar-panel operating point to capture the maximum available power for battery charging.

In a typical 12 V system, a solar panel may operate near 17 V at maximum power while the battery voltage is near 12 V. A traditional controller can pull the panel away from its most productive operating point. An MPPT controller converts the available panel power to the voltage and current needed by the battery.

Compared with a traditional PWM controller, an MPPT controller can provide more charging current by making better use of the solar panel's available power. Actual improvement depends on panel temperature, sunlight, battery voltage, wiring, and system configuration.



The maximum power point changes as environmental temperature and lighting conditions change. The MPPT controller automatically adjusts its operating parameters to keep the system near the maximum available power point; no user adjustment is required.



1.3 Product Overview

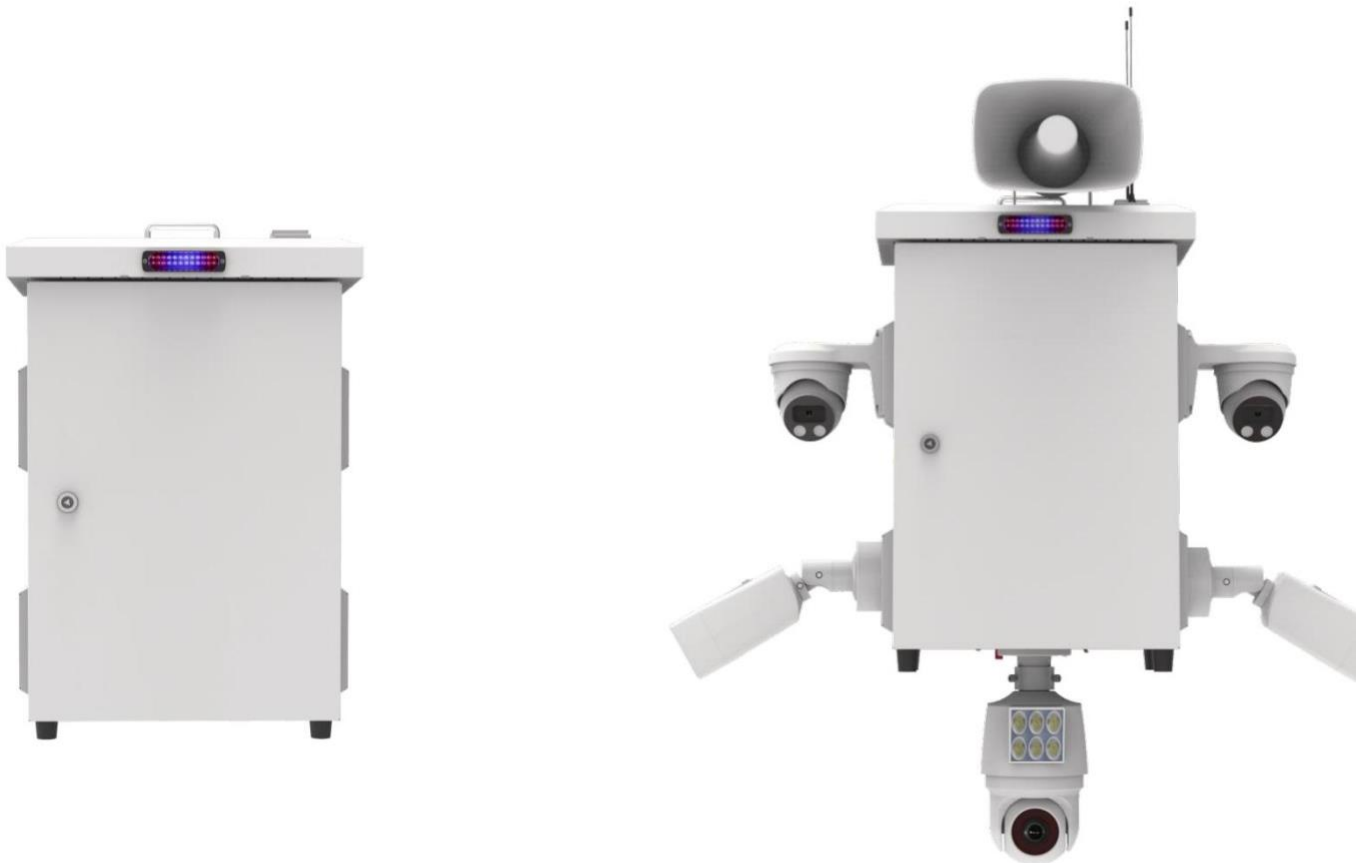
The MAX3000P-V2 solar power-supply platform is designed for networked, digital, low-voltage system-integration projects. Two charging modes are available: solar only and mains priority. The system manages solar generation and provides DC 12 V, DC 52 V, and EPS DC 12 V outputs.

