

## 165 watt photovoltaic module

# BP 3165

The BP 3165 is an advanced 165W module utilising multicrystalline cells with anti-reflective silicon nitride (SiN) coating and features IntegraBus™ technology. IntegraBus™ is a printed circuit board with integrated diodes that is especially designed to ensure reliability whilst conducting higher currents. The BP 3165 has been especially designed for grid connect solar applications, such as large commercial roofs, residential systems and photovoltaic (PV) power plants along with 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 3165	BP 3155
Rated power	165W	155W
Power tolerance	3%	3%
Nominal voltage	24V	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 3165N	Universal frame, a sealed junction box with output cables and polarised Multicontact (MC) connectors
BP 3165J	Universal frame with an accessible junction box for cable connection

### Qualification test parameters

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

### Quality and safety

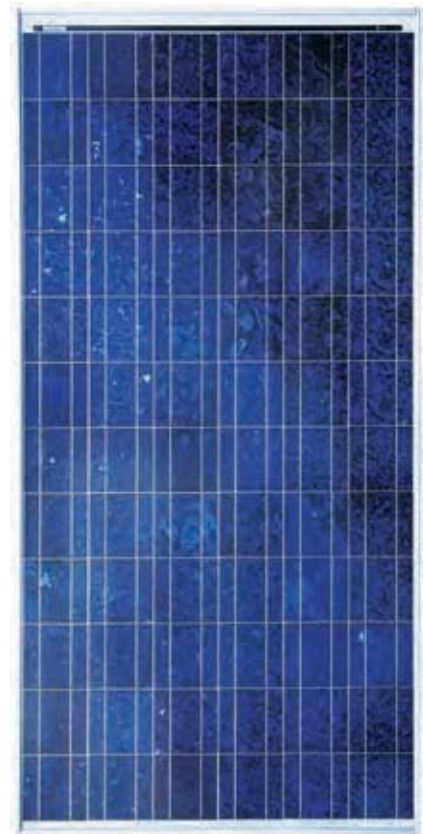
- Manufactured in ISO 9001 and ISO 14001 certified factories
- Conforms to European Community Directive 89/33/EEC, 73/23/EEC, 93/68/EEC
- Certified to IEC 61215

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

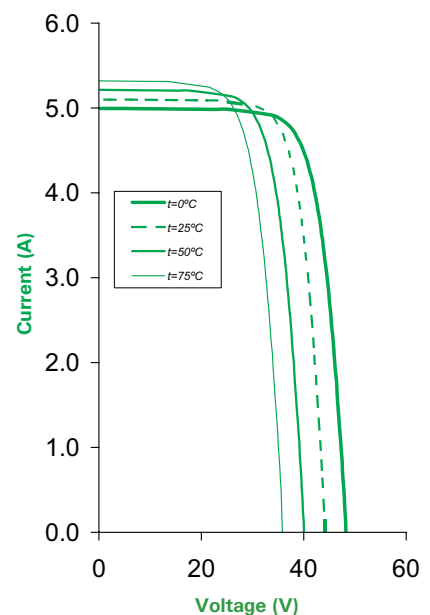
Framed modules listed by Underwriter's Laboratories for electrical and fire safety (Class C fire rating)

Approved by Factory Mutual Research in NEC Class 1, Division 2, Groups C and D hazardous locations (BP ####J)



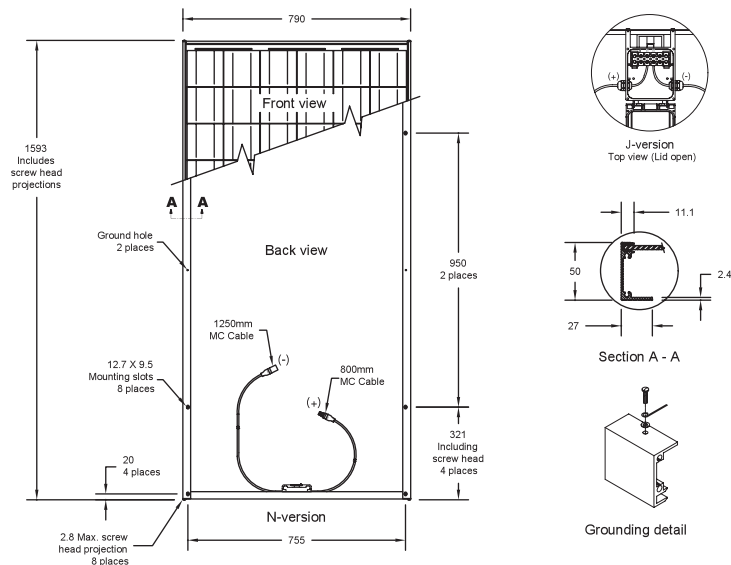
BP 3165

### BP 3165 I-V Curves



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### Module diagram



### Typical electrical characteristics

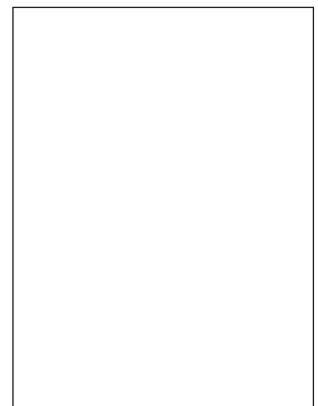
	BP 3165	BP 3155 <sup>3</sup>
Rated Power ( $P_{max}$ ) <sup>1</sup>	165W	155W
Warranted minimum power	160W	150W
Voltage at $P_{max}$ ( $V_{mp}$ )	35.2V	34.9V
Current at $P_{max}$ ( $I_{mp}$ )	4.7A	4.5A
Short circuit current ( $I_{sc}$ )	5.1A	4.8A
Open circuit voltage ( $V_{oc}$ )	44.2V	43.9V
Temperature coefficient of $I_{sc}$	(0.065±0.015)%/°C	
Temperature coefficient of $V_{oc}$	-(160±20)mV/°C	
Temperature coefficient of $P_{max}$	-(0.5±0.05)%/°C	
NOCT <sup>2</sup>	47±2°C	
Maximum series fuse rating	15A (BP 3165N) / 20A (BP 3165J)	
Maximum system voltage	1000V (IEC 61215 rating) 1000V (TÜV Rheinland rating)	

### Mechanical characteristics

### BP 3165N / BP 3165J<sup>4</sup>

Dimensions (Overall tolerances +/-3mm)	1593 x 790 x 50mm
Weight	15.4kg
Frame	Clear anodised aluminium alloy type 6063T6. Colour: silver.
Solar cells	72 cells (125mm x 125mm) configured geometrically for a 12 x 6 matrix connected in series.
Output cables (BP 3165N)	RHW AWG# 12 (4mm <sup>2</sup> ) cable with polarised weatherproof DC rated Multicontact (MC) connectors; asymmetrical lengths 1250 (-) and 800mm (+).
Junction box (BP 3165J)	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.
Diodes	IntegraBus™ technology includes Schottky bypass diode integrated into the printed circuit board bus.
Construction	Front: high transmission 3mm tempered glass Rear: white polyester; encapsulant: EVA.

Your BP Solar Dealer:



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. Normal Operating Cell Temperature (NOCT), air temperature of 20°C; irradiance 800W/m<sup>2</sup>; wind speed 1m/s.  
 3. Power of solar cells varies in the normal course of production; the BP 3155 is assembled using cells of slightly lower power than the BP 3165.  
 4. The mechanical characteristics of the BP 3155 and BP 3165 are identical.