

## 90W (24V) Photovoltaic Module 90JB-V

The 90JB-V line of solar modules certified for hazardous locations is the direct result of over four decades of design, manufacturing, and proven field use.

Our use of quality materials, rigorous testing, and process control delivers a solar module with optimized life and electrical energy production that our industrial customers depend on.

From mountaintops to off-shore platforms, weather stations in the bitter cold of Antarctica to telephone signal repeaters in the hot Australian outback, our modules perform in the harshest environments.



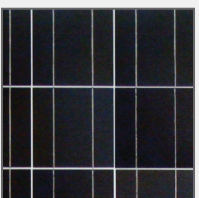
### Accessible junction box

J-type junction box has accessible terminals for easier module interconnections in off-grid applications, and it allows fitting cable glands for various sections.



### Durable scratch-resistant back sheet

The thick back sheet provides extra insulation and increased resistance to protect your module against rough handling. Made of white polyester, it ensures longer term performance and increased energy production.



### High reliability

Cell interconnections and diode placement use well-established industry practice and are field-proven to provide excellent reliability.

### Quality and certifications



UL61730-1, UL61730-2, UL61215-1, UL61215-1-1, UL61215-2, CSA C22.2 No. 61730-1, CSA C22.2 No. 61730-2



UL121201, CSA C22.2 No. 213 Class I, Division 2 Groups A, B, C, D



EN / IEC 61730-1, EN / IEC 61730-2, EN / IEC 61215-1, EN / IEC 61215-1-1, EN / IEC 61215-2



Conforms with European Directive 2014/35/EU

ISO 9001

ISO9001 and ISO14001 factory certifications ensure that our facilities use proven manufacturing and quality control processes, and maintain environmental integrity.

ISO 14001

## Electrical characteristics

	(1) STC 1000W/m <sup>2</sup>	(2) NMOT 800W/m <sup>2</sup>
Maximum power (P <sub>max</sub> )	90W	66.3W
Voltage at P <sub>max</sub> (V <sub>mpp</sub> )	35.8V	32.9V
Current at P <sub>max</sub> (I <sub>mpp</sub> )	2.52A	2.02A
Short circuit current (I <sub>sc</sub> )	2.61A	2.10A
Open circuit voltage (V <sub>oc</sub> )	44.2V	41.8V
Module efficiency	13.9%	
Tolerance (P <sub>max</sub> )	-0/+3%	
Nominal voltage	24V	
Efficiency reduction at 200W/m <sup>2</sup>	<5% reduction efficiency 13.2%	
Limiting reverse current	2.61A	
Temperature coefficient of I <sub>sc</sub>	0.0373%/°C	
Temperature coefficient of V <sub>oc</sub>	-0.2810%/°C	
Temperature coefficient of (P <sub>max</sub> )	-0.3983%/°C	
(3) NMOT	38.7°C	
Maximum series fuse rating	20A	
Maximum system voltage	50V	

1: Values at Standard Test Conditions (STC): 1000W/m<sup>2</sup> irradiance, AM1.5 solar spectrum and 25°C module temperature. 2: Values at 800W/m<sup>2</sup> irradiance, Nominal Module Operation Temperature (NMOT) and AM1.5 solarspectrum. 3: Nominal Module Operation Temperature: Module operation temperature at 800W/m<sup>2</sup> irradiance, 20°C air temperature, 1m/s wind speed.

## Mechanical characteristics

Solar cells	72 crystalline silicon cells in series
Front cover	High transmission 3.2mm (1/8th in) glass
Encapsulant	EVA
Back cover	White polyester
Frame	Silver anodized aluminum
Junction box	IP65 with 4 terminal screw connection block; accepts PG 13.5, M20 13mm (1/2") conduit, or cable fittings accepting 6-12mm diameter cable. Terminals accept 2.5-10mm <sup>2</sup> (8-14 AWG) wire
Dimensions	1204 x 537 x 50mm / 47.4 x 21.1 x 2in
Weight	7.7kg / 17lbs

All dimensional tolerances within ±1% unless otherwise stated.

## Certifications

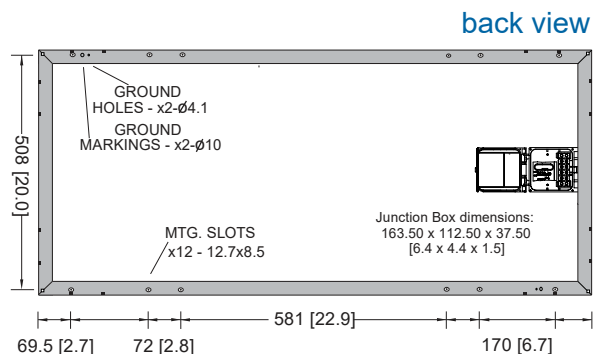
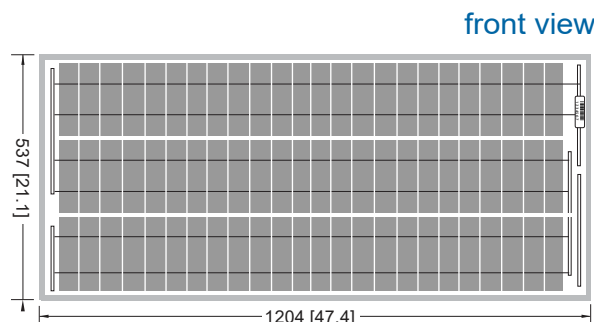
Conforms to ANSI/UL Standard UL61730-1:2017 Ed. 1+R:30Apr2020, UL61730-2:2017 Ed. 1+R:30Apr2020, UL61215-1:2017 Ed. 1, UL61215-1-1:2017 Ed. 1 and UL61215-2:2017 Ed. 1  
 Certified to CAN/CSA Standard C22.2 No. 61730-1:2019 Ed. 2 and C22.2 No. 61730-2:2019 Ed. 2

Conforms to ANSI/UL Standard UL121201:2017 Ed.9+R:26Aug2019  
 Certified to CAN/CSA Standard C22.2 No. 213:2017 Ed.3+U1;U2  
 Class 1, Division 2, Groups A, B, C and D

Certified in accordance with IEC61730-1:2016, IEC61730-2:2016, EN/IEC61730-1:2018, EN/IEC61730-2:2018, IEC61215-1:2016, IEC61215-2:2016 and IEC61215-1-1:2016, EN 61215-1:2016, EN 61215-1-1:2016 and EN 61215-2:2017

Conforms with European Directive 2014/35/EU

## Dimensions



Dimensions in mm [in].

## Warranty\*

- Defect-free in materials and workmanship for 2 years
- 90% min. power output over 12 years
- Optional 25 years available

\* Refer to warranty document for terms and conditions.

