

# LUMINOUS



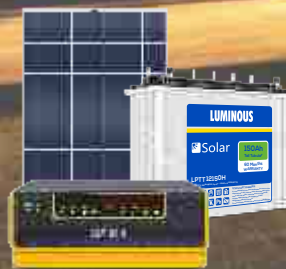
**LUMINOUS**

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IN 400 CITIES

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## WORLD CLASS SOLAR POWER GENERATION SYSTEMS

### Home Solutions



Solar Panel, NXG UPS & Batteries

### Home Upgrade\* Solutions



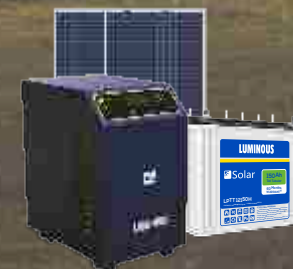
Solar Panel, Shine Retrofit & Batteries

### DC Solutions



Solar Panel, Charge Controller, & Batteries

### High Capacity Solutions



Solar Panel, NXT PCU & Batteries

### High Capacity Upgrade\* Solutions



Solar Panel, Cruze+Shine Combo & Batteries

### Grid-Tie Solutions



Solar Panel & Solar NXi Grid Tie Systems

\*For upgrading existing power back up system.

**LUMINOUS**



Cruze



NXG



**NXT**  
POWER CONDITIONING UNIT



**SHINE**



**NXI**  
SOLAR GRID TIE



Batteries



Batteries



WIDEST RANGE OF  
**SOLAR POWER**  
SOLUTIONS



Charge  
Controllers



Solar Home  
Light



Lantern



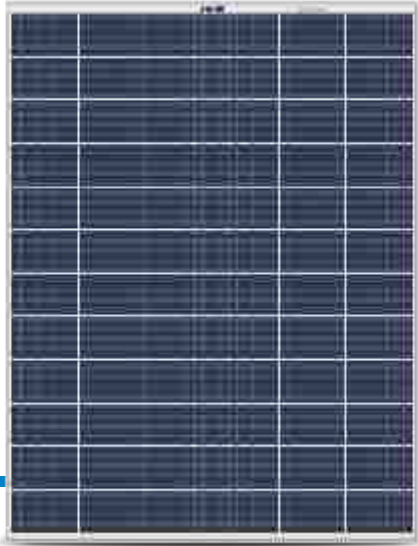
DC Fan

LED Lights



Panels





## Solar Panel

Two common types of PV Panels are:

### Polycrystalline Cell Type

Polycrystalline Cells are effectively a slice cut from a block of silicon, consisting of a large number of crystals. They have a speckled reflective appearance and you can see the thickness of the slice. These cells are less expensive to produce and more suited for Indian conditions.

### Monocrystalline Cell Type

Monocrystalline Cells are cut from a single crystal of silicon. In appearance, they will have a smooth texture and you will be able to see the thickness of the slice. These are slightly expensive to produce.

Luminous has both Monocrystalline and Polycrystalline PV modules with performance warranty of up to 25 Yrs. They are certified for compliance to IEC standard

Range available with us are from 10 Watt to 320 Watt catering to wide range of applications from rural to urban projects.



On 90% of the Nominal Power



On 80% of the Nominal Power

### Features

### Benefits

Best in class conversion efficiency

Higher cell efficiency means optimum output

Anti reflective coating and back surface field (BSF)

More light absorption

Optically, mechanically and electrically tested

Frame reduces resistance and thus improves cell efficiency

Advance EVA encapsulation

Multi layer encapsulation provides better module protection

Strong light weight Aluminum frame design

Offers high torsion resistance against wind load and snow loads

Compliance to IEC standards

Consumers can have confidence that the product is safe, reliable and of good quality

## Technical Specifications of Poly PV Panels (Suitable for 12V System)

Model	Wattage, Wp	Voltage at Max Power, Vmax (V)	Open Circuit Voltage Voc (V)	Current at Max, Power imax (A)	Short Circuit Current isc (A)	Dimensions (mm) LxWxT
12V 10W	10	17.8	21.8	0.57	0.61	340x280x22
12V 20W	20	17.8	21.8	1.13	1.2	535x380x22
12V 37W	37	18.1	21.8	2.05	2.22	435x670x34
12V 40W	40	18.2	22	2.2	2.4	485x670x34
12V 60W	60	18.2	22	3.3	3.55	635x670x34
12V 75W	75	18.2	22	4.13	4.45	785x670x34
12V 80W	80	18.2	22	4.45	4.62	935x670x34
12V 100W	100	18.2	22	5.5	5.92	1035x670x34
12V 125W	125	18.2	22.1	6.98	7.4	1265x670x34
12V 150W	150	18.3	22	8.2	8.9	1480x680x34
12V 200W	200	18.0	22	11.12	12.12	1321x991x34

