

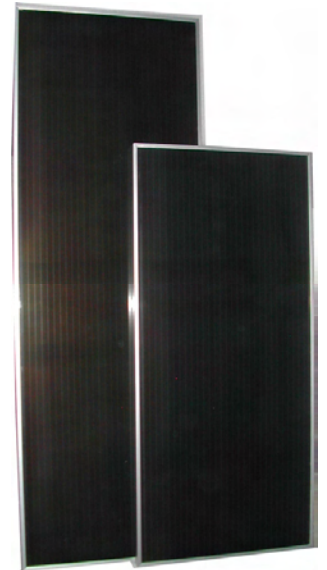
SOLAR MODULES

GES-PV-16/12 AMP SOLAR MODULE

Thin film Solar modules are designed for use in 12 V systems. These modules are based on amorphous solar cells

FEATURES

- Specified module power refers to long-term stabilized values (after long exposure to sun light).
- High module voltage even at low irradiance levels down to 10 W/m².
- Low temperature coefficient maintains high power output even at elevated temperatures.
- Rugged aluminum frame facilitates mounting - Proven encapsulation ensures long service life.
- Hailstone resistance according to IEC 61646 guaranteed (pane is made of hardened glass).
- Climatic tests according to IEC 61646 passed.
- High-accuracy laser patterning provides reliable monolithic series connection of cells, without cell-to-cell solder joints.
- Advanced manufacturing process consumes less material and energy.
- ASI® modules do not contain cadmium or toxic materials and are compatible with official landfill requirements.



QUALITY

These proven Amorphous Thin film modules stand for high, stable performance and longevity

- 10 years power guarantee
- ISO 9001-2000 certified quality management system

APPLICATIONS

- Water pumping stations
- Lighting
- Traffic control systems
- Telecommunication
- Home lighting systems
- Consumer products
- Electrical gate systems
- Recreational vehicles

- More Energy
- Excellent Value for Money
- Robust Encapsulation
- Easy Mounting
- 10 Years Power guarantee

ELECTRICAL DATA



SOLAR MODULE	12/12	12/9
Initial nominal power	14.2	10.6
Nominal Power P_{mpp} (Wp)	12	9
Voltege at nominal power V_{mpp} (V)*	16.8	16.8
Current at nominal power I_{mpp} (mA)*	714	????
Open circuit voltage V_{oc} (V)	22.5	?????
Short circuit Current I_{sc} (mA)	966	????

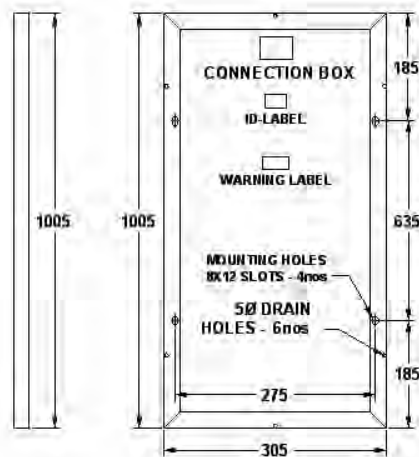
Electrical parameters are subjected to a tolerance of $\pm 10\%$

* These data represent stabilised electrical module performance at standard test conditions (STC-1000 w/m, spectrum AM 1.5, 25°C cell temperature)
The nominal power may be initially approx. 14 to 18% higher than the quoted power data.

DIMENSIONS & WEIGHT



??	A	B	C	D	E	F	G	H	weight
12 V - 12 Wp	920	310	280	365	277.5	277.5	152.5	100	3 Kg
12 V - 9 Wp	692	310	280	365	163.5	163.5	152.5	100	2.25 Kg
10 X 26 MM MOUNTING KEY SLOTS				12 V-12Wp				12 V - 9 Wp	
				4 Nos				4 Nos	
5 DIA DRAIN HOLES				6 Nos				6 Nos	



All Dimensions are in mm

DIMENSIONS & WEIGHT



Power	$T_k (P_n)$	-0.2 % K
Open circuit voltage	$T_k (V_{oc})$	-0.33%K
Short circuit current	$T_k (I_{sc})$	+0.08%K

The temperature dependance of the nomonal power rating is especially low for Amorphous modules

LIMITS



Permissible module Temperature	-40 ... +85°C
Module Operation Temperature	Typically