

Plug and Play Power Systems for Remote IoT Devices

Features

- ⌚ Fast mounting
- ⌚ Waterproof LiFePO4 battery
- ⌚ Integrated MPPT charge controller
- ⌚ High efficiency solar panel
- ⌚ 5V, 12V and PoE output options
- ⌚ Multiple data monitoring options

Applications

- Cellular Router
- Repeater Networks
- Air Quality Monitors
- Security Cameras
- Irrigation Systems
- LoRa Gateway
- Methane Sensors
- Edge Computing
- Traffic Systems
- Seismic Sensors

Description

Voltaic's CORE Solar Power Systems are easy to install, long-lasting and lower cost than traditional lead-acid AGM systems. CORE systems are pre-assembled and include mounting hardware.

The waterproof battery uses long life LiFePO4 (LFP) cells and has an integrated MPPT charge controller. This design eliminates the need for a large enclosure and further reduces weight and complexity.

Solar panel and battery size can be adjusted to match the available power to the system load.

Battery health can be monitored from raw battery voltage, an optional RS feed or Voltaic IoT module.

System Options Summary

SKU	Panel Power (W)	Battery Capacity (Ah)	Battery Voltage Options	Mass (kg)
K-P152-V102	25	18	12V Unregulated, 5V	6
K-P150-V102	50	18	12V Unregulated, 5V	8
K-P150-V107	50	60	12V Unregulated, 5V, PoE+	14
K-P151-V107	100	60	12V Unregulated, 5V, PoE+	21
K-P151-V112	100	100	12V Unregulated, 5V, PoE+	29
K-2XP151-V107	200	60	12V Unregulated, 5V, PoE+	27
K-2XP151-V112	200	100	12V Unregulated, 5V, PoE+	34

High-efficiency solar panel

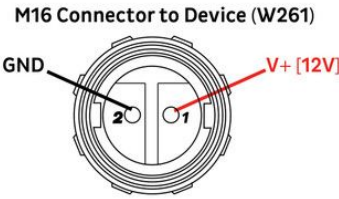
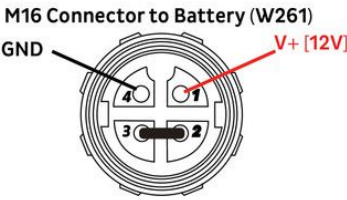
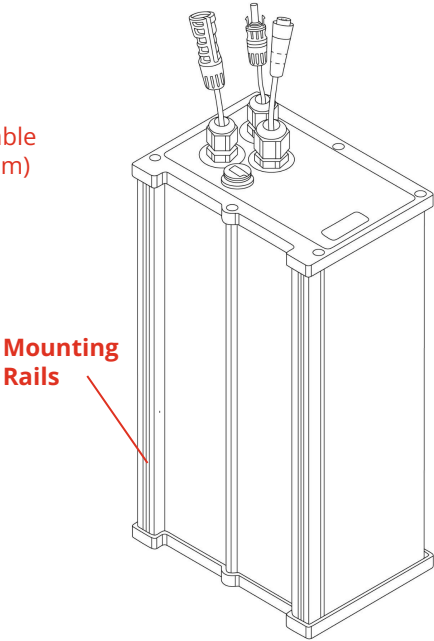
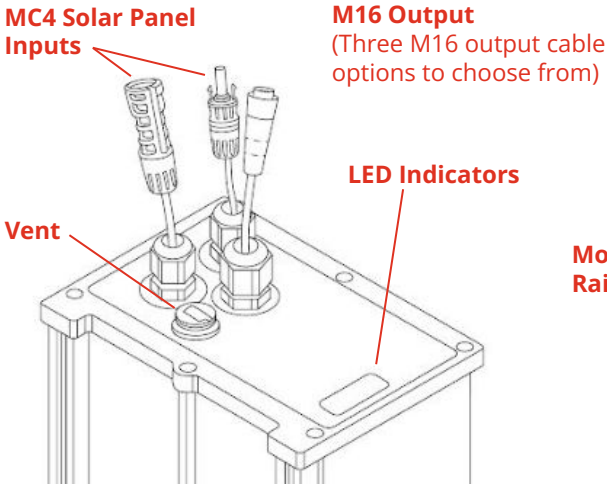
Waterproof LFP Battery

Pre-Assembled Bracket

Battery Mounting Hardware

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Battery Inputs and Outputs



M16 Output Pinout
12V Unregulated

Battery Specifications

Battery	V102	V107	V112
Nominal Capacity	18Ah / 230Wh	60Ah / 768 Wh	96Ah / 1229Wh
Max Input/Output Current	10A	15A	15A
Dimensions	104 x 147 x 237mm	104 x 147 x 538mm	104 x 147 x 736mm
Cell Configuration	4S 3P LFP 32700	4S 10P LFP 32700	4S 16P LFP 32700
Mass	4kg	9kg	16kg
Charge Controller	Maximum Power Point Tracking (MPPT) - 6mA self consumption, up to 97% efficient		
Input Connectors	MC4		
Standard Output Connector	LLT M16 4-Pin Cable		
Input Voltage Range	14.5V - 25V		
Output Temperature Range	-20 - 60°C		
Input Temperature Range	0 - 45°C		
Standard Output Voltage Range	12.4V - 14.6V		
Output Wire Options	W261 M16 to M16 Extension - 1.5m W262 M16 to Bare Leads - 1.5m W276 M16 5521 Barrel Jack- 1.5m		
Optional Output SKU	C304 5V Regulator	C304 5V Regulator C403 48V PoE Injector	C304 5V Regulator C403 48V PoE Injector
Protections	Short Circuit, Reverse Polarity, Over Current, Over / Under Temperature, Under Voltage		