## Technical Specifications of Poly PV Panels (Suitable for 24V System)

Model No.	Wattage Wp	Voltage at Max Power, Vmax	Open Circuit Voltage, Voc	Current at Max Power, Imax	Short Circuit, Isc	Module Efficiency (%)	Number of Cells
LUM-200	200	29.00	36.20	6.89	7.47	14.02	60 (LUM-230 to LUM-260)
LUM-250	250	30.20	37.42	8.31	8.85	15.60	
LUM-24250	250	36.3	43.90	6.88	7.51	14.65	72 (LUM-24285 to LUM-24305)
LUM-24300	300	35.90	44.50	8.36	8.83	15.50	
LUM-24305	305	36.20	44.70	8.43	8.89	15.75	
LUM-24320	320	38.95	46.08	8.22	8.96	-	

## Technical Specifications of Mono PV Panels

Model	Wattage, Wp	Voltage at Max Power, Vmax (V)	Open Circuit Voltage Voc (V)	Current at Max, Power imax (A)	Short Circuit Current isc (A)	Dimensions (mm) LxWxT
12V 5W	5	18	22.5	0.29	0.31	320x180x22
12V 20W	20	18	22.5	1.15	1.23	480x340x22
12V 125W	125	18	23.1	6.88	7.1	1265x670x34
12V 150W	150	18	23.2	8.0	8.55	1480x680x34

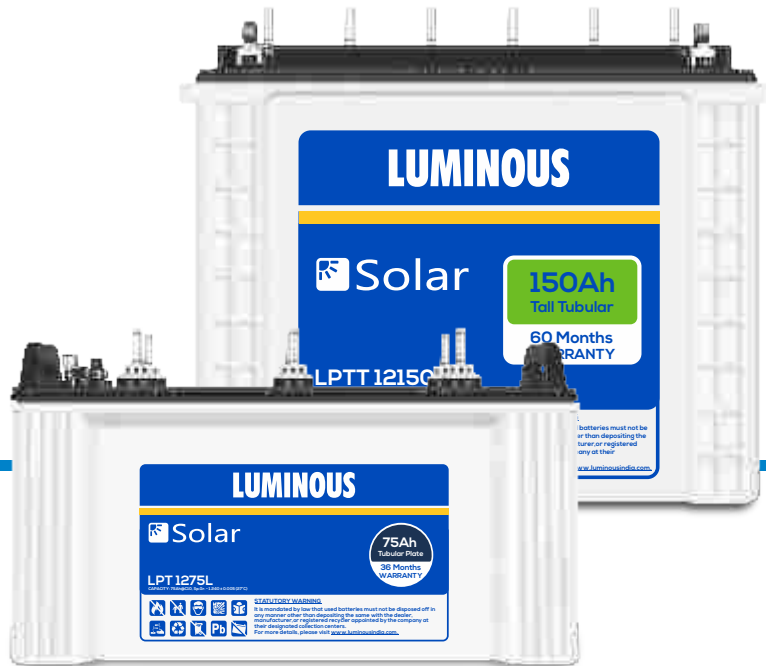
Data at standard test conditions (STC) Power Tolerance : 0/+5%

"STC (1000W/m<sup>2</sup>), AM1.5, cell temperature 25 °C". Best in class AAA Solar Simulator (IEC60904-9) used. Power measurement accuracy:±3%

For more than 24V systems, you may connect multiple panels in series to achieve desired system voltage.

## Solar Battery

Luminous Solar Batteries are C10 rated deep cycle batteries specially designed for longer back up. Solar batteries come with 3 yrs (L) & 5 yrs (H) warranties.



Range available: | LMLA Tubular 20Ah to 200Ah

Features	Benefits
Long cycles (1500@80% DOD, 5000 @20% DOD)	Long design life
Topping up frequency : 8 to 10 months	Very low maintenance
High temperature performance	Can handle extreme weather conditions
High charge acceptance	Rugged Performance
Self discharge rate – 3% per month @ STC	Longer life without charging
Higher AH Efficiency >90% & WH Efficiency > 80%	More efficient and saves money

## Technical Specifications

Model Name	Nominal Voltage	C10 capacity upto 10.5V 27° C	Length ± 3	Width ± 3	Height upto float top ± 3	Dry Weight ± 3%	Filled Weight ± 3%	Electrolyte Volume ± 5%
	V	Ah	mm	mm	mm	Kg	Kg	Litre
LPT1220L	12	20	260	173	246	7.4	12.9	4.5
LPT1220H	12	20	260	173	246	9.5	14.5	4.1
LPT1240L	12	40	412	173	267	12.1	21.6	7.7
LPT1240H	12	40	412	173	267	15.5	24.6	7.5
LPT1275L	12	75	505	220	308	17.6	36.7	15.7
LPT1275H	12	75	505	220	277	21.9	37.2	12.6
LPTT12100L	12	100	502	191	440	22.8	47.7	21.0
LPTT12100H	12	100	502	191	440	27.7	53.5	21.5
LPTT12120H	12	120	502	191	440	29.6	54.3	20.6
LPTT12150H	12	150	502	191	440	31.7	56.8	20.2
LPTT12200L	12	200	502	191	440	42.0	63.6	17.4

Technical specifications are subject to change without prior notice.

