



SPP Solar Panel Pod



The Solar Power Pod is a compact solar power supply unit and is available in different power ratings from 24-960W with output voltages ranging from 12V – 240V AC or DC.

A solar power pod comes with a solar panel, to convert solar energy into electricity, a battery pack, to store energy for use during periods of darkness or shade, and a solar control unit, which provides battery management, monitoring and protection. The control unit can also include power conversion to provide regulated AC or DC output if required.

Materials and Finish

Battery Box -	316L Stainless Steel
Solar Panel -	Aluminium Mounting Frame. Terminal Enclosure made of GRP With 2 Exe ATEX M25 glands.
Solar Panel Controller -	
Body & Cover-	Copper free aluminium alloys LM25 (BS1490) with less than 0.2% copper content.
Cover Bolts -	Stainless Steel (18/8).
Finish -	Chromate primed and polyester powder coated. Textured black as standard. Other finished available on request.
Frame -	The Frame is made out of 316L Stainless Steel

Earthing

All enclosures are supplied with a 6mm stainless steel (18/8) internal and external earth stud as standard. Larger internal earths can be fitted on request.

Entries and Thread Standards

Standard thread forms are ISO Metric to BS 3643, NPT or GAS can be supplied on request.

Protection Grade

The Solar Panel Pod—SPP offers an Ingress Protection of IP 23.

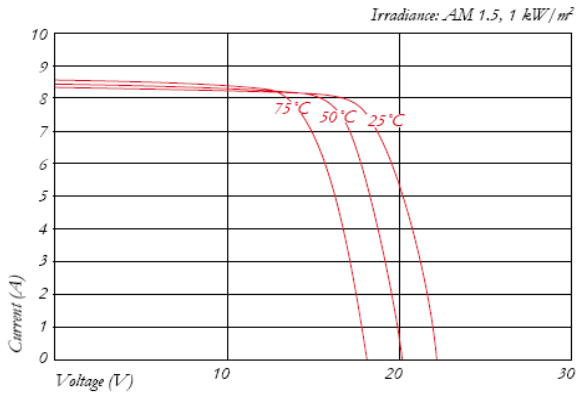
Ex Rating

EEX d e mb IIB T5

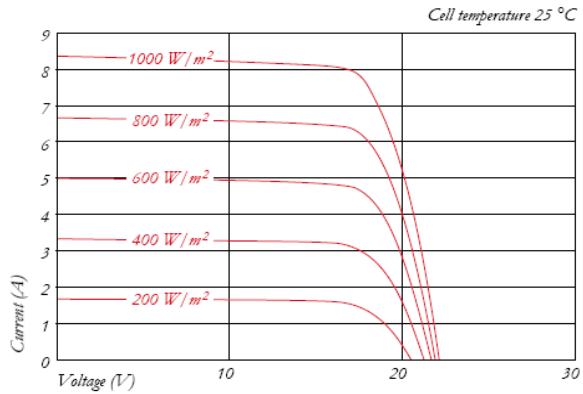
Solar Panel

ELECTRICAL CHARACTERISTICS

Current-Voltage characteristics at various cell temperatures



Current-Voltage characteristics at various irradiance levels



ELECTRICAL PERFORMANCE

Pv Module type		SPA-130A
At 1000 W/m²(STC)*		
Maximum Power	[W]	135
Maximum System Voltage	[V]	1000
Maximum Power Voltage	[V]	17.7
Maximum Power Current	[A]	7.63
Open Circuit Voltage (Voc)	[V]	22.1
Short Circuit Current (Isc)	[A]	8.37
At 800 W/m²(NOCT)**		
Maximum Power	[W]	95
Maximum Power Voltage	[V]	15.6
Maximum Power Current	[A]	6.1
Open Circuit Voltage (Voc)	[V]	19.9
Short Circuit Current (Isc)	[A]	6.82
NOCT	[°C]	49
Power Tolerance	[%]	5/-5
Maximum Reverse Current IR	[A]	15
Series Fuse Rating	[A]	15
Temperature Coefficient of Voc	[V/°C]	-0.08
Temperature Coefficient of Isc	[A/°C]	0.00501
Temperature Coefficient of Max. Power	[W/°C]	-0.614
Reduction Of Efficiency (from 1000W/m ² to 200 W/m ²) [%]		5.8

DIMENSIONS

Length	[mm]	1500(+/-2.5)
Width	[mm]	668(+/-2.5)
Depth/ incl. Junction Box	[mm]	46
Weight	[kg]	12.5
Cable	[mm]	(+)840 / (-) 840
Connection Type		MC PV-KBT3 / MC PV-KST3
Junction Box	[mm]	100x108x15
IP Code		IP66

