

## Polycrystalline Silicon Photovoltaic Modules

The PowerGlaz® SMT 6(48)P photovoltaic module series has 48 enhanced-efficiency Polycrystalline silicon cells in series. With up to 185 watts of nominal maximum power, it is well-suited to utility grid-supplemental systems, in roof and on roof PV systems and also grid independent systems.

Romag has used its extensive glass processing experience to produce the high quality PowerGlaz® SMT 6(48)P photovoltaic modules using the latest materials. Textured low iron glass is used as the outer component of the laminate to maximize the light transmission to the cells. 48 Polycrystalline

cells are connected in series and encapsulated in EVA bonded to the glass sheet. A final backing layer is laminated to the rear of the module to complete the weather protection. Lead free materials and components are used throughout the manufacture.

### Mechanical Characteristics

Weight:	17 Kg
Dimensions:	1318 x 994 x 46mm
Overall tolerances	±3mm

### Warranty

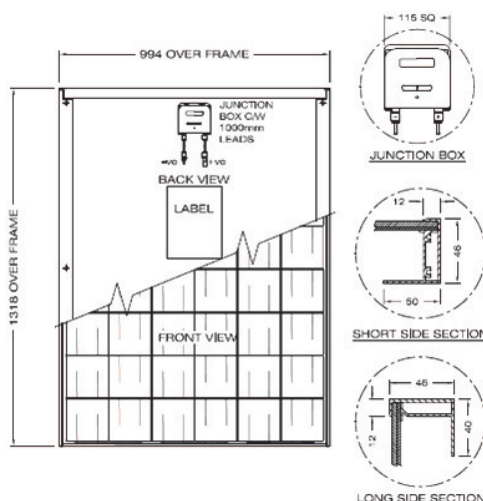
- ◆ 80 % Power output for 25 years
- ◆ Freedom from defects in materials and workmanship for 5 years.

### Quality

- ◆ Independently certified to IEC 61215 ed 2 / IEC 61730
- ◆ Suitable use in systems up to 1000 VDC
- ◆ Static loading, front and back, of 5400 pascals.
- ◆ These products are manufactured in our ISO 9000-certified factory to demanding specifications.
- ◆ Factory is subject to periodic inspection by TUV.
- ◆ 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;
- ◆ Bypass diodes to counteract shading effects

### Advantages

- ◆ High power module manufactured using Polycrystalline cells
- ◆ MC Junction box and connectors to enable quick and easy site connection
- ◆ Sturdy Hollow Section Aluminium frame with drain holes.
- ◆ Black anodized frames and black backing sheet available
- ◆ Glass Structurally bonded to frame for increased safety.
- ◆ Lead Free materials used throughout.
- ◆ Frameless module available on request.
- ◆ Textured low iron glass to maximize light transmission to the cells



En 61215 ed. 2

En 61730



## Electrical Characteristics

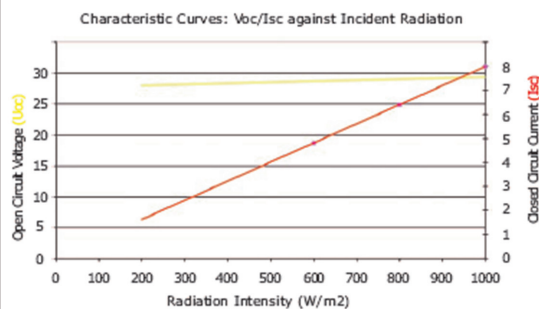
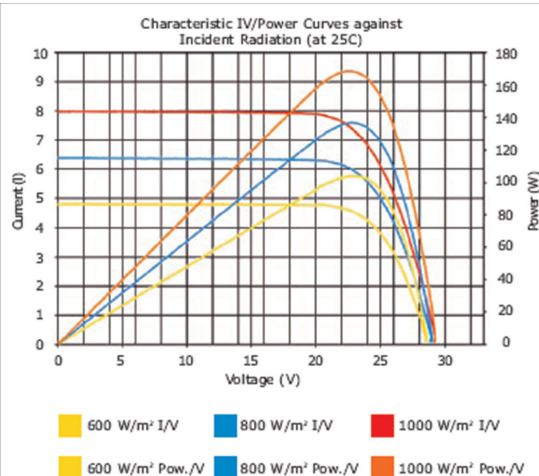
SMT 6 (48)P Module Grade		648185	648180	648175	648170	648165	648160
Maximum power (P <sub>max</sub> ) <sup>2</sup>		185w	180W	175W	170W	165W	160W
Voltage at P <sub>max</sub> (V <sub>mp</sub> )		24.60V	24.09V	23.58V	22.97V	22.47V	21.88V
Current at P <sub>max</sub> (I <sub>mp</sub> )		7.58A	7.47A	7.42A	7.40A	7.34A	7.31A
Short-circuit current (I <sub>sc</sub> )		8.04A	8.00A	7.95A	7.90A	7.85A	7.80A
Open-circuit voltage (V <sub>oc</sub> )		29.76V	29.47V	29.18V	29.00V	28.89V	28.84V

Rated power may vary by +/-3% from the above

## Temperature Coefficients

I<sub>sc</sub> 4.2mA/K    V<sub>oc</sub> -106mV/K    NOCT 40.4 C

## Characteristic Curves



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.powerglaz.co.uk](http://www.powerglaz.co.uk).

**Romag**  
GLASS SPECIALIST

Leadgate Industrial Estate

Leadgate

Consett

Co. Durham

DH8 7RS

UK

Phone: +44 (0) 1207 5000000

Fax: +44(0) 1207 591979

E-mail: [info@romag.co.uk](mailto:info@romag.co.uk)

1. This data represents the performance of typical PowerGlaz® SMT 6 (48)P modules and laminates 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/m<sup>2</sup>, (1 sun) at spectral distribution of AM1.5 (ASTM E892 global spectral irradiance);
- cell temperature of 25°C.

The power of solar cells varies in the normal course of production; specifications of these products reflect that variation.

2. During the stabilization process which occurs during the first few months of deployment, module power may decrease approximately 3% from typical P<sub>max</sub>.

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/m<sup>2</sup>, and wind speed of 1m/s.