

## 170 watt photovoltaic module

# BP 3170

The BP 3170 is an advanced 170 watt module utilising anti-reflective coatings on both its multicrystalline cells and glass. The module also features IntegraBus™ technology which is a printed circuit board with integrated diodes that has been designed to ensure reliability whilst conducting higher currents. The BP 3170 has been designed for grid-connected solar applications, such as large commercial roofs, residential systems and photovoltaic (PV) power plants, as well as remote off-grid applications such as telecommunications, water pumping and residential systems. This 72-cell module offers superior value – greater performance from a white polyester back-sheet and innovative, high-efficiency cells.

### Performance BP 3170

Rated power	170W
Power tolerance	-3/+5%
Nominal voltage	24V
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 3170N	Universal frame, a sealed junction box with output cables and polarised Multicontact (MC III) connectors.
BP 3170J	Universal frame with an accessible junction box for cable connection.

### Qualification test parameters

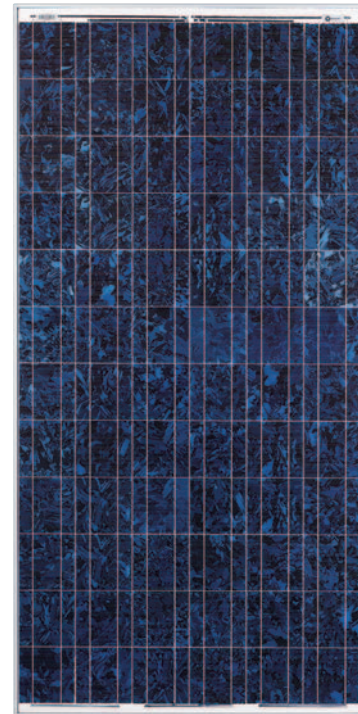
Temperature cycling range	-40°C to +85°C for 200 cycles
Damp heat test	85°C and 85% relative humidity
Front and rear static load test (eg: wind)	2400Pa (equivalent to 245kg/m <sup>2</sup> load distributed)
Front load test (eg: snow)	5400Pa † (equivalent to 550kg/m <sup>2</sup> load distributed)
Hailstone impact test	25mm hail at 23m/s from 1m distance
Impulse voltage test	8000V waveform impulse according to high voltage test techniques IEC60060-1 standard
Reverse current overload test	135% of the overcurrent protection rating for two hours

### Quality and safety

- Certified according to the extended version of the IEC 61215:2005 (Crystalline silicon terrestrial photovoltaic modules – design qualification and type approval).
- Certified according to IEC 61730-1 and IEC 61730-2 (Photovoltaic module safety qualification, requirements for construction and testing).
- Listed by Underwriter's Laboratories for electrical and fire safety (Class C fire rating).
- Approved by Factory Mutual Research in NEC Class 1, Division 2, Groups C and D hazardous locations (BP ####J).
- Module electrical measurements are calibrated to world radiometric reference via third party international laboratories.
- Manufactured in ISO 9001 and ISO 14001 certified factories.

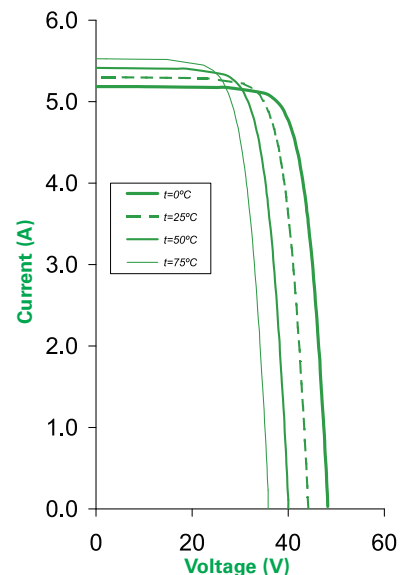
\* Refer to BP Solar's warranty document for terms and conditions.

† When module mounted in accordance with BP Solar's installation instructions.