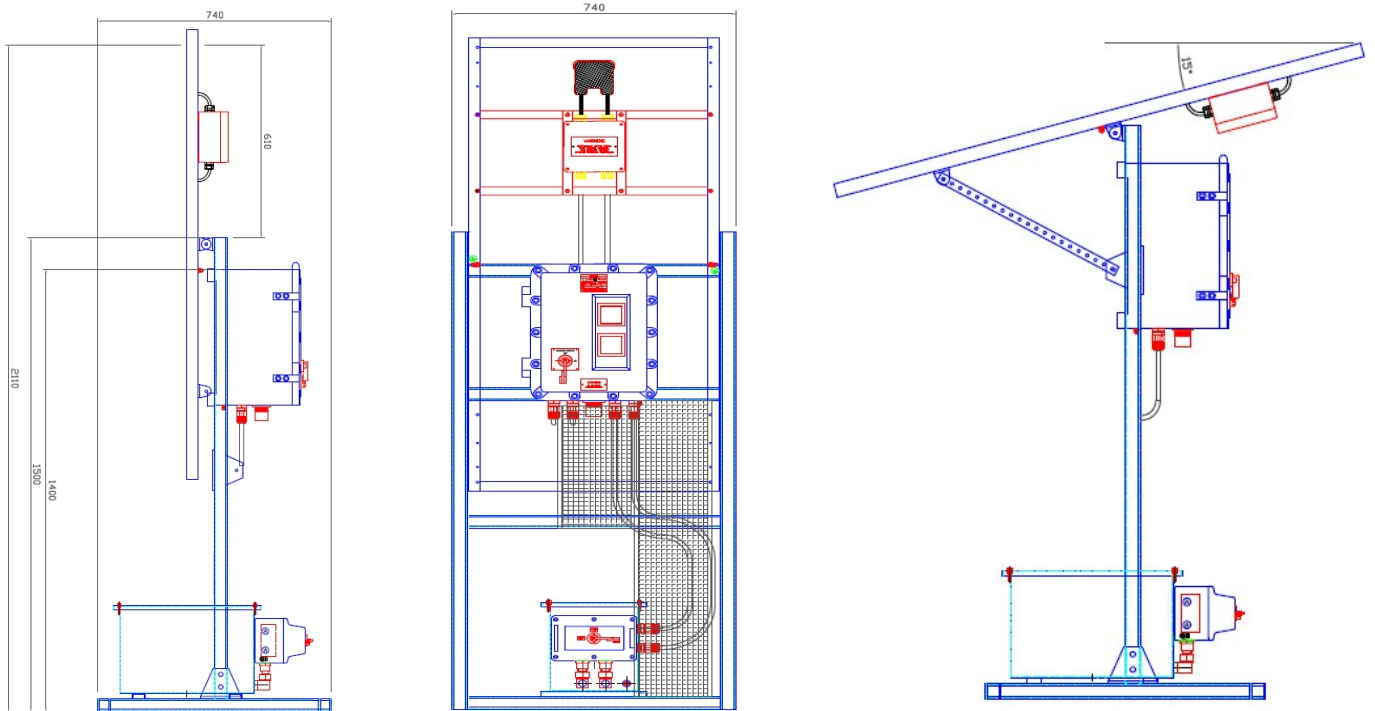
CELLS

Number per Module		36
Cell Technology		Polycrystalline
Cell Shape(Square)	[mm]	156x156
Cell Bonding		3 busbar

Specifications

Ex Protection	:	EEX d e mb IIB T5	Dimensions	:	Width when solar panel is at 180° Horizontal is 1500 mm
Output	:	24Vdc 5.0A max 24Vdc 1.0AContinuous on 1.5 Days battery autonomy.			Height when solar panel is at 15 ° is 1715 mm
Battery	:	12V 72Ah			Depth 740 mm
Solar Panel	:	12V 10A peak	Weight	:	100kg
Ingress Protection	:	IP 23	Ordering information	:	See table (Customised variations available on request).
Typical features	:	Battery voltage and charge/ Discharge current meters.			

Dimensions



Ordering Information

Continuous Power (W)		Output Voltage (V)			
		12Vdc	24Vdc	110Vac	230Vac
24W	1 x 120W PV cell	SPP-101 Batt 12V 72Ah	SPP-201 Batt 12V 72Ah	SPP-301 Batt 12V 72Ah	SPP-401 Batt 12V 72Ah
48W	2 x 120W PV cell	SPP-102 Batt 12V 144Ah	SPP-202 Batt 24V 72Ah	SPP-302 Batt 24V 72Ah	SPP-402 Batt 24V 72Ah
96W	4 x 120W PV cell	SPP-103 Batt 12V 288Ah	SPP-203 Batt 24V 144Ah	SPP-303 Batt 24V 144Ah	SPP-403 Batt 24V 144Ah
192W	8 X 120W PV cell	SPP-104 Batt 12V 576Ah	SPP-204 Batt 24V 288Ah	SPP-304 Batt 24V 288Ah	SPP-404 Batt 24V 288Ah

Note: The above values are based on 5 hours sun per day @ 1000W/m² & 1.5 Days battery autonomy



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* Electrical values under standard test conditions (STC): irradiation of 1000 W/m², airmass AM 1.5 and all temperature of 25 °C

** Electrical values under normal operating all temperature (NOCT): irradiation of 800 W/m², airmass AM 1.5 wind speed of 1m/s and ambient temperature of 20 °C

*** 10 year or 90% of the minimally specified power P under standard test conditions (STC)

**** 20 years on 80% of the minimally specified power P under standard test conditions (STC)