

## INTRODUCTION

Wireless Internet Service Providers (WISPs) and network operators typically rely on electrical infrastructures to power their network equipment. During times of power outages, or in rural and remote locations where the reach of local power is limited or completely unavailable, operators need a wireless communications solution that can be deployed independently. The BaiCells SPB Series Outdoor Solar Power System comprises a solar panel, battery backup storage device, and eNodeB. The Solar Power System can be deployed singly or connected to the backhaul, where the Smart Uninterrupted Power Supply (SmartUPS) backup storage device can serve multiple devices.

The SPBxxxxx Series products are ideally suited for remote sites with wireless access points, Long-Term Evolution (LTE) small cells, cameras, and security systems. These types of low-Wattage requirements can be driven via direct 48 VDC, Power over Ethernet (PoE), or inverter supplied AC power. The Smart Solar System provides enterprise, telecommunications, and government organizations with a renewable energy source to support a diverse set of custom applications.

## FEATURES

- Crystal solar panel with Maximum Power Point Tracking (MPPT) efficient solar energy conversion technology
- Reduced construction costs using one pole design and single deployment option with no external power supply or wire backhaul
- Lithium battery service life of 3 years
- Optional external battery
- Up to 400 Watt power supply
- Multiple input power options: 48 VDC, PoE, or inverter supplied AC
- High IP66 ingress protection rating
- Wide operating temperature range of -40°F to 159°F (-40°C to 55°C)
- Intelligent battery management
- OMC management

## SOLAR PANEL



### SYSTEM SPECIFICATIONS

Max Power	260W
Max Operating Voltage	36V
Max Operating Current	7.22A
Open-Circuit Voltage	42.48V
Short-Circuit Current	7.94A
Max System Voltage	1000V
Solar Panel Input Power	0-150 VDC
Battery Conversion Rate	19.6%
Cell Conversion Rate	18%
Battery Type	Single crystal silicon
Number of Battery Pieces	6x12 (72) pieces
Battery Dimensions	156 mm
Temperature Coefficient of Max Power (Pm)	-0.45%/°C
Temperature Coefficient of Open-Circuit Voltage (Voc)	0.35%/°C
Temperature Coefficient of Short-Circuit Current (Isc)	+0.05%/°C
Testing Standard Conditions	Am1.5, 25°C, 1000W/m <sup>2</sup>

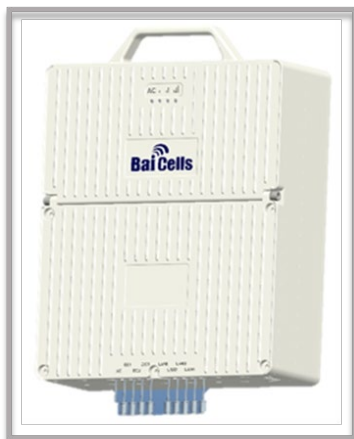
Solar Cell Dimensions	1640 x 990 x 40 mm
Packing Dimensions	1655 x 1005 x 95 mm
Tolerance	± 5%
Operating Temperature	-40°C to 90°C
Net Weight	6.8 kg
Rough Weight	34.5 kg
Structure	Toughened glass + EVA + solar crystal cell + TPT + aluminum alloy frame + standard junction box
Glasses	Ferrous toughened high transparency suede glass
Junction Box Type	Standard, TUV certification
Certification	CE/FCC/ROHS

### GLOBAL PART NUMBERS

SPB41211	200W, 5A, 4-port exchange, 48V, PoE+ Outdoor Smart Solar Power Box (Panel). Extended battery support. With network management.
SPB42131	400W, 10A, Optical, 4-port exchange, 48V, (1) PoE+ Outdoor Smart Solar Power Box (Panel). Extended battery support. With network management.

Note: The number of DC and PoE interfaces can be customized.

## SmartUPS



### SYSTEM SPECIFICATIONS

Dimensions (HxWxD)	10.6 x 4.1 x 12.6 inches 270 x 105 x 320 millimeters
Weight	5Ah – 15.2 lbs / 6.9 kg 10Ah – 18.7 lbs / 8.5 kg
Cooling Mode	Natural cooling
Installation Mode	Pole or wall
Pole Diameter Support	4-8.3 in / 105-210 mm
Noise Grade	≤ 35 dB (A) @ 1.5 m Meets standard GR487
Ingress Protection Rating	IP66
Battery Capacity	48V 5Ah or 48V 10Ah Lithium Ion, or optional external battery port for 48V 20Ah and 48V 50Ah expansion
Power Output	+48V (37V-54V) DC, +12V DC, 24V DC
Total Output	200 Watts - 5 AMP 400 Watts - 10 AMP Future: 1kW - external customized battery
Switch	Max 4-port Gigabit Ethernet switch
SFP	1 Gigabit SFP cage
PoE Port	1 PoE+

Note 1: Battery capacity depends on amount of sunlight.

