

## 165 Watt Photovoltaic Module

# BP 3165

4039E-1 05/05

The BP 3165 is an advanced 165W module that uses cells with anti-reflective SiN coating. The BP 3165 has a new tighter power tolerance of 3% so a higher average power output is guaranteed. There are various versions of this module available which make it ideally suited to grid connect applications such as large commercial roofs, residential systems and photovoltaic power plants, as well as traditional off grid installations. This module offers a superior price - performance relationship due to its 72 advanced polycrystalline cells connected in series.

### Performance

Rated power	165W
Tolerance	+/-3%
Module efficiency	13.1%
Nominal voltage	24V
Warranty	90% power output over 12 years. 80% power output over 25 years. Free from defects in materials and workmanship for 5 years.

### Configuration

BP 3165S	Clear Universal frame with output cables and polarized Multi-Contact connectors
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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 and wind)	5400 Pa
Hailstone impact test	25mm hail at 23m/s from 1m distance

### 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 100V

Framed modules listed by Underwriters Laboratories for electrical and fire safety (Class C fire rating)

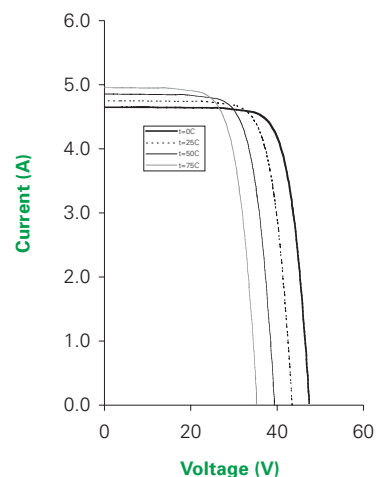


BP 3165S scale 1:14

### Efficiency (%)

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

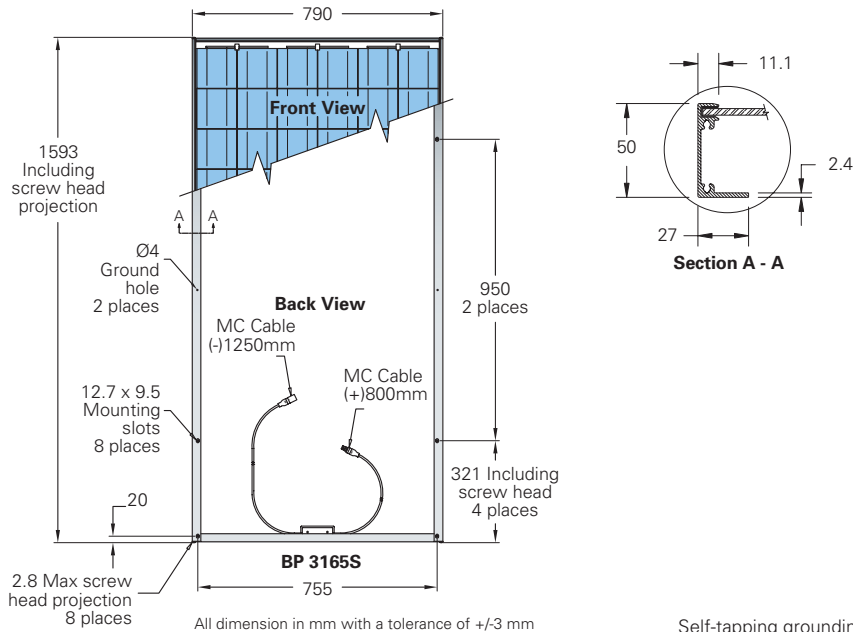
### BP 3165 I-V Curves



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## Module Diagram



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

## Typical Electrical Characteristics

## BP 3165

Maximum power ( $P_{max}$ )	165W
Voltage at $P_{max}$ ( $V_{mp}$ )	35.2V
Current at $P_{max}$ ( $I_{mp}$ )	4.7A
Short circuit current ( $I_{sc}$ )	5.1A
Open circuit voltage ( $V_{oc}$ )	44.2V
Temperature coefficient of $I_{sc}$	$(0.065 \pm 0.015)\%/K$
Temperature coefficient of $V_{oc}$	$-(160 \pm 10)mV/K$
Temperature coefficient of $P_{max}$	$-(0.5 \pm 0.05)\%/K$
NOCT (Air 20°C; Sun 800W/m <sup>2</sup> ; wind speed 1m/s)	47 $\pm$ 2°C
Maximum series fuse rating	15A
Maximum system voltage	1000V (IEC 61215 rating) 1000V (TÜV Rheinland rating)

Standard test conditions - irradiance of 1000W/m<sup>2</sup> at an AM1.5G solar spectrum and a cell temperature of 25°C.

## Mechanical Characteristics

## BP 3165S

Dimensions (mm) (Overall tolerances $\pm 0.3$ mm)	1593 x 790 x 50
Weight (kg)	15.0
Frame	Clear anodised aluminium alloy type 6063T6. Silver Universal frame
Solar cells	72 cells (125mm x 125mm) configured geometrically in a 6 x 12 matrix connected in series.
Output cables	3.3mm <sup>2</sup> cable with polarized weatherproof rated Multi-Contact connectors; asymmetrical lengths 1250mm (-) and 800mm (+)
Diodes	3 x 9A, 45V by-pass diodes
Construction	Front: High transmission 3.2mm tempered glass; Rear: White Tedlar®; Encapsulant: EVA

Your BP Solar Distributor:

