



# SOLAR MODULES



## 50 WATTS MULTICRYSTALLINE PHOTOVOLTAIC MODULE

**PTL/PV/50** photovoltaic module provides excellent value and equipped system for AC loads. This module charges 12V batteries efficiently in virtually any climatic conditions. Typical commercial applications of this module, which generates a nominal maximum power of 50 watts, include telecommunications, remote villages, water pumping, small solar generators and home lighting kits. It is also ideally suited for grid-supplemental systems.

### MODULE DESIGN

36 full size crystalline solar cells connected in series form the heart of the module. Due to its construction of Glass/EVA/Tedlar, the module is light in weight in addition to protecting the module/cells against harsh environmental conditions. A torsion resistant module frame made of anodized aluminum guarantees high mechanical strength, making the module resistant to extreme wind and snow loads. Installation becomes more convenient through the terminal-cover, which provides safe handling.

PTL/PV/50 has established high quality standards. Constant checks and inspections guarantee uniformly high quality. Each module which leaves the production line is subjected to thorough visual inspections as well as mechanical and electrical tests.



### LIMITED WARRANTIES

- Power output for 25 years.
- Freedom from defects in materials and workmanship for 1 year.

### CERTIFICATIONS

PTL/PV/50 multi crystalline modules have been type approved as per the requirements of CEI/IEC 61215 standards by JRC, Italy and also conforms to the requirements of Electrical Protection Class II and EWG guideline 89/932 (CE).

Besides PTL/PV/50 has a quality management system that is in compliance with the International Quality System Standard ISO 9002 and Q9002 (1994).

MODULE PTL/PV/50	
Guaranteed power	>80% 25 years
Relative humidity	upto 100%
Dimension	975 x 452 x 34 mm ± 1 mm
Weight	5.6 kg
Tolerance of technical data	± 10%

ELECTRICAL SPECIFICATIONS	
Maximum Power (Wp)	50 Watts
Short circuit current (Isc)	3.25 Amps
Open circuit voltage (Voc)	21.2 Volts
Voltage at maximum power (Vmp)	16.8 Volts
Current at maximum power (Imp)	2.91 Amps
NOCT (Nominal operating cell temperature)	43 ± 2°C
Change of Voc with temperature	-90 mV/°C
Wind loading or surface pressure	N/m <sup>2</sup> 2400 (200 km/h equiv)
Hailstone impact resistance	28 mm at 23 m/s
Storage and operating temperature	from -40 upto +95°C

CHARACTERISTIC DATA	
Solar Cells per module	36
Type of Solar Cell	EFG/Multi-crystalline
Connection	Terminal box with screw terminals

LIMITS	
Max.system Voltage	800 Voc
Operating ModuleTemperature	-40.....+90°C
Storm Resistance	Wind speedof 130Km/hand safety factor of 3

## JUNCTION BOX

A waterproof, high capacity junction box with protection degree IP65 contains the by-pass diode and appropriate connection terminals. It is equipped with one PG9 cable glands for easy interconnections. The junction box is made always keeping in mind the requirements of the installers.

As a matter of fact:

- 1) All the screws can be easily tightened using flat or star screw drivers.
- 2) The covers are fitted with self-retaining screws and hooked to the junction box, for easy handling and maintenance.
- 3) All the connections are soldered for very long durability and reliability.
- 4) Connection terminals and by-pass diodes are mounted on a PC board for easy replacement in case of damage by lightning.

\* Dimensions may change subjected to solar cell size.

\* Errors expected and possible alterations without prior notice.

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