BP SX 120S

120-Watt
Multicrystalline Photovoltaic Module

The BP SX 120S module was developed specifically for grid-connected photovoltaic systems and other applications where its relatively high current (over 7A at peak power) and ease of installation are valuable. Its polarized connectors enable quick wiring of series strings in nominal 12-volt increments. Internal bypass diodes enhance array reliability and minimize power loss caused by array shading.

Proven Materials and Construction

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

- Polarized weatherproof DC-rated connectors provide reliable low-resistance connections, eliminate wiring errors, and speed installation;
- 72 multicrystalline silicon solar cells wired as 2 series strings with factory-installed bypass diodes across each 18-cell segment;
- Frame strength exceeds requirements of certifying agencies;
- Cells are laminated between sheets of ethylene vinyl acetate (EVA) and high-transmissivity low-iron 3mm tempered glass.

DC Connectors

Limited Warranties

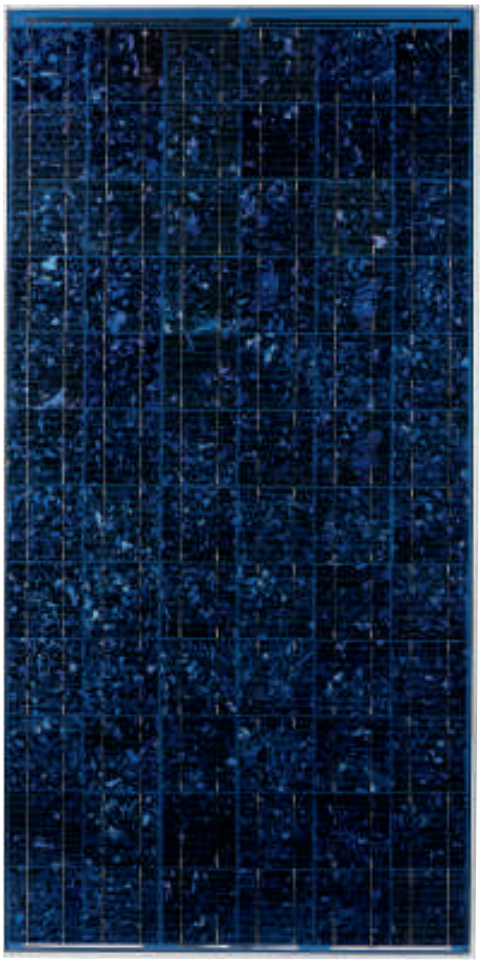
- Power output for 25 years;
- Freedom from defects in materials and workmanship for 2 years.

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

Clear Anodized Universal Frame

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;
- 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).



