

BP Solar

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Contact:

Your BP Solar partner

215, 220, 225, 230 and 235W photovoltaic modules BP 3 Series

11 4108E-1 03/11



Also available in black.
Frame with extended load capability in end mounting
also available under request.

Designed to capture more of the sun

Our products incorporate a number of unique features to ensure highest production yields and make solar your brightest investment ever.



High Transmission Glass

Anti-reflective coated glass delivers up to 4% more energy than standard glass.



Reliable electrical connections

IntegraBus™ technology for cooler diode operation and optimal performance.



Enhanced cell protection

Better cell protection thanks to robust frame and durable materials.



Verified power output

Our energy ratings factor the initial degradation (LID effect) to maximize your investment.

Enhanced warranty

BP Solar provides an industry leading warranty, guaranteeing lower degradation rates on our modules manufactured beginning January 1st, 2010. Our superior long-term performance is proven by internal testing standards that go well beyond international requirements.

215, 220, 225, 230 and 235W photovoltaic modules
BP 3 Series



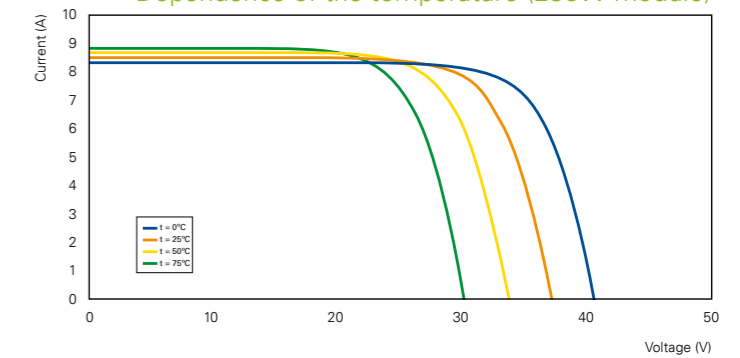
Electrical characteristics

	215W		220W		225W		230W		235W	
	(1) STC 1000W/m ²	(2) NOCT 800W/m ²	(1) STC 1000W/m ²	(2) NOCT 800W/m ²	(1) STC 1000W/m ²	(2) NOCT 800W/m ²	(1) STC 1000W/m ²	(2) NOCT 800W/m ²	(1) STC 1000W/m ²	(2) NOCT 800W/m ²
Maximum power (P _{max})	215W	154.8W	220W	158W	225W	162W	230W	165.6W	235W	169.2W
Voltage at P _{max} (V _{mpp})	29.1V	25.9V	28.9V	25.7V	29.1V	25.9V	29.1V	25.9V	29.8V	26.5V
Current at P _{max} (I _{mp})	7.4A	5.92A	7.6A	6.08A	7.70A	6.16A	7.90A	6.32A	7.89A	6.31A
Short circuit current (I _{sc})	8.10A	6.56A	8.20A	6.64A	8.30A	6.72A	8.40A	6.80A	8.48A	6.87A
Open circuit voltage (V _{oc})	36.5V	33.2V	36.6V	33.3V	36.6V	33.3V	36.7V	33.4V	37.2V	33.8V
Module efficiency	12.9%		13.2%		13.5%		13.8%		14.1%	
Tolerance P _{max}	-3/+5%		-3/+5%		-3/+5%		-3/+5%		-3/+5%	
Nominal voltage	20V		20V		20V		20V		20V	
Efficiency reduction at 200W/m ²	<5% reduction (efficiency 12.2%)		<5% reduction (efficiency 12.5%)		<5% reduction (efficiency 12.8%)		<5% reduction (efficiency 13.1%)		<5% reduction (efficiency 13.4%)	
Limiting reverse current	8.10A		8.20A		8.30A		8.40A		8.48A	
Temperature coefficient of I _{sc}					0.105%/ °C					
Temperature coefficient of V _{oc}					-0.360%/ °C					
Temperature coefficient of P _{max}					-0.45%/ °C					
NOCT					47±2°C					
Maximum series fuse rating					20A					
Application class (according to IEC 61730:2007)					Class A					
Maximum system voltage					600V (U.S. NEC) 1000V (IEC 61730:2007)					

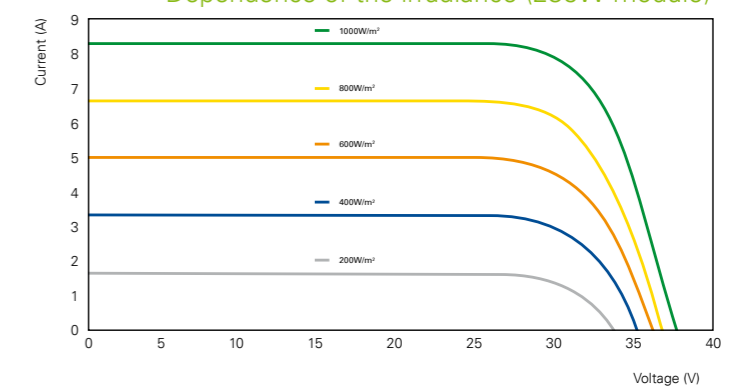
1: Values at Standard Test Conditions (STC): 1000W/m² irradiance, AM1.5 solar spectrum and 25°C module temperature
2: Values at 800W/m² irradiance, Nominal Operation Cell Temperature (NOCT) and AM1.5 solar spectrum
3: Nominal Operation Cell Temperature: Module operation temperature at 800W/m² irradiance, 20°C air temperature, 1m/s wind speed