## Solar Battery Applications

- Solar home lights
- Solar street lights
- Solar UPS
- Telecom towers
- Rural and urban electrification
- Power backup in industrial rooftops
- Solar power projects



## Solar NXG UPS

Luminous Solar UPS are hybrid UPS available in the range of 300VA-1500VA with inbuilt charge Controllers which support PV modules up to 1000Wp. With proprietary iSOT technology it saves 1.5 to 3 Units per day resulting in substantial savings.



Range available: | 350, 750, 1100, 1400 & 1800

Features	Benefits
Intelligent logic control (simultaneous charging from solar and mains with priority to solar)	25%-30% savings on electricity bill, Reduced charging time
Pure sine wave UPS with 85% efficiency <sup>#</sup>	Very safe for sensitive products like TV, PC, laptops, refrigerators etc.
iSOT: Intelligent solar optimization technique	Power saving of 1.5 to 3 units per day*
Inbuilt charge controller with 98% efficiency	Fast charging of batteries from solar
Intelligent battery monitoring	Protects battery from over charge for longer life
Battery charging commences at 110Volt	Suitable for both rural & urban areas
AC & DC Output <sup>^</sup>	Runs AC and DC appliances

### Technical Specifications

Model Name	NXG 350	NXG 750	NXG 1100	NXG 1400	NXG 1800
Capacity/Battery Voltage	300VA/12V	500VA/12V	850VA/12V	1100VA/12V	1500VA/24V
Solar Panel	12V upto 200 Wp	12V upto 400 Wp	12V upto 1000 Wp	12V upto 1000 Wp	24V upto 1300 Wp
Operating Voltage	90V-290V	100V-290V	100V-290V	100V-290V	100V-290V
Output waveform	Square Wave	Sine Wave	Sine Wave	Sine Wave	Sine Wave
UPS Efficiency*	> 80 %	> 80 %	> 80 %	> 80 %	> 85 %
Charge Controller Rating	10 Amp/12V	20 Amp/12V	40 Amp/12V	40 Amp/12V	40 Amp/12V
DC Load O/P	NA	NA	12V upto 20 Amp	12V upto 20 Amp	12V upto 5 Amp
Protections	Short circuit, overload, high temperature, battery low cut-off				
Indications	Switch on, Battery Charging: mains, solar, mains+solar; Overload, Short circuit, i-charge <sup>#</sup>				
Net Weight	4.6 Kg	9.3 Kg	11.5 Kg	14.6 Kg	15.66 Kg
Dimensions LxWxH (mm)	232x123x196	375x315x135	375x315x135	375x315x150	375x315x150

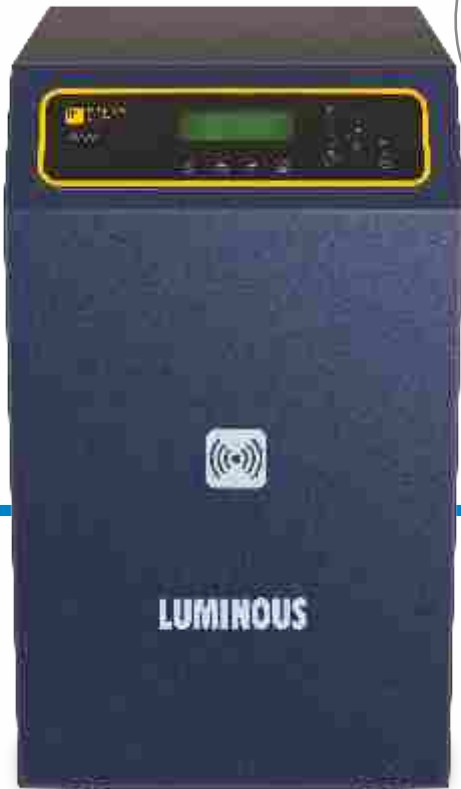
## Technical Specifications

Model No.	NXG 350	NXG 750	NXG 1100	NXG 1400	NXG 1800
<b>Output</b>					
Capacity	300VA	500VA	850VA	1100VA	1500VA
No load output	230V±5V	220V±5V			
Output frequency	50Hz±0.5Hz				
Output waveform	Square Wave	Sine Wave			
No load current (UPS switch off)	< 65mA				
UPS efficiency	> 80%*	> 80%*	> 80%*	> 80%*	> 85%*
Over load	100% % for 5 Sec.	110% - 150% for 30 Sec.	110% for 4.5 Min.		
		150%-180% for 10 Sec.	120% for 1 Min.		
	200%- Short circuit	200%- Short circuit	150% for 10 Sec.		
		NA	200% for 1 Sec.		
Charge controller rating	10Amp/12V	20Amp/12V	40Amp/12V	40Amp/12V	40Amp/24V
DC load O/P	NA	NA	12V upto 20Amp		12V/upto 5Amp
Protections	Short circuit, overload, high temperature, battery low cut off				
Additional features	USB Charging for mobile				
<b>Front Panel Display Indications</b>					
Switch on indication	UPS / ECO LED ON	Switch LED ON			
UPS on indication	UPS / ECO LED ON	Battery LED ON			
Low battery pre-alarm indication	Battery low LED blinking				
Low battery trip indication	Low Batt. LED Steady				
Internal fault	NA	NA	Service assistance LED on		
Mains on indication	Mains LED steady				
Battery charging through mains	Mains charge LED Green	Mains LED steady + Mains charge LED steady			
Battery charging through mains + solar	Mains charge LED Orange	Mains LED steady+Mains charge LED steady+solar CHG LED steady/Blinking			
Battery charging through solar	Mains charge LED Red	Solar CHG LED blinking + Mains charge LED off			
Overload pre-alarm indication in UPS mode	NA	Overload LED slow blinking			
Overload shutdown indication in UPS mode	Overload LED steady				
Short circuit indication in UPS mode	Overload LED fast blinking				
Solar optimization after battery fully charged	NA	ON mains+power save LED on+ON battery LED on+solar charge LED blinking			
Mains charging current selection Switch (i-charge)	NA	6A (i-Charge Off)/ 10A (i-Charge ON)	10A (i-Chg OFF)/15A (i-Chg ON)		
DC overload indication	NA	NA	(Mains LED+overload) blinking		
Net weight	4.6Kg	9.3Kg	11.5Kg	14.6Kg	15.66Kg
Gross weight	5.3Kg	10.6Kg	12.7Kg	15.9Kg	16.90Kg
Dimensions LxWxH (mm)	232x123x196	375X315X135	375X315X135	375X315X150	375X315X150

\*Peak Efficiency

#Not applicable for NXG 350

^Not applicable for NXG 350, NXG 750



## Solar NXT PCU

Luminous solar PCUs are high efficiency solar UPS that can charge batteries both from solar and grid power.

The inbuilt MPPT (Maximum Power Point Tracking) charge controllers in these UPS extract up to 30% more power from solar panels.

Range available: | Single Phase | 1kW to 10kW

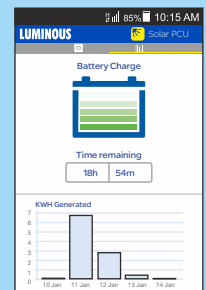
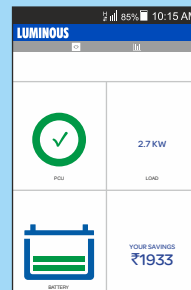
Features	Benefits
Inbuilt MPPT Charge Controller	Maximum utilization of solar power
Inbuilt O/P isolation transformer	Protection from internal surges & noise
Bi-directional PCU	Battery charging through grid and solar
Selectable source priority	Choose source priority among Solar, Battery & Grid
32 bit DSP controller	Ability to handle multiple algorithms efficiently
MOSFET/IGBT switching element	High-current-handling capability, preventing thermal losses
Dual MCB Protection	Short Circuit Protection for AC and DC
Compliance to IEC standards	Safe, reliable and approved for MNRE subsidies
Communication	Remote monitoring through mobile app.

## Technical Specifications

System Rating	1kW	2kW	3kW	5kW	6kW	7.5kW	10kW
<b>Photovoltaic Input</b>							
Input Voltage range (Vmp)	60-130			130-190		160-230	
Maximum PV power (kW)	1.1	2.2	3.3	5.5	6.6	8.25	11
<b>MPPT Based Charge Controller</b>							
Type of Charger	MPPT						
Input Voltage range (Voc)	80 – 165			150-240		180-300	
Charging Stages	Float, Bulk, Boost						
<b>Grid Input</b>							
Input Supply Phases	Single Phase						
Nominal Voltage & Voltage range	230V AC (185V - 265V)						
Nominal Frequency & Range	50 Hz (±3 Hz)						
<b>Battery</b>							
Nominal Battery Bank Voltage	48V			96V		120V	
Battery recharge current range from Grid Side (A)	0-12	12-24	12-30	0-30	0-30	0-30	0-30
Battery recharge current range from Array Side (A)	0-20	0-40	0-60	0-50	0-60	0-65	0-80
<b>UPS</b>							
Switching Element	MOSFET			IGBT			
Control	32 Bit DSP controlled						
Nominal Output V <sub>ac</sub>	230V ± 1%, Single Phase						
Output waveform	Pure Sine Wave						
Nominal Frequency	50 Hz						
Power Factor	0.8 lag to 0.8 lead						
Nominal Output Current (A)	4.3	8.6	13	21.5	26	33	44
Overload at nominal output voltage	110% for 10 Minutes, 200% for 5 Secs						
<b>System Data</b>							
Noise @ 1 meter (dBA 12dBA)	<58dBA			<62dBA			
Transfer Time	<20 mS						
Protection	Under/Over voltage protection for Input, Output, Battery & Array; Reverse polarity protection for Array & Battery; Protection for Output Overload, Short circuit and Over Temperature; MCB & Surge protection at Grid/DG Input, Battery, Array Path and PCU O/P						
Display Parameters	<b>Voltage/Current:</b> Array, Battery, Grid, Output; Day kWh, Cumulative kWh, Date, Time Faults: Over Temperature, Battery Low, DC High Voltage, Battery Low Trip, Overload						
Indications	Battery Charging/ Discharging, Grid ON, Load ON, UPS ON, Array ON, Fault LED Indicator (For Overload, Low Battery, Over Temperature),						
Setting	Battery type, Battery voltage (Boost & Float), Priority (SGB/SBG), Charging Current from Grid						
<b>Environment</b>							
IP Protection Level	IP-21						
Operating Temperature (°C)	0-50 °C without any degradation						
Max. Relative humidity @ 25 °C	Up to 95% (non-condensing)						
Max. Altitude above sea level without de-rating (m)	1000 m						
<b>Standard Compliance</b>							
Certifications	IEC 61683, IEC 60068-2(1,2 14, 30)						
<b>Physical</b>							
Dimension (W*D*H) [mm]	300x504x515			350x635x589		On Request	
Net Weight (Kg)	30	37	50	70	76.3	On Request	