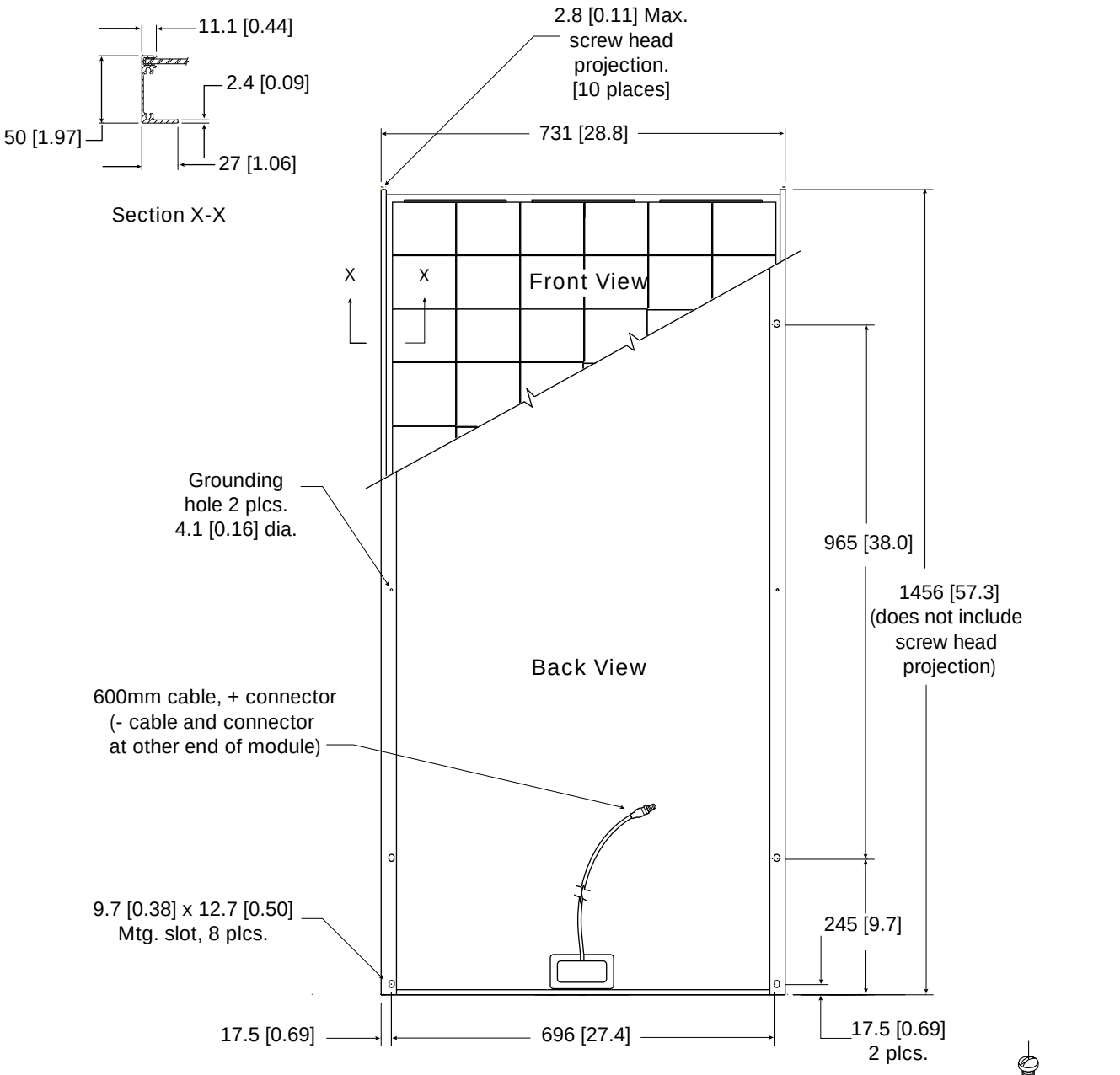
SX 120S

TÜV

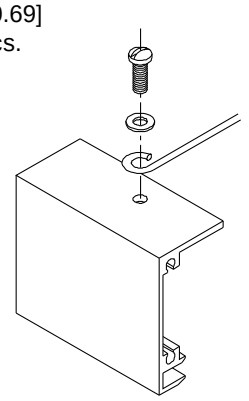
Mechanical Characteristics

Weight
SX 120S 12.8 kg (28.3 pounds)

Dimensions
Unbracketed dimensions are in millimeters.
Dimensions in brackets are in inches.
Overall tolerances ±3mm (1/8")



SX 120S



Grounding Detail

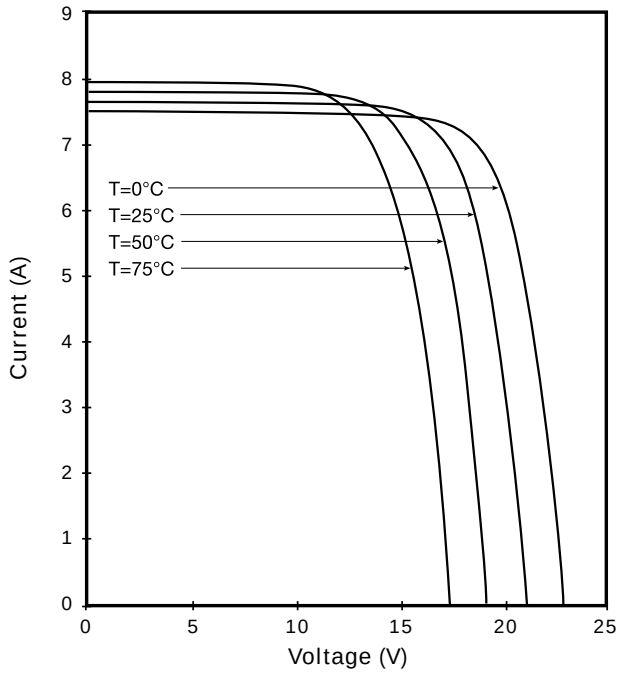
Electrical Characteristics[1]

	SX 120S	SX 110S[5]
Maximum power (P_{max})	120W	110W
Voltage at P_{max} (V_{mp})	16.8V	16.4V
Current at P_{max} (I_{mp})	7.12A	6.68A
Warranted minimum P_{max}	110W	100W
Short-circuit current (I_{sc})	7.74A	7.38A
Open-circuit voltage (V_{oc})	21V	20.6V
Temperature coefficient of I_{sc}	(0.065±0.015)%/°C	
Temperature coefficient of V_{oc}	-(80±10)mV/°C	
Approximate effect of temperature on power	-(0.5±0.05)%/°C	
NOCT[3]	47±2°C	
Maximum system voltage[4]	600V	

Notes

1. These data represent the performance of typical modules as measured at their output connectors. 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. U.S. NEC rating.
5. The power of solar cells varies in the normal course of production; the SX 110S is assembled using cells of slightly lower power than the SX 120S.

SX 120S I-V Curves



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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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