

The BP 585 photovoltaic module uses the world's leading commercial laser cell processing technology to produce photovoltaic modules with exceptional efficiency. Its premium laser-grooved buried-grid monocrystalline cells provide a premium power performance of 85 watts nominal maximum power and 12 volts of nominal output for DC loads, or with an inverter, AC loads. The BP 585's high efficiency is particularly suited for applications which need maximum energy generation from a limited array area. Applications include utility grid-connected residential and commercial roof systems, building facades, and traditional industrial and remote applications. Modules use our Universal frame, the strongest in the industry.

Available versions include:

BP 585S – Framed module with output cables and polarized connectors

BP 585L – Unframed laminate version of the BP 585S

BP 585U – Framed module with a high-volume Type A junction box

BP 585H – Framed module with our Type B junction box

Proven Materials and Construction

BP Solar's quarter-century of field experience shows in every aspect of these modules' construction and materials:

- Laser patterning and processing minimizes cell front shading, maximizes efficiency;
- Cells are laminated between sheets of ethylene vinyl acetate (EVA) and high-transmissivity low-iron 3mm tempered glass;
- Frame strength exceeds requirements of certifying agencies.



DC Connectors

Output Options

The BP 585 is offered with three output options: Connector-equipped cables and two types of junction box.

BP 585S and BP 585L output is via heavy-duty AWG #12 (3.3mm²) output cables with polarized weatherproof DC-rated connectors which provide reliable low-resistance connections, eliminate wiring errors, and speed installation. Asymmetrical cables enable side-by-side or end-to-end module placement in arrays.

BP 585U output is via our Type A junction box. This junction box is



Clear Anodized Universal Frame

raintight (IP54 rated) and accepts PG13.5 or 1/2" nominal conduit or cable fittings. Its volume (411cc, 25 cubic inches) and 6-terminal connection block enable series or parallel array connections to be made right in the junction box.

Options include:

- oversize terminal block which accepts conductors up to 25mm² (AWG #4); standard terminals accept up to 6mm² (AWG #10);
- Solarstate™ charge regulator.

BP 585H output is via our Type B junction box, which is raintight (IP65 rated), features a convenient flip screw-tight lid, and offers the same wiring capabilities as the Type A junction box. It is equipped with a versatile 5-terminal Euro-style connection block. Two cable fittings that accept cable with a diameter between 6-12mm are included with each BP 585H module.

Limited Warranties

- Power output for 25 years;
- Freedom from defects in materials and workmanship for 5 years.

See our website or your local representative for full terms of these warranties.



BP 585



Quality and Safety

These modules are manufactured in our ISO 9001-certified factories to demanding specifications. The BP 585S, 585U, and 585H:

- are certified by TÜV Rheinland as Class II equipment for use in systems up to 1000 VDC;
- are listed by Underwriter's Laboratories for electrical and fire safety (Class C fire rating);
- conform to European Community Directives 89/33/EEC, 73/23/EEC, and 93/68/EEC;
- comply with the requirements of IEC 61215, including:
 - repetitive cycling between -40°C and 85°C at 85% relative humidity;

- simulated impact of 25mm (one-inch) hail at terminal velocity;
- 2200 VDC frame/cell string isolation test;
- static loading, front and back, of 2400 pascals (50 psf); front loading (e.g. snow) of 5400 pascals (113 psf).

The BP 585L is recognized by Underwriter's Laboratories for electrical and fire safety. The BP 585U is approved by Factory Mutual Research for application in NEC Class 1, Division 2, Groups C & D hazardous locations.

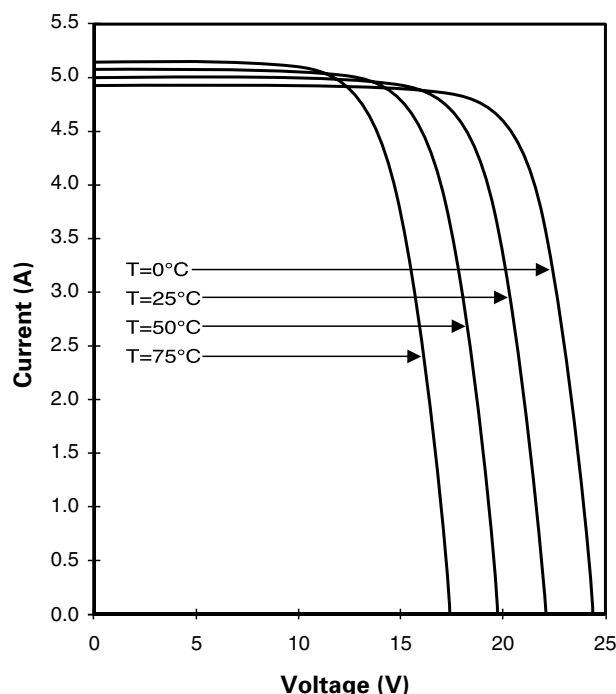
Electrical Characteristics¹

| | BP 585 | BP 580 ⁴ |
|--|--|---------------------|
| Maximum power (P_{max}) ² | 85W | 80W |
| Voltage at P_{max} (V_{mp}) | 18.0V | 18.0V |
| Current at P_{max} (I_{mp}) | 4.72A | 4.44A |
| Warranted minimum P_{max} | 80.8W | 76W |
| Short-circuit current (I_{sc}) | 5.0A | 4.7A |
| Open-circuit voltage (V_{oc}) | 22.1V | 22.0V |
| Temperature coefficient of I_{sc} | (0.065±0.015)%/°C | |
| Temperature coefficient of voltage | -(80±10)mV/°C | |
| Temperature coefficient of power | -(0.5±0.05)%/°C | |
| NOCT ³ | 47±2°C | |
| Maximum system voltage | 600V (U.S. NEC rating) 1000V (TÜV Rheinland rating) | |
| Maximum series fuse rating | 20A (U, H versions) 15A (S, L versions) | |

Notes

1. These data represent the performance of typical BP 580 and BP 585 modules as measured at their output terminals. The data are based on measurements made in accordance with ASTM E1036 corrected to SRC (Standard Reporting Conditions, also known as STC or Standard Test Conditions), which are:
 - illumination of 1 kW/m² (1 sun) at spectral distribution of AM 1.5 (ASTM E892 global spectral irradiance);
 - cell temperature of 25°C.
2. During the stabilization process which occurs during the first few months of deployment, module power may decrease approximately 3% from typical P_{max} .
3. The cells in an illuminated module operate hotter than the ambient temperature. NOCT (Nominal Operating Cell Temperature) is an indicator of this temperature differential, and is the cell temperature under Standard Operating Conditions: ambient temperature of 20°C, solar irradiation of 0.8 kW/m², and wind speed of 1m/s.
4. The power of solar cells varies in the normal course of production; the BP 580 is assembled using cells of slightly lower power than the BP 585.

BP 585 I-V Curves



Mechanical Characteristics

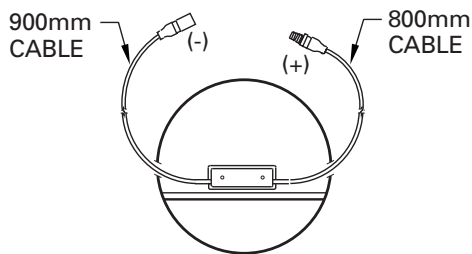
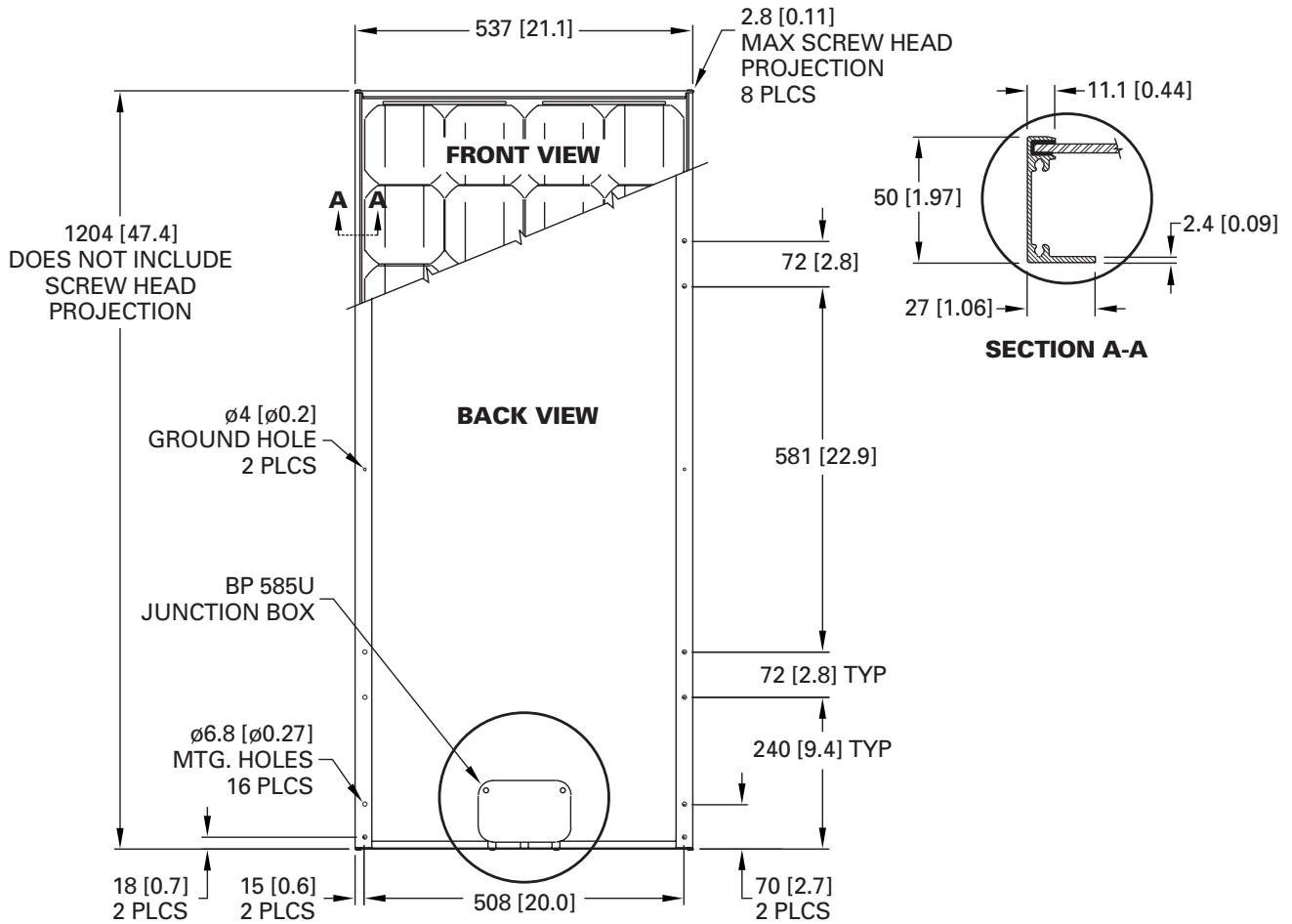
Weight

BP 585U, 585S, 585H
BP 585L

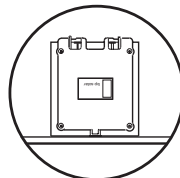
7.7 kg (17 pounds)
6.1 kg (13.4 pounds)

Dimensions

BP 585U, 585S, 585H: See drawing.
BP 585L: 1197 [47.1] x 530 [20.9] x 18 [0.7]
Unbracketed dimensions are in millimeters.
Bracketed dimensions are in inches.
Overall tolerances $\pm 3\text{mm}$ (1/8")



**BP 585S & BP 585L
OUTPUT**



**BP 585H
JUNCTION BOX**

BP 585



This publication summarizes product warranty and specifications, which are subject to change without notice and should not be used as the definitive source of information for final system design. Additional warranty and technical information may be found on our website www.bpsolar.com or may be obtained from your local representative.



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