All solar modules are individually tested prior to shipment; an allowance is made within our factory measurement to account for the typical power degradation (LID effect) which occurs during the first few days of deployment.

Dependence of the temperature (235W module)



Dependence of the irradiance (235W module)



Mechanical characteristics

Solar cells	60 polycrystalline 6" silicon cells (156x156mm) in series
Front cover	High transmission 3.2mm (1/8th in) glass
Encapsulant	EVA
Back cover	White or black polyester
Frame	Silver or black anodized aluminum (Universal II or Endura frame available under request)
Diodes	IntegraBus™ with 6 Schottky diodes
Junction box	Potted (IP 67); certified to meet UL 1703 flammability test
Output cables	4mm ² cable with latching MC4 connectors. Asymmetrical cable lengths: (+)1250mm (49.21in) / (+)800mm (31.50in) Certified as PV Wire according to UL4703 and PV1-F according to VDE EPV 01:2008-02 standards
Dimensions	1667x1000x50mm / 65.6x39.4x2.0in
Weight	19.4kg / 42.8lbs

All dimensional tolerances within ±1% unless otherwise stated.

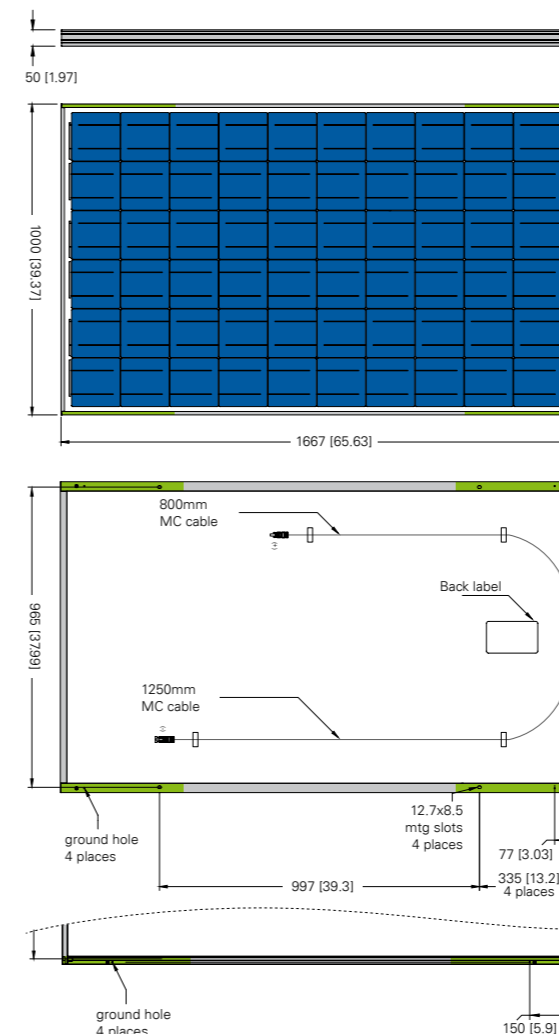
Certification

- Certified according to the extended version of the IEC 61215 (ed.2), EN 61215:2005-08 (Crystalline silicon terrestrial photovoltaic modules - Design qualification and type approval)
- Certified according to IEC 61730-1 and IEC 61730-2 (ed.1), EN 61730-1:2007-05 and EN 61730-2:2007-05. (Photovoltaic module safety qualification, requirements for construction and testing)
- Listed to UL 1703 and ULC ORD-C1703 Standard for Safety by Intertek ETL (Class C fire rating)
- Module electrical measurements are calibrated to World radiometric reference via third party international laboratories

Warranty

- Free from defects in materials and workmanship for 5 years
- 93% min. power output over 12 years
- 85% min. power output over 25 years

This data sheet complies with the EN 50380 requirements. This publication summarises product warranty and specifications which are subject to change without notice.



side view

front view

back view

back view detail (Endura frame)

Permitted mounting area for 3800Pa load [80 psf]
Allows 5400Pa [112 psf] load when mounted at holes.

JUNCTION BOX DETAIL
(with wire-hold feature)
39.60 x 100.60 x 13.20 (mm)
1.56 x 3.96 x 0.52 (in)

Permitted mounting area for 5400Pa [112 psf] load

Dimensions in mm [in]