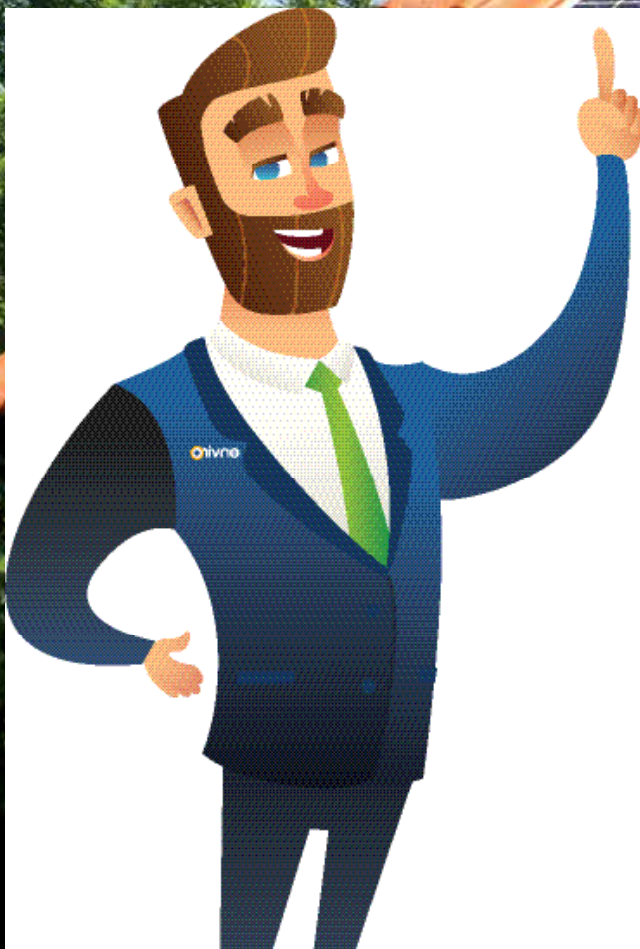




HAVELLS

enviro
HARNESSING LIGHT. HARVESTING ENERGY.

ECO+ SOLAR MPPT OFF GRID PCU



**Catalogue ECO+ Series
1 kW to 10 kW Solar PCU**

Havells Enviro ECO+

Off Grid Solar PCU (Power Conditioning Unit) is an uninterruptible power supply for domestic appliances / Commercial appliances like Computers, Internet Routers, Lights, Fans, Television, Set top boxes, Air Coolers etc. The appliances will run from Solar / Mains whichever is available or selected by user. On power failure or unhealthy conditions the load is transferred to Solar / battery. It also gives protection to appliances from harmful conditions like, over voltages, under voltages, power line disturbance and surges by supplying filtered mains supply. ECO+ Solar PCU has a very intelligent and highly configurable battery charger to ensure longer battery life.

FEATURES



- High Efficiency MPPT Solar Charge Controller
- Wide Solar Input Range (MPPT)
- Suitable for 36, 60 & 72 Cells Solar PV Module



- Dual LCD Display to Shows Solar and Inverter parameters Separately
- LED Indication for fault and system status



- Pure Sine Wave Technology – DSP Based
- Recommended for better & longer life of Home & Commercial equipment's



- Intelligent Battery Charging- 4 Stage CCCV Charging
- Bulk, Boost, absorption & float- Auto charging profile to increase battery life
- Selectable for Tubular LMLA / SMF or Gel Battery



- Auto selectable Priority mode (Solar / Grid Priority mode)
- Solar Priority mode for saving on electricity *
- Grid Priority mode for longer battery backup



- UPS /INVERTER mode can be selected as per user need
- UPS Mode for load like computers etc.
- **INVERTER** Mode for area with low grid voltage.



- Low battery, overload, short circuit & over temperature Protection
- Overload Alarm, low battery alarm