### PCU Mobile App

Advanced COMMUNICATION Interface for Remote monitoring through mobile App.





## Cruze & Shine Combo

Luminous Cruze & Shine retrofit combo is an economical solar hybrid solution that runs heavy loads with ease. Equipped with an intelligent system, Cruze combo automatically synchronizes the Grid and optimizes the Solar usage thus providing clean, green and reliable power.

It is ideal for running heavy loads like Dental Chair, Water Motors, Refrigerators, Washing Machines etc.

Range available: | 2 KVA to 7.5 KVA

Features	Benefits
Pure sine wave output	Safe for sensitive products like TV, PC, laptops etc.
Solar optimization technique	Saves on electricity bills
Wide choice of PV modules	Can charge batteries from solar panels in different configurations
Inbuilt reverse polarity, reverse current & short circuit protection	No risk of electrical shocks or hazards
High overload handling capacity	Suitable for running heavy appliances

### Technical Specifications

Model Name	Cruze 2 KVA + Shine 2420	Cruze 3.5 KVA + Shine 4850	Cruze 5.5 KVA + Shine 9650	Cruze 7.5 KVA + Shine 12050
Capacity	2000VA	3500VA	5500VA	7500VA
Battery Voltage	24V	48V	96V	120V
Solar Panel	Upto 800Wp	Upto 2800Wp	Upto 5600Wp	Upto 7000Wp
Operating Voltage	100V-285V	100V-285V	140V-280V	140V-280V
Charge Controller Rating	20 Amp/24V	50 Amp/48V	50 Amp/96V	50 Amp/120V
Max Grid Charging Current	21Amp	21Amp	12Amp	12Amp
Indications	Cruze	Mains On, UPS On, UPS Overload, Battery Low, Battery Charging, Level of Battery Charge		
	Shine	PV & Grid status, Charging source, Battery type, Battery voltage, Savings		
Protections	Cruze	Overload, Short-circuit, Battery Deep Discharge Protection, & MCB Protection		
	Shine	Reverse polarity , reverse current , Over-voltage, Over-temperature protections		
Net Weight (Kg)	Cruze	22.25	31.90	59.2
	Shine	1.2	4.5	5.7
Dimensions LxWxH (mm)	Cruze	280x305x280	280x305x380	588x341x347
	Shine	178x71x159	375x315x135	375x315x135

# Shine Solar Retrofit Solution

Luminous Shine Solar Retrofit is an upgrade of Charge controller which when connected to any existing UPS converts it into 100% Solar UPS without any change in electrical wiring. It has inbuilt intelligence to maximize use of solar energy to power your appliances.



Features	Benefits
Easy upgradation	Converts normal UPS into solar UPS
Solar optimization technique	Saves on electricity bills
Three different modes	Enables solar usage up to 100%
LED/LCD indications	Displays different parameters as per system status
Inbuilt reverse polarity & reverse current protection	No risk of electric shocks or hazards
Wide choice of PV modules	Can charge batteries from solar panels in different configurations