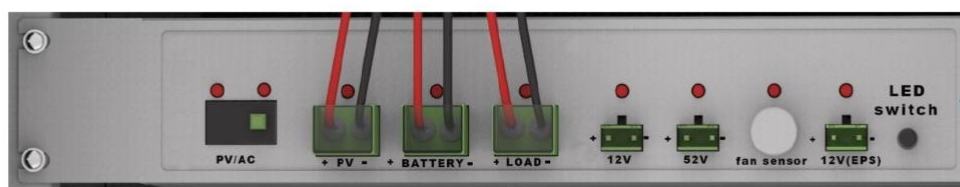
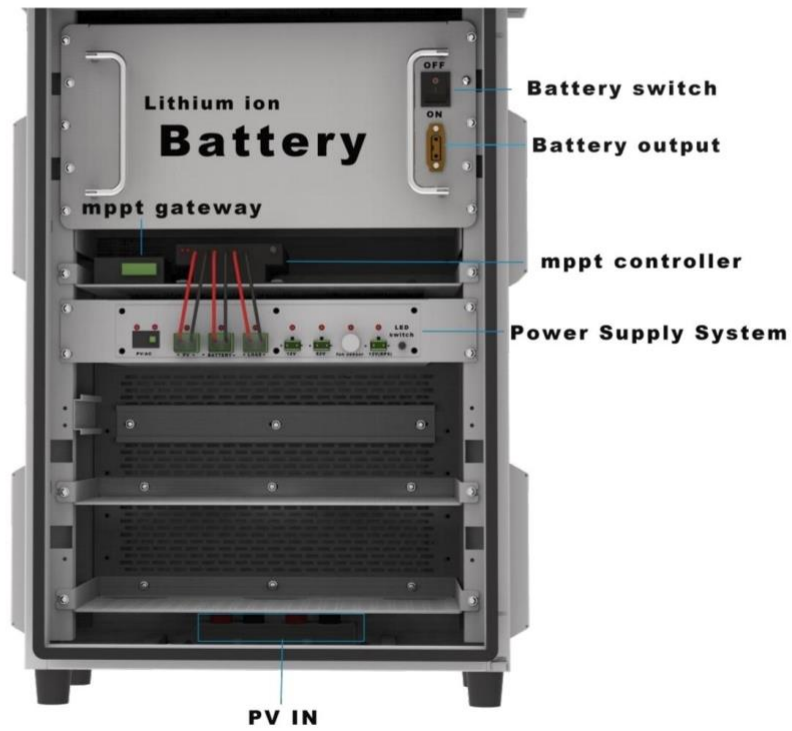
1.4 Product Features

