

50 Watt Photovoltaic Module

BP 350

The BP 350 is an advanced 50W photovoltaic module that addresses the needs of rural electrification, for remote homes that do not have access to the utility grid, to remote industrial applications such as telemetry and instrumentation systems. This product offers improved efficiency through the use of advanced polycrystalline cells with SiN coating and a 12V nominal output, making it ideal for battery charging applications. It has proven performance at high temperatures and its robust design makes the product durable in the field and easy to install.

Performance

Rated power	50W
Module efficiency	11.1%
Nominal voltage	12V
Warranty	90% of minimum warranted power output over 12 years 80% of minimum warranted power output over 25 years Free from defects in materials and workmanship for 5 years

Configuration

BP 350U	Universal frame with an accessible junction box for cable connection
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Qualification Test Parameters

Temperature cycling range	-40°C to +85°C for 200 cycles
Damp heat test	85°C and 85% relative humidity for 1000h
Front & rear static load test (eg: wind)	2400 Pa
Front load test (eg: snow)	5400 Pa
Hailstone impact test	25mm hail at 23m/s from 1m

Quality and Safety

- Manufactured in ISO 9001 and ISO 14003 certified factories
- Conforms to European Community Directive 89/33/EEC, 73/23/EEC, 93/68/EEC
- Certified to IEC 61215

Module power measurements calibrated to World Radiometric Reference through ESTI (European Solar Test Installation at Ispra, Italy)

Framed modules certified by TÜV Rheinland as Safety Class II (IEC 60364) equipment for use in systems up to 1000 VDC

Framed modules listed by Underwriter's Laboratories for electrical and fire safety (Class C fire rating)

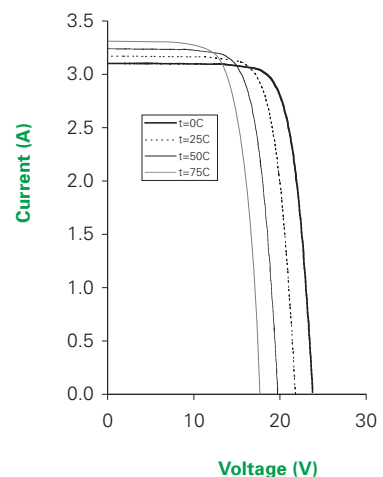


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Efficiency (%)

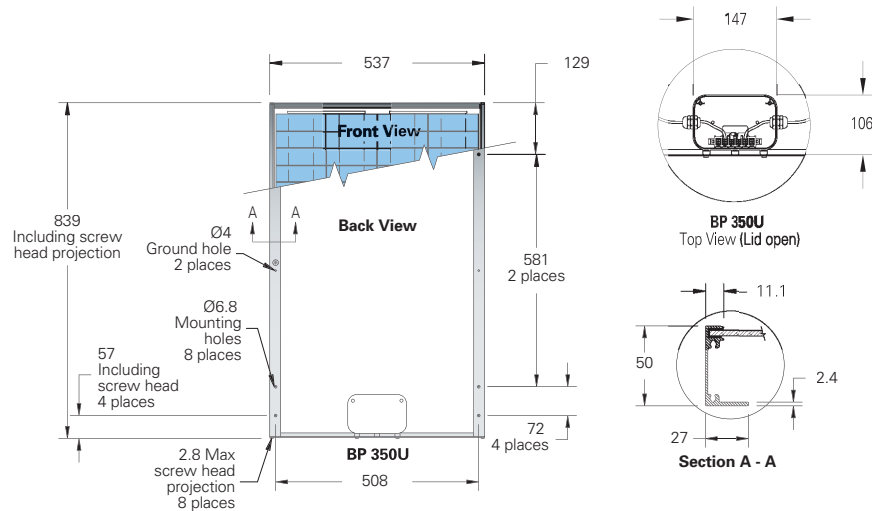
9-11 | 11-12 | 12-13 | 13-14 | 14-15

BP 350 I-V Curves



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Module Diagram



Self-tapping grounding screw, instruction sheet and warranty document included with each module.

Typical Electrical Characteristics

BP 350

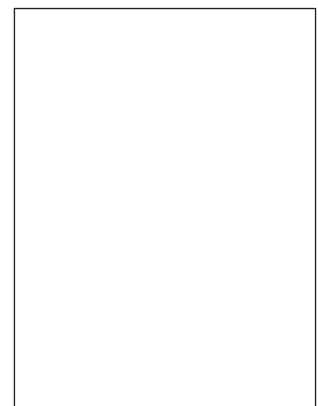
Maximum power (P_{max}) ¹	50W
Warranted minimum power	45W
Voltage at P_{max} (V_{mp})	17.5V
Current at P_{max} (I_{mp})	2.9A
Short circuit current (I_{sc})	3.17A
Open circuit voltage (V_{oc})	21.8V
Temperature coefficient of I_{sc}	(0.065±0.015)%/°C
Temperature coefficient of V_{oc}	-(80±10)mV/°C
Temperature coefficient of P_{max}	-(0.5±0.05)%/°C
NOCT ²	47±2°C
Maximum series fuse rating	20A
Maximum system voltage	600V (IEC 61215 rating) 1000V (TÜV Rheinland rating)

Mechanical Characteristics

BP 350U

Dimensions (mm) (Overall tolerances +/-3mm)	839 x 537 x 50
Weight (kg)	6.0
Frame	Clear anodised aluminium alloy type 6063T6. Colour: silver .
Solar cells	72 cells (42mm x 125mm) configured geometrically for 2 parallel strings of 36 for a 18 x 4 matrix.
Junction box	IP54 junction box with 6 terminal screw protection connection block, accepts PG 13.5, M20, 13mm conduit, or cable fittings accepting 6-12mm diameter cable. Terminals accept 2.5 to 10mm ² (8 to 14 AWG) wire.
Diodes	One 9A, 45V Schottky by-pass diodes included.
Construction	Front: High transmission 3mm tempered glass Rear: Blue tedlar; Encapsulant: EVA.

Your BP Solar Distributor:



1. Standard test conditions (STC), irradiance of 1000W/m² at an AM1.5G solar spectrum and a cell temperature of 25°C.
2. Normal Cell Operating Temperature (NOTC,) air temperature of 20°C; irradiance 800W/m²; wind speed 1m/s.