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Solar Panel Guide Specification Data Sheet

Sollatek (UK) Ltd.

SP20-195-PB

SP20-PB

Also available on the web at
EnergyPal.com/sollatek-uk-ltd-solar-panels/sp20-pb

SOLLATEK POLYCRYSTALLINE 12V PHOTOVOLTAIC MODULE RANGE

Models :

SP20-PB, SP30-PB, SP45-PB, SP60-PB, SP90-PB,
SP120-PB, SP195-PB

General:

Solar cells directly convert sunlight into electricity by means of the photovoltaic effect. This occurs when photons are absorbed by a solar cell which generates a voltage across its terminals. Cells are connected in series within a solar module to provide sufficient voltage to operate a system. Modules can be connected in series and parallel to increase the system power. This solid state process provides a clean, silent, non-polluting and reliable source of electrical energy.

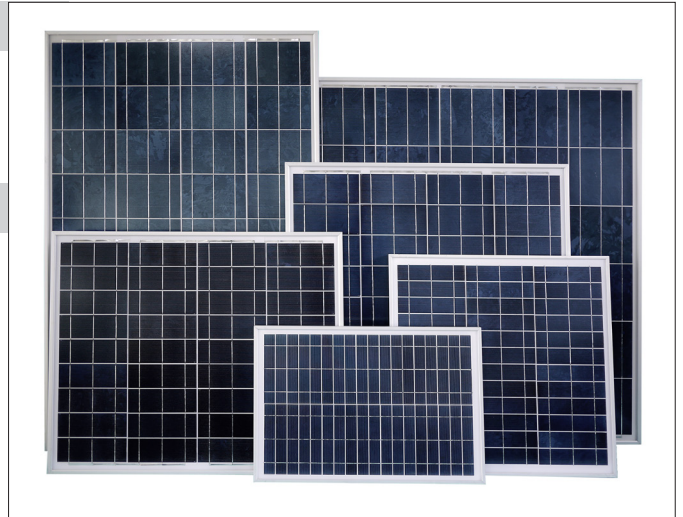
Sollatek's high efficiency solar modules are constructed for 36 polycrystalline, (12V modules) or 72 cells (24V modules) cells. The cells are individually tested and matched for optimum performance before being built into the protective module structure. A Tedlar® base is used and ethylene vinyl acetate encapsulant. High transmission tempered glass protects the cells from the front and a high strength polymer sheet at the rear. A reinforced aluminium frame completes the laminate structure which is fully sealed against moisture and protected from environmental and mechanical damage.

Features:

- High efficiency modules
- Reinforced anodised aluminium frame
- Protected by 2 schottky by-pass diodes
- Universal junction box
- Pre-drilled frame for easy mounting
- Product warranty : 2 years*
- Efficiency warranty : 25 years*
- Power tolerance : +/- 5%
- Kenyan Standard: KS 1674:2003

Applications:

- Telecommunications
- Rural electrification
- Grid connected large scale system
- Power plants
- Buildings integration
- Water pumping



The PB range



**According to general warranty conditions*

SP20-PB, SP30-PB, SP45-PB, SP60-PB, SP90-PB, SP120-PB, SP195-PB

Specifications

Sizes	SP20-PB	SP30-PB	SP45-PB	SP60-PB	SP90-PB	SP120-PB	SP195-PB
Cell	Polycrystalline silicon solar cells						
No. of cells and connections	36						72
Dimensions of modules (mm)	510x350x25	510x510x25	670x565x35	720x670x35	1056x67x35	995x945x35	1485x995x45
Weight (kg)	2.1	3.1	4.7	5.8	8.7	11.3	17.5

Characteristics

Nominal voltage	12						24
Open circuit Voltage (Voc)	21.3	21.4	21.4	21.4	21.5	21.6	43.2
Optimum operating voltage (Vmp)	17.3	17.3	17.4	17.4	17.4	17.4	34.8
Short circuit current (Isc)	1.27	1.88	2.8	3.76	5.58	7.4	6.01
Optimum operating current (Imp)	1.16	1.74	2.58	3.45	5.17	6.9	5.6
Power at STC (Pm)	20	30	45	60	90	120	195
Tolerance	5%						

Limits

Operating temperature	-40°C-85°C
Maximum system voltage	1000V

Temperature and coefficients

Nominal operation cell temperature	47°C
Current temperature coefficient	$(3.18 \times 10^{-3}) A/^{\circ}C$
Voltage temperature coefficient	$(-1.23 \times 10^{-1}) V/^{\circ}C$
Power temperature coefficient	$(-4.7 \times 10^{-1}) W/^{\circ}C$

Output

Type of output terminal	Junction Box
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Performance warranty

Material and workmanship	2 years
Efficiency warranty*	25 years

Electrical specifications based under irradiance $1000W/m^2$, spectrum of 1.5 air mass and cell temperature 25°C

Long term output warranty shall guarantee that loss of output is not greater than 10% of minimum warranty value of the product specifications within 12 years and is not greater than 20% within 25 years after purchase.