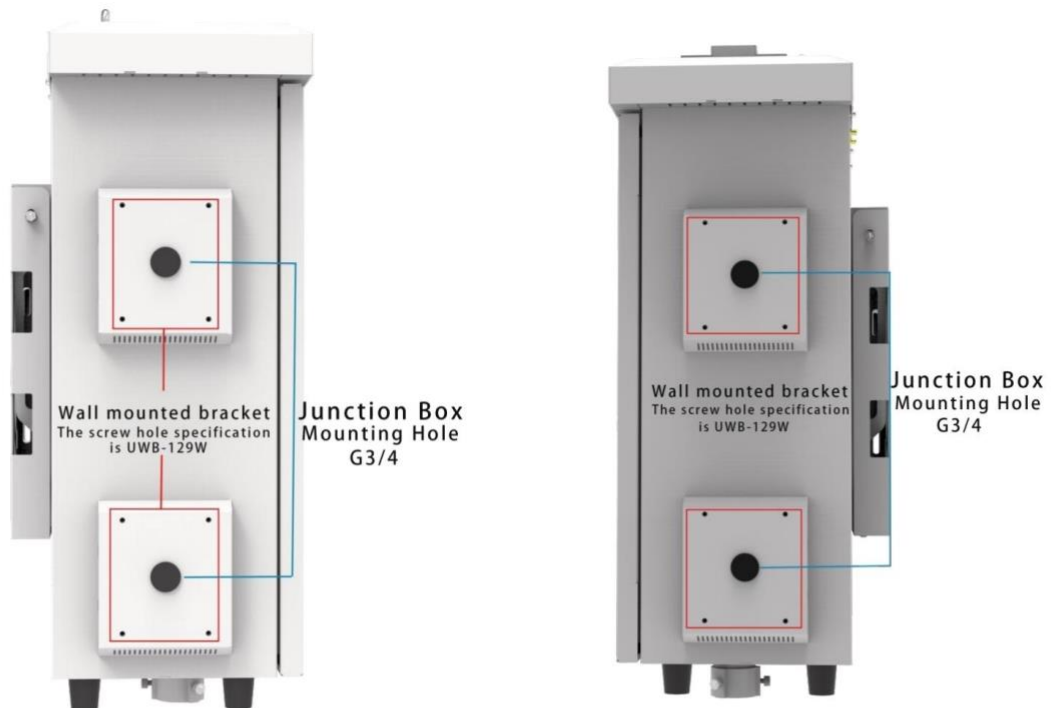
- Online MPPT tracking for solar charging, with conversion efficiency up to 99%.
- Integrated DC 12 V, DC 52 V, and EPS DC 12 V outputs reduce the need for separate inverter modules, simplify wiring, and support a clearer, standardized equipment layout.
- Built-in high-efficiency ternary lithium-ion battery pack.
- Solar-panel charging and mains-bypass charging options.

- Online hybrid power supply with charge and discharge management. When solar output is insufficient, the photovoltaic panels and battery can supply the connected load together. After the battery is fully charged, excess solar energy is directed to the load, reducing battery discharge.
- Fully automatic cooling system. Internal and enclosure-top fans circulate air. If temperature exceeds the cooling system's safe operating range, the unit shuts down automatically to protect the equipment.
- Load-output short-circuit, overvoltage, undervoltage, and overload protection, plus reverse-current protection for the MPPT system.