Note 2: Special requirements will be considered as customized.

### ENVIRONMENTAL SPECIFICATIONS

Operating Temperature Range	-40°F to 159°F / -40°C to 55°C (solar radiation included) <ul style="list-style-type: none"> <li>• Charge: -40°C to 45°C</li> <li>• Discharge: -40°C to 55°C</li> </ul>
Storage Temperature Range	-4°F to 158°F -20°C to 70°C
Operating Humidity Range	5% to 95% RH No dewdrops
Altitude	0-4000 m (2000 m to 4000 m. With every 200 m altitude increase, max operating temperature decreases 1°C.)

### GLOBAL PART NUMBERS

#### SmartUPS:

EPB41211	200W, 5A/H battery, (1) 48VDC outlet, 4-port exchange, PoE+ Outdoor SmartUPS. Extended battery support. With network management.
EPB42131	400W, 10A/H battery, (3) 48VDC outlet, Optical, 4-port exchange, (1) PoE+ Outdoor SmartUPS. Extended battery support. With network management.

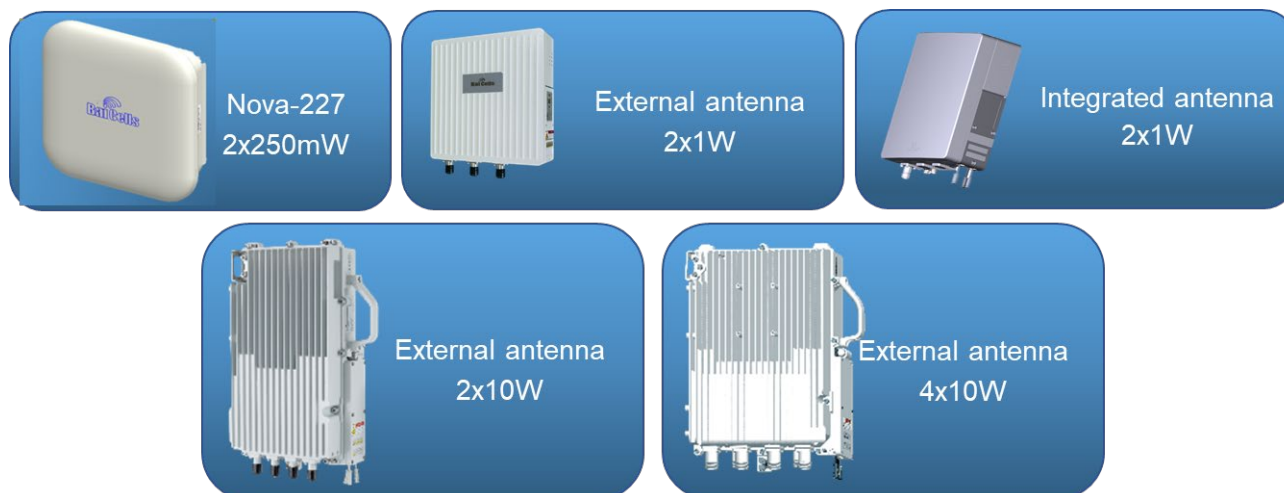
#### Management System:

CSPMS001	Power Management System
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#### Battery Backup:

EB421	20A Power Box Extended Battery
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## eNodeB's Supported



Example Only: Refer to individual eNB data sheets on the Baicells website.

LTE Mode	TDD/FDD
Frequency Bands	38/39/42/43/48
Channel Bandwidth	5/10/15/20 MHz
Output Power	2x250mW, 2x1W, 2x10W, 4x10W
Receive Sensitivity	-102 dBm
Synchronization Mode	Air interface listening GPS synchronization 1588v2 PTP
Backhaul Mode	Optical and RF-45 Ethernet backhaul
MIMO	2x2, 4x4
Dimensions (HxWxD)	8.9 x 12 x 2.9 inches 227 x 305 x 74 millimeters
Installation Method	Pole or wall mount
Antenna	External high-gain antenna or Integrated antenna with 14 dBi gain
Power Consumption	< 350W
Input Power	+37V to +54V