## Technical Specifications

Model Name	Shine 1220	Shine 2420	Shine 4850	Shine 9650	Shine 12050
<b>Specifications</b>	<b>Parameters</b>				
System rating	20A @12V	20A @12V/24V	50A @48V	50A @96V	50A @120V
Solar panel compatible wattage	100Wp-400Wp @ 12V	100Wp-400Wp @ 12V 200Wp-800Wp @ 24V	Upto 2800 Wp	Upto 5600 Wp	Upto 7000 Wp
Maximum solar panel voltage	25V	45V	90V	180V	230V
Operating temperature range	0°C to + 45°C	0°C to + 45°C	0°C to + 45°C	0°C to + 45°C	0°C to + 45°C
Power connection	30A Terminal Block	30A Terminal Block	60A Terminal Block	60A Terminal Block	60A Terminal Block
Wire size	6mm <sup>2</sup> Maximum	6mm <sup>2</sup> Maximum	16mm <sup>2</sup> Maximum	16mm <sup>2</sup> Maximum	16mm <sup>2</sup> Maximum
Dimension (mm)	178x71x159			375x315x135	
Weight (kg)	1.2	1.2	4.5	5.7	5.7

## Solar Charge Controller

Luminous PWM Charge controllers have efficiency upto 98% . They charge batteries from solar panels without permitting overcharge and also prevent reverse current flow at night.



Range available: | 12V-6Amp, 2V/24V-10Amp & 20Amp

Features	Benefits
Automatic selection of 12V/24V battery	No manual operation
Aesthetic & compact design	20% extra power handling capability
98% efficiency	Max. utilization of solar power
Fuseless electronic & software controlled protections	Maintenance free
USB port	USB mobile charger output
Load controller with LVD & dusk to dawn feature	Saves battery from deep discharge thus increases life

### Technical Specifications

Model Name	SCC1206NM	SCC1210NM	SCC1220NM
System rating	6A @ 12V	10A @ 12V / 24V	20A @ 12V / 24V
Technology	PWM		
Maximum solar panel wattage	125Wp @ 12V	200Wp @ 12V/400Wp @ 24V	400Wp @ 12V/800Wp @ 24V
Maximum solar panel voltage	25V	25V/45V	
Low voltage disconnect			
A) By state of charge	N.A	Available	
B) Controlled by voltage	Available		
Battery type selection	Lead Acid & SMF		
Self consumption	Less than 10mA		
Efficiency:			
A) Charging	98.5%		96%
B) Load	98%		96%
Operating temperature range	0°C to 50°C		
Power connections	30 Ampere Terminal		
Wire size	Recommended 2.5 sq. mm	Recommended 4 sq. mm	Recommended 6 sq. mm
Enclosure	ABS Plastic, IP21		
Dimensions (mm)	40 x 60 x 135 (L x W x H)		
Net weight	275 gms	300 gms	350 gms



# MPPT Charge Controller

Luminous MPPT (Maximum Power Point tracking) charge controllers extract 30% more power from the panels as compared to PWM charge controllers. They charge batteries faster than PWM controllers without permitting overcharge and prevent reverse current flow at night.

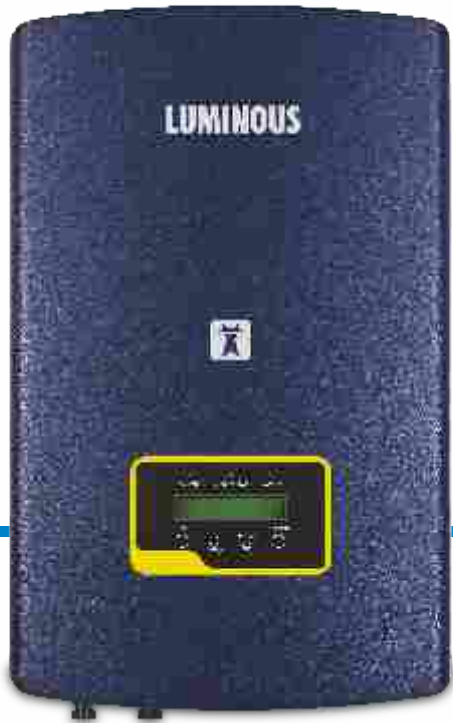
Range available: | 20Amp, 40Amp & 60Amp

Features	Benefits
Smart tracking algorithm	Up to 30% Increase in solar power extraction
Four stage battery charging - bulk, absorption, float & equalize	Long Battery Life
Automatic selection of battery voltage	Safe charging increases life of the battery
Higher input voltage from PV module	Low energy losses
Flexibility to add more panels	Easy future upgradation

## Technical Specifications

Model Name	MPPT 20A	MPPT 40A	MPPT 60A
Maximum battery current	20 Amp	40 Amp	60 Amp
Nominal system voltage	12 & 24 VDC	12, 24, 36, 48 & 60 VDC	12, 24, 36, 48 & 60 VDC
Peak conversion efficiency	97%	98%	98%
Maximum solar open circuit voltage	60 VDC	150 VDC	150 VDC
Charging stages	Bulk, absorption, float & equalize	Bulk, absorption, float & equalize	Bulk, absorption, float & equalize
Mounting	Wall mount	Wall mount	Wall mount
Communication ports	NA	RS-232	RS-232
Data Logging	NA	Up to 90 days	Up to 90 days
LED/LCD indications	LED	LED & LCD for Indicating faults & battery stages	
Setting	NA	Date, Time, Calibration, Factory Reset	
Display	NA	PV Current/Voltage, Battery Current/Voltage, Event Logging (upto 500), All Faults, kWh generated-daily, cumulative	
Protections	Reverse current at night, battery reverse polarity, solar overload, over-temperature & battery over voltage		
Dimensions (mm)	170x123x76	425x150x122	
Net weight	1.36	5.5	





## Solar Grid Tie System

Luminous NXi Grid Tie systems are high efficiency power systems that can feed power from solar panels directly to grid. They are designed to quickly disconnect from the grid if the utility grid goes down (anti-islanding).