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Solar Panel Specifications

Panel	P152	P150	P151
Compatible Bracket	BK108	BK108	BK110 (or BK111 for x 2)
Wp - Maximum Power	25.8W	57.4W	99W
Vp - Voltage at Max Power	16.8V	17.7V	17V
Voc - Open-Circuit Voltage	19.6V	20.7V	19.6V
Ip - Current at Max Power	1.54A	3.25A	5.8A
Isc - Short-Circuit Current	1.66A	3.43A	6.7A
Solar Cell Efficiency	23.1%	23.1%	22.8%
Number of Cell Pieces	30	30	30
Dimensions	307 x 507 x 30mm	586 x 507 x 30mm	586 x 980 x 30mm
Mass	1.9kg	3.2kg	6.2kg
Wire Length (Including Connectors)	710mm	710mm	1000mm
Connector Type	MC4		
Temperature Range	-40 - 80°C		

Data Monitoring

Option	Unregulated Voltage	RS 485 Feed	IoT Module
SKU		C404	C401 Cat-1 North America C406 Cat-1 Global C408 External Cat-1 NA C409 External Cat-1 G
Physical Connection	LLT M16 4-Pin	LLT M8 4-Pin	Internal or LLT M8 4-Pin
Incremental Self Consumption	0mA	0mA	<3Wh per day
Data Available	Battery Voltage	Battery voltage, battery current, load voltage, load current, solar voltage, solar current, temperature, daily charging capacity	Battery voltage, battery current, load voltage, load current, solar voltage, solar current, temperature, daily charging capacity
Notes		Must be specified in advance of purchase	Must be specified in advance of purchase

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Mounting Configurations

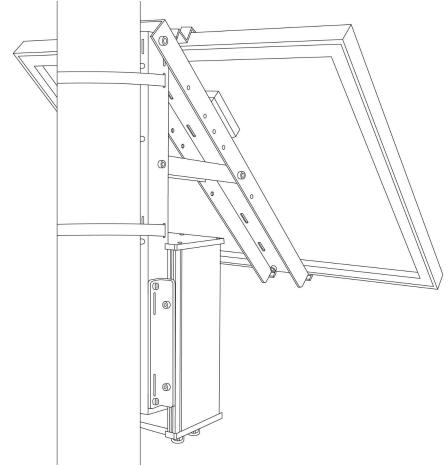
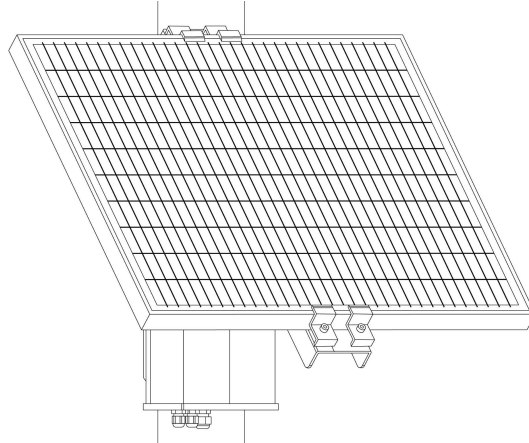
Steel straps are recommended for pole mounts. Steel anchors are recommended for most wall mounts. This hardware is not included.

K-P152-V102

K-P150-V102

K-P150-V107

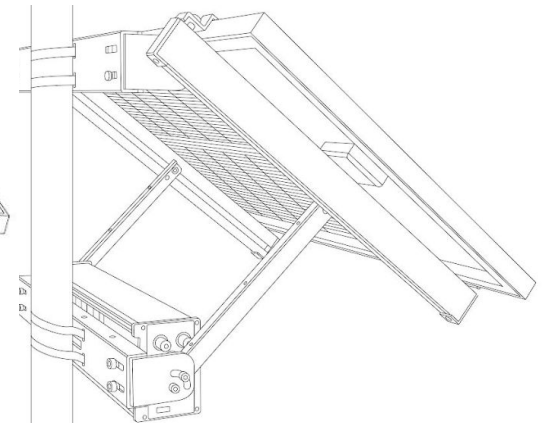
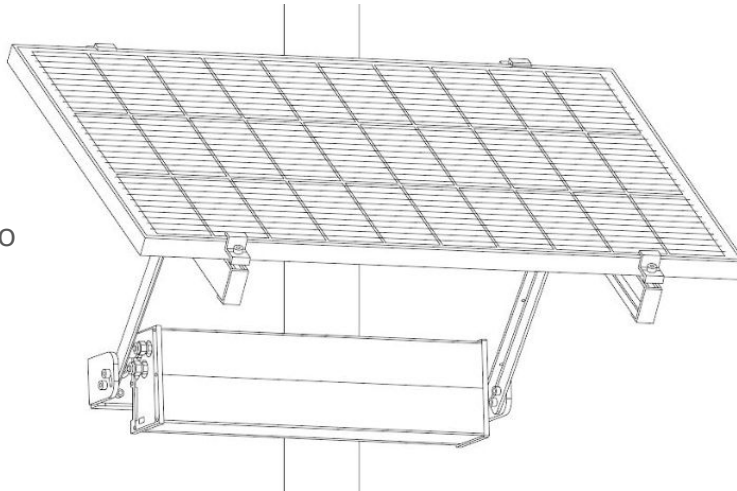
Battery mounts to
Bracket.



K-P151-V107

K-P151X2-V107

Battery mounts to
bracket.



K-P151-V112

K-P151X2-V112

Battery mounts
to pole or wall.