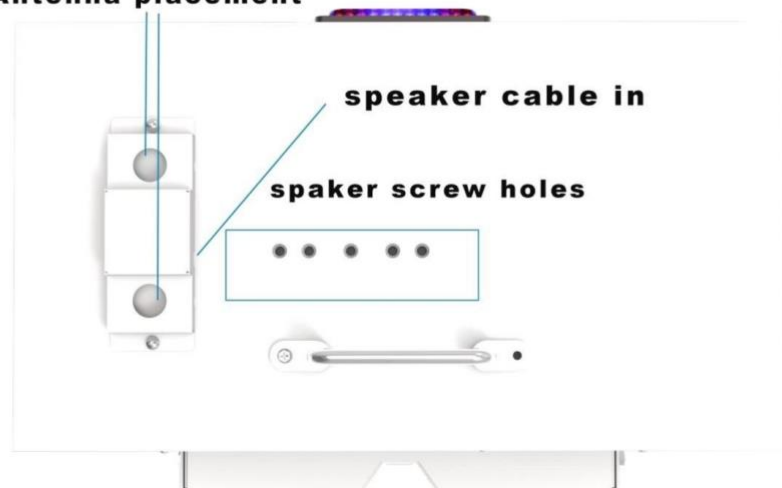
1.5 Product Configuration



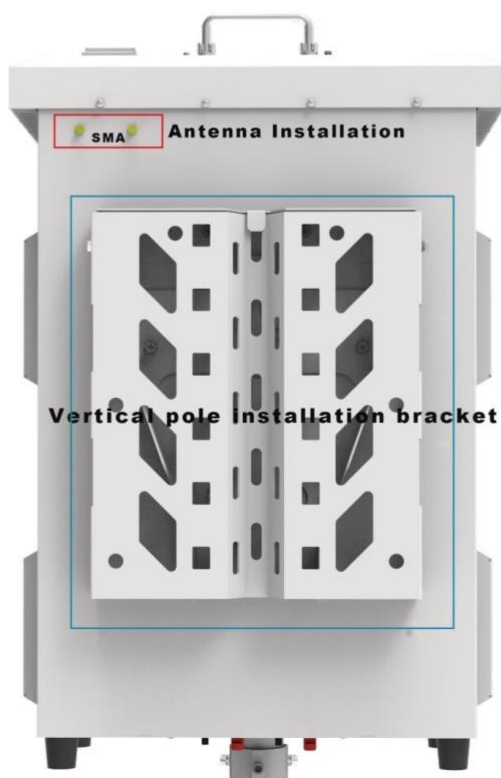
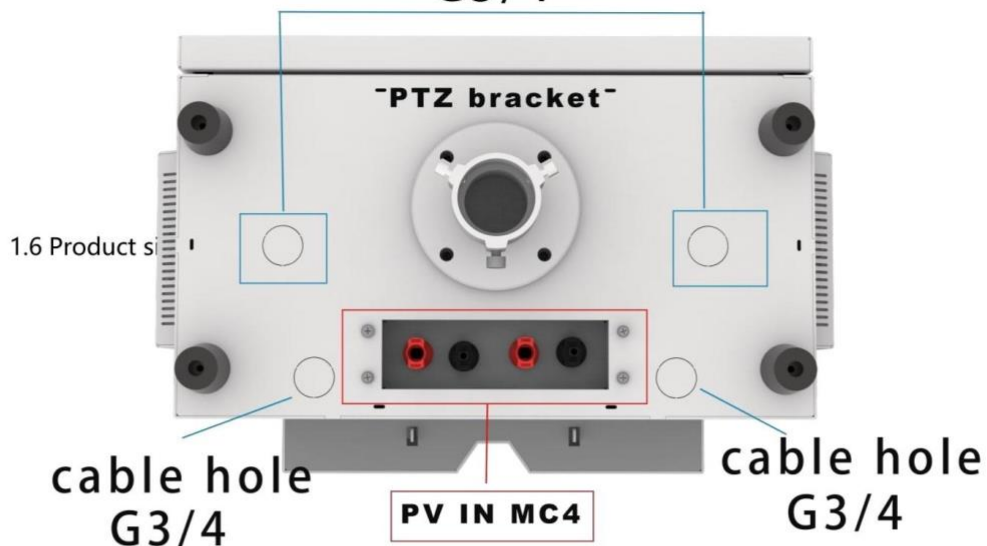




Antenna placement



JUNCTION BOX Mounting Hole G3/4



3.5 Packaging List

Verify that all items are present before installation. Contact the supplier if any item is missing or damaged.

Item	Description	Qty.	Unit
1	Solar power supply system, MAX3000P-V2 factory standard	1	set
2	DC output cable	3	pcs
3	Pole-mounting clamp	3	pcs
4	Junction-box installation connector, 3/4 in.	4	pcs
5	Wall-mounting screws and wall plugs	4	sets
6	Camera-bracket installation screws	8	pcs
7	NVR motherboard mounting standoffs and screws	4	sets
8	Hard-drive installation screws	8	pcs
9	Speaker installation screws and washers	3	sets
10	Cat 6 Ethernet cable, 1.5 ft	4	pcs