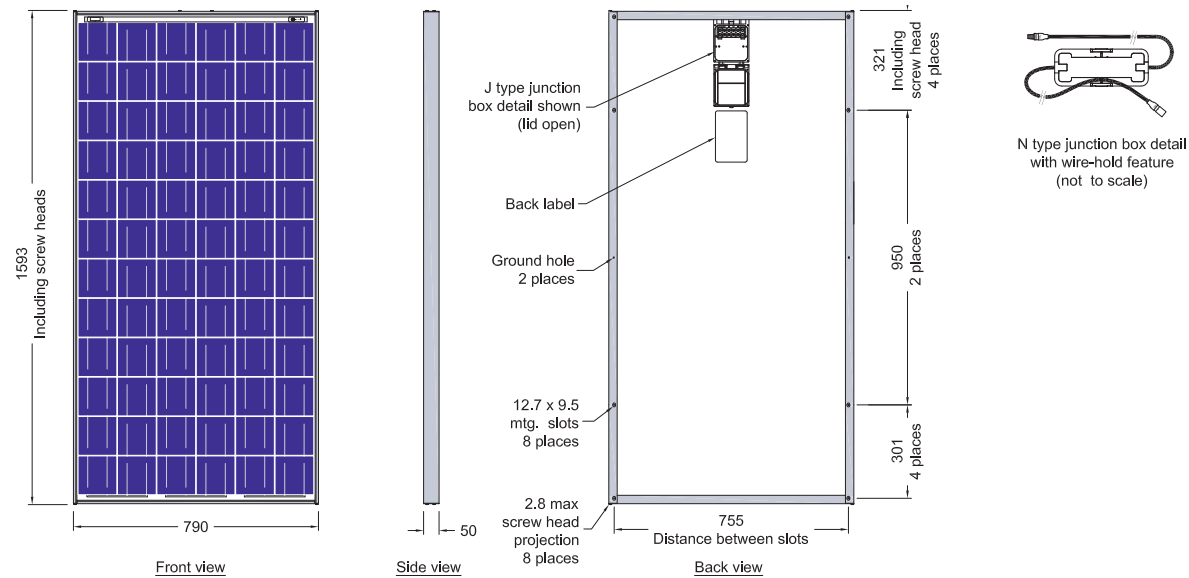
BP 3170

### BP 3170 I-V Curves



## 170 watt photovoltaic module BP 3170

### Module diagram



### Typical electrical characteristics

#### BP 3170

	(STC) <sup>1</sup>	(NOCT) <sup>2</sup>
Rated power ( $P_{max}$ )	170W	122W
Voltage at $P_{max}$ ( $V_{mp}$ )	35.6V	31.7V
Current at $P_{max}$ ( $I_{mp}$ )	4.8A	3.8A
Short circuit current ( $I_{sc}$ )	5.2A	4.2A
Open circuit voltage ( $V_{oc}$ )	44.3V	40.3V
Limiting reverse current	5.2A	
Module efficiency at STC	13.5%	
Efficiency reduction at 200W/m <sup>2</sup>	< 3%	
Temperature coefficient of $I_{sc}$	(0.065±0.015)%/°C	
Temperature coefficient of $V_{oc}$	-(0.36±0.05)%/°C	
Temperature coefficient of $P_{max}$	-(0.5±0.05)%/°C	
NOCT <sup>3</sup>	47±2°C	
Maximum series fuse rating	15A (BP ####N) / 20A (BP ####J)	
Application class	Class A installation (IEC 61730)	
Maximum system voltage	1000V (IEC 61730) 600V (UL)	

### Mechanical characteristics

Solar cells	72 multicrystalline cells (125 x 125mm) connected in series.
Front cover	High transmission 3.2mm tempered anti-reflective coated glass.
Encapsulant	EVA
Back cover	White polyester
Frame	Silver anodised aluminium
Diodes	IntegraBus™ technology includes three Schottky bypass diode – one for every 24 cells – on a printed circuit board.
Output cables (N type)	RHW AWG# 12 (3.3mm <sup>2</sup> ) cable with polarised weatherproof DC-rated MC III connectors; asymmetrical lengths 1250mm (-) and 800mm (+).
Junction box (J type)	IP65 junction box with four terminal screw connection block, accepts PG 13.5, M20, 13mm conduit, or cable fittings accepting 6 – 12mm diameter cable. Terminals accept 2.5 – 10mm <sup>2</sup> (8 to 14 AWG) wire.
Dimensions	1593 x 790 x 50mm (overall tolerances ±3mm)
Weight	15.4kg

1. Standard test conditions (STC), irradiance of 1000W/m<sup>2</sup> at an AM1.5G solar spectrum and a cell temperature of 25°C.  
 2. 800W/m<sup>2</sup>, NOCT, AM 1.5G solar spectrum.  
 3. Normal operating cell temperature (NOCT) air temperature of 20°C; irradiance 800W/m<sup>2</sup>; wind speed 1m/s.

This publication summarises product warranty and specifications which are subject to change without notice. For full terms and conditions of warranty, see BP Solar's warranty document. All solar modules are individually tested prior to shipment.

Your BP Solar representative:

