



BP Solar's SX series provides cost-effective photovoltaic power for general use, operating DC loads directly or, in an inverter-equipped system, AC loads. The SX 120's 72 cells in series charge 24V batteries (or multiples of 24V) efficiently. With 120 watts of nominal maximum power, it is used primarily in utility grid-supplemental systems, telecommunications, remote villages and clinics, pumping, and land-based aids to navigation.

Proven Materials and Construction

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

- Frame strength exceeds requirements of certifying agencies;
- 72 multicrystalline silicon solar cells in series with bypass diodes installed;
- Cells are laminated between sheets of ethylene vinyl acetate (EVA) and high-transmissivity low-iron 3mm tempered glass.



Clear Anodized Universal Frame

Limited Warranties

- Power output for 20 years;
- Freedom from defects in materials and workmanship for 1 year.

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

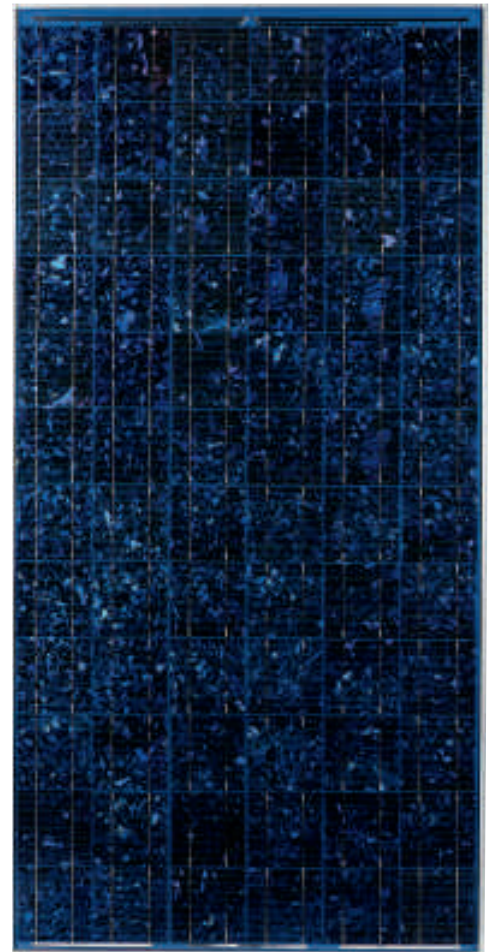
High-Capacity Versatile Junction Box

The junction box is 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 most system array connections (putting modules in series or parallel) to be made right in the junction box. Options include:

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

Quality and Safety

- Manufactured in ISO 9001-certified factories;
- Listed by Underwriter's Laboratories for electrical and fire safety (Class C fire rating);
- Certified by TÜV Rheinland as Class II equipment for use in systems with voltage up to 1000 VDC;
- Approved by Factory Mutual Research for application in NEC Class 1, Division 2, Groups C & D hazardous locations;
- Compliant 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;
 - a "damp heat" test, consisting of 1000 hours of exposure to 85°C and 85% relative humidity;
 - a "hot-spot" test, which determines a module's ability to tolerate localized shadowing (which can cause reverse-biased operation and localized heating);
 - static loading, front and back, of 2400 pascals (50 psf); front loading (e.g. snow) of 5400 pascals (113 psf).



BP SX 120



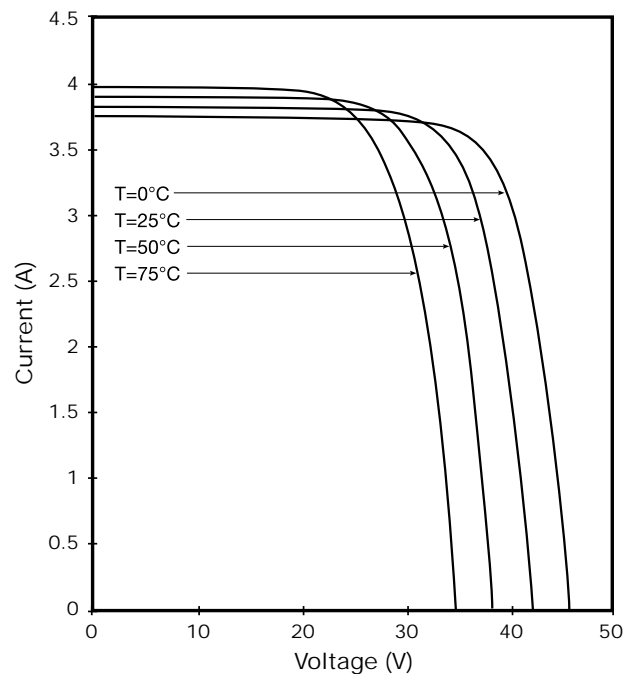
Electrical Characteristics¹

| | BP SX 110 | BP SX 120 |
|--|---|-----------|
| Maximum power (P_{max}) | 110W | 120W |
| Voltage at P_{max} (V_{mp}) | 32.9V | 33.7V |
| Current at P_{max} (I_{mp}) | 3.34A | 3.56A |
| Warranted minimum P_{max} | 100W | 110W |
| Short-circuit current (I_{sc}) | 3.69A | 3.87A |
| Open-circuit voltage (V_{oc}) | 41.2V | 42.1V |
| Temperature coefficient of I_{sc} | $(0.065 \pm 0.015)\%/^{\circ}\text{C}$ | |
| Temperature coefficient of V_{oc} | $-(160 \pm 10)\text{mV}/^{\circ}\text{C}$ | |
| Approximate effect of temperature on power | $-(0.5 \pm 0.05)\%/^{\circ}\text{C}$ | |
| NOCT ³ | $47 \pm 2^{\circ}\text{C}$ | |
| Maximum system voltage ⁴ | 600V | |

Notes

- These data represent the performance of typical modules as measured at their output terminals, and do not include the effect of such additional equipment as diodes or cables. 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 $1 \text{ kW}/\text{m}^2$ (1 sun) at spectral distribution of AM 1.5 (ASTM E892 global spectral irradiance);
 - cell temperature of 25°C .
- During the stabilization process which occurs during the first few months of deployment, module power may decrease approximately 3% from typical P_{max} .
- 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 $0.8 \text{ kW}/\text{m}^2$, and wind speed of $1 \text{ m}/\text{s}$.
- U.S. NEC rating.

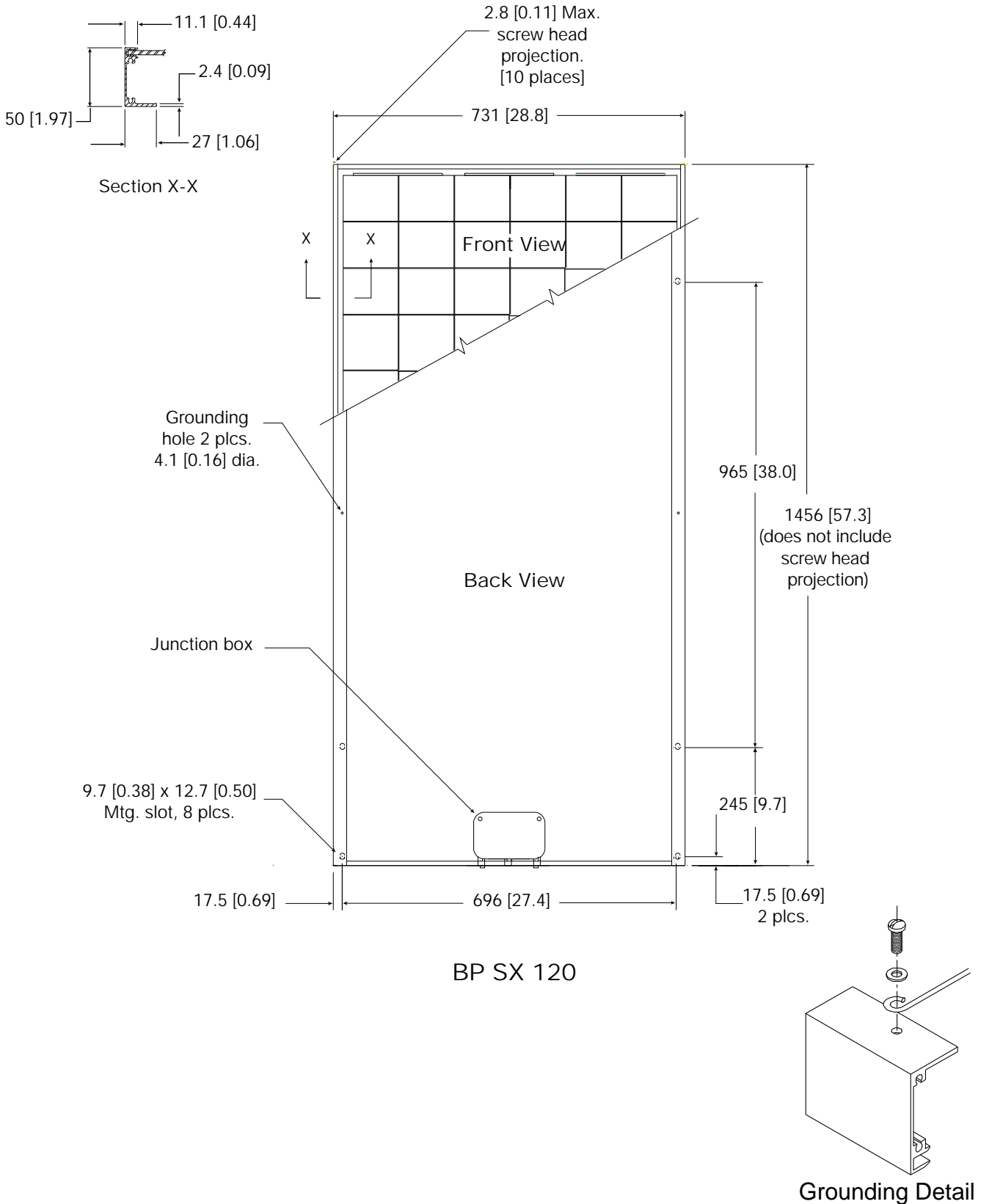
BP SX 120 I-V Curves



Mechanical Characteristics

Weight
BP SX 120 12.8 kg (28.3 pounds)

Dimensions
Unbracketed dimensions are in millimeters.
Dimensions in brackets are in inches.
Overall tolerances $\pm 3\text{mm}$ ($1/8''$)





bp solar

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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