Range available:	Single Phase (kW)	1.5/3/4/5
	Three Phase (kW)	6/10/15/20/25/30

Features	Benefits
Transformerless design	High efficiency >97%
Dual/Quad MPPT charge controllers	Complete utilization of PV arrays even in partial shading
Wide operating voltage	Extends the day utilization for harnessing maximum power
IP 65 enclosure	Completely dust and water proof so can be installed outside
Wifi communication	For efficient remote monitoring
Compliance to IEC standards	Safe, reliable and approved for Govt. subsidies
Anti-Islanding Disconnects from grid if grid goes down	Ensures safety of line workers

## Technical Specification - Luminous NXi Solar Grid Tie Systems (Single/Three Phase)

Model	NXi 115	NXi 130	NXi 150	NXi 306	NXi 310	Nxi 315	NXi 320	NXi 325	NXi 330
<b>Input (DC)</b>									
Max. DC power [kW]	1.8	3.5	5.8	6.6	11	16.5	22	27.5	33
Max. DC voltage [V]	450	600		1000					
Rated voltage [V]	60	120		600					
Operating MPPT voltage range (Volts)	50-400	100-500		200-800					
Start voltage [V]	60	120		330			350		
Max input current per MPPT (Amps)	10	10+10	15+15	15+15	18 + 18	18 + 18	18 x3	18x4	18x4
Number of MPPT	1	2		2	2	2	4	4	4
Number of DC Connection Sets per MPPT	1			2	4	4	8	8	8
<b>Output (AC)</b>									
Rated AC Power [kW]	1.5	3	5	6	10	15	20	25	30
Max. Transient Response [kW]	1650	3300	5000	6.5	10.8	16.2	21.6	27	32.5
Max. AC Current [A]	9.2	15.7	23.8	10	16.7	25	33.2	41.7	47.8
Nominal AC voltage/ range	180-270			313-470			304-460		
Grid frequency/ range	50Hz (47-52)								
Power factor [cos φ]	>0.8 leading... 0.8 lagging								
Total harmonic distortion [THDi]	<3%								
Feed-in phase / connection phase	Single Phase				Three Phase				
<b>Efficiency</b>									
Max. efficiency	96.70	97.50	97.80	98.20%	98.20%	98.30%	98.30%	98.40%	98.50%
MPPT efficiency	99.90%								
<b>Protection</b>									
<b>Inbuilt Protections</b>	Internal over-voltage , Ground fault monitoring, Grid monitoring, AC short circuit current, Thermal, Anti-islanding protection, Insulation monitoring, Residual Current detection, Surge protection, Over current, , DC Reverse Polarity Protection, Short Circuit Protection, O/P Over Current Protection, O/P Over Voltage Protection, Grid Monitoring, Islanding Protection, Thermal Protection								
<b>Interface</b>									
DC connection	MC4 connectors								
Display	LCD 2 x 20Z						7" Color Display		
Datalogger & communication	RS485, WIFI/GPRS (optional)								
<b>General Data</b>									
Topology	Transformerless								
Consumption at night [W]	< 1W								
Operating temperature range	-25°C to 60°C/-13°F to 140°F								
Cooling method	Natural Convection								
Ambient humidity	0-95%								
Altitude	4000m								
Noise [dBA]	< 30 dBA								
Designed lifetime	> 20yrs								
Enclosure type	NEMA 4X								
Dimensions (H*W*D) [mm]	339x565x172			430 x 613 x 269			530 x 700 x 356		
Net weight [kg]	5.6	13.8	15.5	29	29	30	57.2	58.2	58.2
<b>Standards</b>									
Safety / EMC	EN1000-6-1:2007;EN1000-6-3:2007 IEC 62109-1,62109-2:AS3100								
Utility Monitoring	Islanding protection, VA C FA C in accordance with UL 1741, En50438, G59/3, AS4777, VDE 0126-1-1, VDE 4105, CEI 0-21, CQC								

# LUMINOUS



## Solar Home Lighting & Fan

Luminous solar offers comprehensive solutions for unelectrified geographies. The solutions includes stationary lighting SHL20 and SHL10, fans and stretches to mobile lighting through lanterns, cracker and LED lamps.

