bp solar

190W Photovoltaic module

BP 4190T

11 3074E-1 05/11



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.

Positive Tolerance
+5% tolerance and including initial degradation (LID effect) in our power ratings means you are sure to get every watt you paid for.

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.

Enhanced warranty
BP Solar provides industry leading warranties, guaranteeing lower degradation rates on our modules. Our superior long-term performance is proven by internal testing standards that go well beyond international requirements.

ISO 9001
ISO 14001

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Electrical characteristics

	(1) STC 1000W/m²	(2) NOCT 800W/m²
Maximum power (P_{max})	190W	136.8W
Voltage at P_{max} (V_{mpp})	37.1V	33.0V
Current at P_{max} (I_{mpp})	5.12A	4.10A
Short circuit current (I_{sc})	5.56A	4.50A
Open circuit voltage (V_{oc})	45.3V	41.2V
Module efficiency	15.2%	
Tolerance P_{max}	-0/+5%	
Nominal voltage	24V	
Efficiency reduction at 200W/m²	<5% reduction (efficiency 14.4%)	
Limiting reverse current	5.56A	
Temperature coefficient of I_{sc}	0.105%/ °C	
Temperature coefficient of V_{oc}	-0.360%/ °C	
Temperature coefficient of P_{max}	-0.45%/ °C	
(3) 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.

Mechanical characteristics

Solar cells	72 monocrystalline 5" silicon cells (125x125mm) in series
Front cover	High transmission 3.2mm (1/8th in) glass
Encapsulant	EVA
Back cover	White polyester
Frame	Silver anodized aluminum (Universal II)
Diodes	IntegraBus™ with 3 Schottky diodes
Junction box	Potted (IP 67); certified to meet UL 1703 flammability test
Output cables	4mm² cable with latching MC4 connectors Asymetrical 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	1587x790x50mm / 62.5x31.1x2in
Weight	15.4kg / 33.95lbs

All dimensional tolerances within ±1% unless otherwise stated.

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

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)

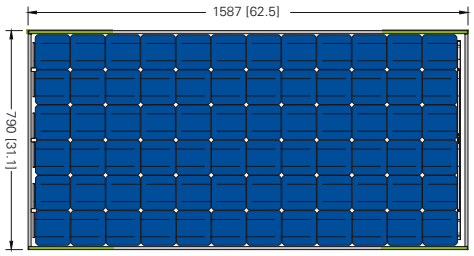
Listed to UL 1703 and ULC ORD-C1703 Standard for Safety by Intertek ETL

Manufactured in ISO 9001 and ISO 14001 certified factories

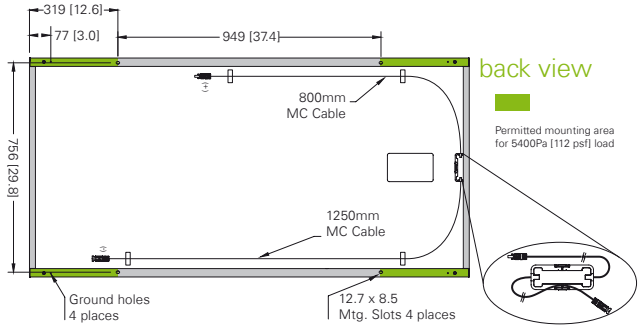
Module electrical measurements are calibrated to World radiometric reference via third party international laboratories

This data sheet complies with the EN 50380 requirements.

This publication summarises product warranty and specifications which are subject to change without notice.

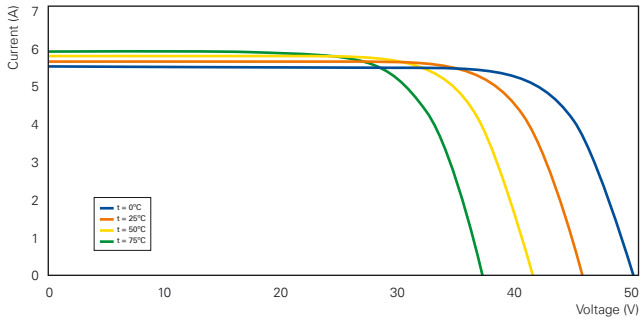




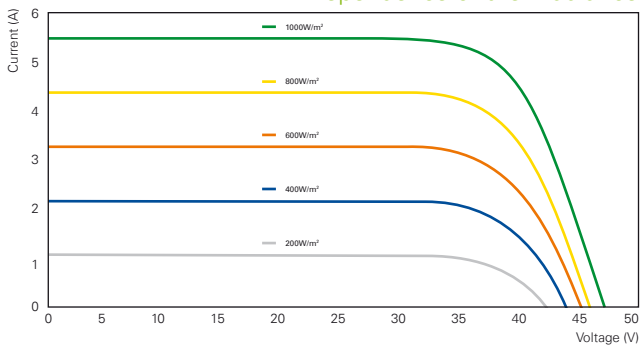


Dimmensions in mm [in].

Dependence of the temperature



Dependence of the irradiance



Contact:

Your BP Solar partner

Find more information in: www.bpsolar.com

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