1.5 KVA & 2 KVA
Single Phase



3.5 KVA, 5KVA, 6 KVA & 7.5 KVA
Single Phase



10 KVA
Single Phase

TECHNICAL SPECIFICATIONS

Model No.	1.3 kW 24 V 1.5 kVA	2 kW 24 V 2 kVA	3.3 kW 48 V 3.5 kVA	5 kW 96 V 5 kVA	6.6 kW 96 V 6 kVA	7.9 kW 96 V 7.5 kVA	10 kW 120 V 10 kVA
Actual Output Power (Watt)	1050 W	1400 W	2625 W	3750 W	4500 W	5625 W	7500 W
Max SPV Capacity	1320 W	1980 W	3300 W	4950 W	6600 W	7920 W	9900 W
INVERTER							
Technology	DSP BASED FULL BRIDGE SINE WAVE						
Out voltage on inverter mode@ Nominal Battery Voltage	220 V						
Out voltage on inverter mode@ Full Load	220 ±5%						
Output frequency on inverter mode	50 Hz ±0.2 Hz						
Change Over Time UPS Mode	< 10 ms						< 30 ms
Switching from mains to UPS and from UPS to Mains	Automatic						
Output waveform on inverter mode.	PURE SINE WAVE						
THD	< 3%						
Battery charging current	15 Amp. ± 2 Amps.						
Charger	4 Stage CCCV Charger						
Inverter overload	>110 % (1 Min.)						
Surge Load capability	300 % (1 Sec)						
Input voltage (UPS)	180 V - 260 V ± 5%						NA
Input voltage (INV)	100 V - 290 V ± 5%						160 V -260 V ±5% V ±5%
Output voltage on mains mode	Same as input						
Output Frequency on mains mode.	Same as input						
MPPT SOLAR CHARGE CONTROLLER							
Recommended PV Panel Vmp	36-75 V	36-75 V	60-120 V	125-185 V	125-185 V	180 -230 V	180-250 V
Maximum VOC	100 V	100 V	150 V	250 V	250 V	300 V	300 V
Maximum PV Module connected (72 Cell)	1320 W	1980 W	3300 W	4950 W	6600 W	7920 W	9900 W
DISPLAY & INDICATIONS							
Visual parameters	16 x 2 ALPHA NUMERIC DUAL LCD						
At respective status / fault conditions	Output Power (Watt), Mains voltage, Output Voltage, Temperature (Deg C), Battery Voltage, Charging Current,						
Protections and Buzzer indications	LCD1 : Low Battery, Overload, Short Circuit, Over Temperature, Cycle by Cycle Over Load Protection, LCD2 : PV Voltage, PV Current, Batt Voltage, Battery Current, KWH, Total KWH						
Auto reset features	Yes						
Switches	<ul style="list-style-type: none"> • System ON/OFF • Tubular / SMF Battery Selection • UPS / Inverter Mode Selection • Solar / Grid Selection 						
ENVIRONMENT & OTHERS							
Operating Temperature	0 – 45 Deg C						
Max relative humidity @ 25 Deg C (Non condensing)	95 %						
IP Protection	IP21						
Isolation	Galvanic Isolation between DC circuit and Output Circuit						
Cooling	Force Fan Cooling						
Weight (in kg)	18.5 kg	20.5 kg	45 kg	53 kg	55 kg	61 kg	127 kg
Dimensions (in mm)	500 x 440 x 260 mm	500 x 440 x 260 mm	640 x 510 x 635 mm	640 x 510 x 635 mm	640 x 510 x 635 mm	640 x 510 x 635 mm	820 x 570 x 890 mm

SOLAR PV MODULE

The high performance Poly-Crystalline Modules are designed for on-grid as well as off-grid applications.

FEATURES

- Made from high efficiency crystalline silicon solar cells
- Positive power tolerance
- Extremely reliable product suiting all environment conditions
- Product warranty - upto 10 years
- Power output warranty - upto 25 years
- IEC Certified - 61215, 61730, 61701
- ISO 9001:2008/ Quality Management System
- ISO 14001/ Environmental Management
- BIS Approved

ELECTRICAL CHARACTERISTICS

Rated power		Wp	330
Open circuit voltage	Voc	V	46.24
Maximum power voltage	Vmp	V	37.67
Short circuit current	Isc	A	9.31
Maximum power current	Imp	A	8.79
Module efficiency	n	%	17.02



SOLAR BATTERY

Havells Enviro Tubular Lead acid low maintenance (LMLA) battery are specifically designed for Solar Application & are C10 rated Deep cycle battery

FEATURES

- Unique tubular positive plates designed for longer life.
- Plate designed with active material to get quick recovery from deep discharge.
- Superior active material and special alloy used for low maintenance of the battery
- Battery Container made up of PPCP (Polypropylene Co-Polymer) material
- Compliance - IS 13369 / 1651



Sr. No.	Model	Voltage	Capacity @C10	Warranty	Weight	Dimension
1	HE150EW	12 V	150 Ah	60 Month	61 kg	410 mm x 190 mm x 505 mm

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