## SOLAR HOME LAMP 20Wp

- ✓ Three Light system with excellent battery back up
- ✓ 4 step light intensity with 56 Hrs to 120 Hrs backup (with one lamp)
- ✓ Handy model with LED panel at front
- ✓ Mobile charging option suitable for most mobiles
- ✓ Can run 12V DC Lamp, DC Fan, DC TV & other DC loads
- ✓ Provision to connect external battery for more backup



## SOLAR HOME LAMP 10Wp



- ✓ Two light system with excellent battery back up
- ✓ 5 step light intensity regulation with 25 Hrs to 100 Hrs back up
- ✓ Handy model with torch at front
- ✓ Mobile charging output with multi-pin connector suitable for most mobiles
- ✓ Light weight and easy to carry

## SOLAR LANTERN

- ✓ Single light solution with excellent battery back up of up to 65 hours
- ✓ Packaged with 3 Wp solar panel with mounting facility
- ✓ Mobile charging facility
- ✓ Ultra low self consumption due to micro controller based technology
- ✓ Suitable for general lighting & reading



## SOLAR CRACKER



- ✓ Can connect 3 CFL (15W each)
- ✓ Portable & easy to carry with one CFL mounted on it
- ✓ Provision to connect 12V/ 7.5AH SMF battery
- ✓ 5Hrs backup with Single 15Watt CFL
- ✓ Charging through solar as well as mains

## SOLAR BACKUP LED LAMP

- ✓ Constant Light Output more than 9W CFL at 1/4th Power consumption (80% Efficient).
- ✓ Equipped with Low Battery Cut-off
- ✓ LED Life > 30,000 hrs. Equipped with all protections. Totally maintenance Free.
- ✓ Low power Consumption: 2 Watt(6 LEDs) only with backup of 6 to 7 hrs.
- ✓ Portable & easy to carry, Compact design with only 90 gms weight.
- ✓ Multiple Mounting Option
- ✓ Lithium Ion Battery



## SOLAR LED LAMP



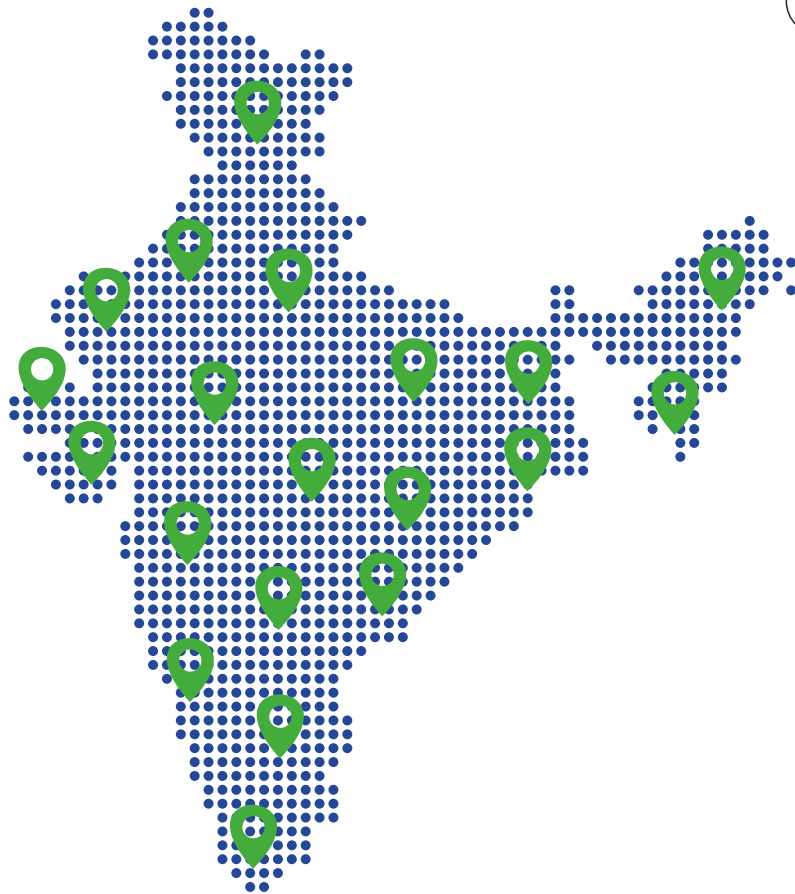
- ✓ Constant Light Output more than 14W CFL at 1/4th Power consumption (85% Efficient).
- ✓ Equipped with Low Battery Cut-off
- ✓ LED Life > 50,000 hrs. Equipped with all protections. Totally maintenance Free.
- ✓ Low power Consumption: 3.5 Watt(6 LEDs) only.
- ✓ Portable & easy to carry, Compact design with only 90 gms weight.
- ✓ Multiple Mounting Option
- ✓ 12V Battery operation

## SOLAR DC FAN

- ✓ Current consumption @ 12V DC: 0.7 A (low)/0.9 A (mid)/ 1.2 A (high)
- ✓ RPM @ 12V DC: 1100 (low) / 1500 (medium) / 2000 (high)



# Luminous Service



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# LUMINOUS

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