

190 Watt Photovoltaic Module – Saturn Technology

BP 7190

3033E-1 07/06

The BP 7190S forms part of the high efficiency Saturn 7 Series “real power” range of solar modules. Our industry leading warranty is based on nominal power output, meaning more power for a longer period of time. The bypass diodes use the IntegraBus™ technology, which limits the loss of energy in the event of partial shadowing affecting the module. Being one of the largest, most powerful modules manufactured by BP Solar, the BP 7190S is ideal for installations where high power is needed in a limited area.

The BP 7190S has been especially designed for grid connect applications such as large commercial roofs, residential systems and photovoltaic power plants.

Performance

Rated power	190W
Tolerance	-0/+2.5%
Module efficiency	15.1%
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 7190S	Clear Universal Frame, sealed junction box, cables with 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 load test (eg: wind)	2400Pa
Front load test (eg: snow and wind)	5400Pa
Hailstone impact test	25mm hail at 23m/s from 1m distance

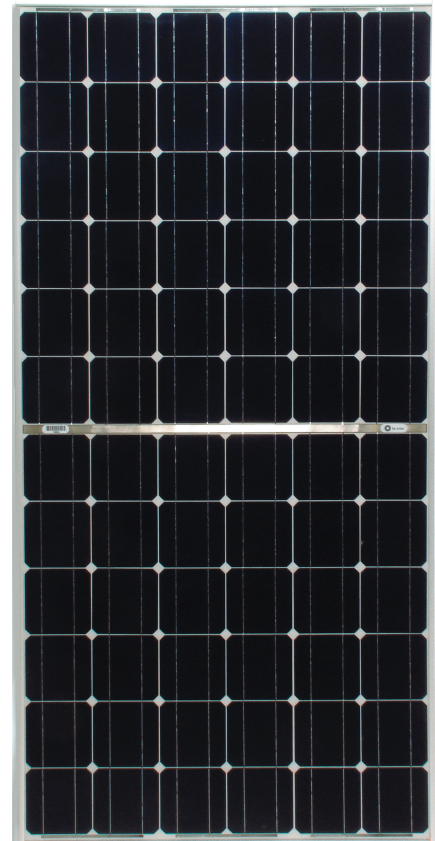
Quality and Safety

- 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 from 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 1000V.

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

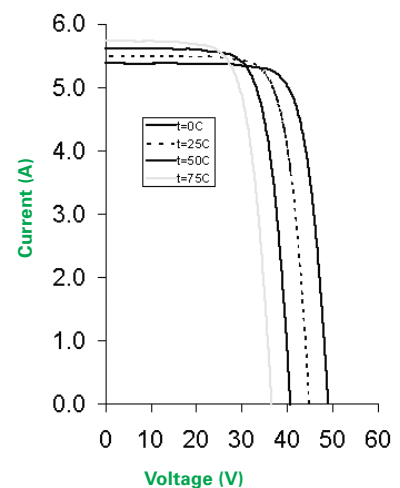


BP 7190S scale 1:14

Efficiency (%)

9-11	11-12	12-13	13-14	14-15
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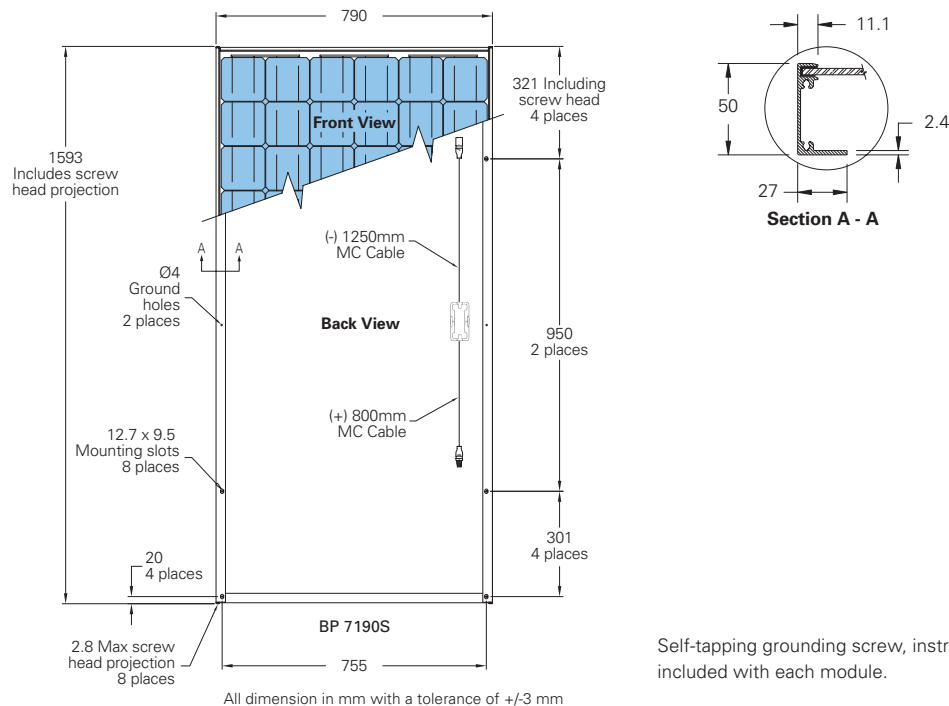
BP 7190S I-V Curves



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Module Diagram



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

Typical Electrical Characteristics

BP 7190

Warranted minimum power*	190W
Voltage at MPP (V_{mpp})	36.6V
Current at MPP (I_{mpp})	5.2A
Short circuit current (I_{sc})	5.5A
Open circuit voltage (V_{oc})	44.8A
Temperature coefficient of I_{sc}	$(0.065 \pm 0.015) \% / K$
Temperature coefficient of V_{oc}	$-(160 \pm 20) mV / K$
Temperature coefficient of P	$-(0.5 \pm 0.05) \% / K$
NOCT (Air 20°C; Sun 800W/m ² ; wind 1m/s)	47 \pm 2°C
Maximum series fuse rating	15A
Maximum system voltage	1000V (IEC 61215 rating) 1000V (TÜV Rheinland rating)

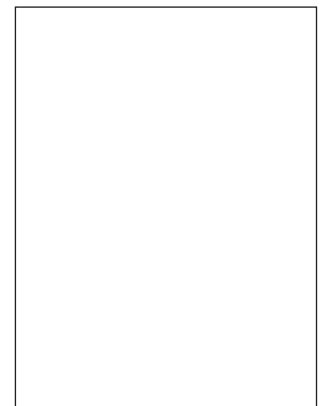
*As measured by BP Solar test equipment rounded to the nearest watt.

Standard test conditions - irradiance of 1000W/m² at an AM1.5G solar spectrum and a cell temperature of 25°C.

Mechanical Characteristics BP 7190

Dimensions (mm)	1593 x 790 x 50
(Overall tolerances ± 3 mm)	
Weight (kg)	15.4
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 ² cable with weatherproof Multi-Contact connectors. Asymmetrical cable lengths - 1250mm (-) and 800mm (+).
Diodes	IntegraBus™ technology includes for every 12 cells a Schottky bypass diode integrated into the printed circuit board bus.
Construction	Front: High transmission 3.2mm tempered glass. Rear: White polyester; encapsulant: EVA.

Your BP Solar Distributor:



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