



For Home UPS &
Inverter Battery Category

LUMINOUS

SOLAR PCU



**Ideal solution for commercial buildings,
domestic applications and decentralized power plants**



**Range Available
1 to 100 KW**

Luminous 1 to 100 KW Inverters

True bi-directional inverters with MPPT charge controller designed especially for solar application. These single & three phase output inverters operate in parallel with the grid utility. Solar electricity is produced when Photons from the sun rays hit Photovoltaic panels, and electrons are generated in the Photovoltaic cells, leading to production of Direct Current (DC).

The electrical energy in form of DC power is used to charge the batteries through a charge controller and also used to cater load through inverter. These PCU's (Power Conditioning Units) are so designed that additional energy generated from Solar PV plants can be exported to the grid.*



Luminous PCU Features:

- < Bi-directional Solar Inverter with MPPT Charge Controller
- < Inverter with High Speed MOSFET/IGBT and state of the Art DSP Controller
- < High Efficiency and Reliability
- < In-built in output isolation transformer
- < Remote monitoring available



Display parameter:

- < Array : Voltage, Current, Power, Temperature
- < Battery : Voltage, Current
- < Grid : Voltage, Current, Power
- < Output: Voltage, Current, Inv. H/S temp. , Power



Protections:

- < Under/Over voltage protection for Input, Output, Battery & Array
- < Reverse polarity protection for Array
- < Protection for Output Overload, Short circuit and Over Temperature
- < MCB & Surge protection at Array input Path



Indications:

MPPT Charger ON/OFF, Battery on Float, Battery on Boost, Battery Low, Battery Charging/ Discharging, Grid Switch ON, Inverter Switch ON, Grid ON, Load ON, Inverter ON



Specifications For Solar Inverters

| System Rating (KW) | 1KW | 2KW | 3KW | 4KW | 5KW | 6KW | 10KW |
|--|---|--------|-------|----------------|-------|--------------|----------------|
| Photovoltaic Input | | | | | | | |
| MPPT Voltage | 65V – 90V DC | | | 130V – 160V DC | | | 160V – 200V DC |
| Maximum Input Current (A) | 15A* | 30A* | 46A | 31A | 38A | 46A | 63A |
| Maximum PV power recommended (KW) | 1.1KW* | 2.2KW* | 3.3KW | 4.4KW | 5.5KW | 6.6KW | 11KW |
| No. of Charge Controller | 1 | | | | | | |
| MPPT Base Charge Controller | | | | | | | |
| Switching Element | MOSFET/IGBT | | | | | | |
| Type of Charger | PWM with MPPT | | | | | | |
| Grid Input | | | | | | | |
| Input Supply Phase | 1 Phase 2 Wire | | | | | | |
| Nominal Voltage & Voltage Range | 115VAC/230VAC (+15%, -20%) | | | | | | |
| Battery | | | | | | | |
| Battery Voltage | 48V | | 96V | | | 120V | |
| Battery recharge current setting range from Grid Side | 9A* | 19A* | 28A | 19A | 23A | 28A | 36A |
| Battery recharge current setting range from Array Side | 19A* | 39A* | 56A | 37A | 46A | 56A | 74A |
| Inverter | | | | | | | |
| Switching Element | MOSFET/IGBT | | | | | | |
| Control | 32 Bit DSP controlled* | | | | | | |
| Nominal Output Voltage | 115VAC/230VAC ; L-N | | | | | | |
| Output Supply Phase | 1 Phase 2 Wire | | | | | | |
| Output waveform | Sine wave | | | | | | |
| Nominal Frequency (Hz) | 50/60 Hz | | | | | | |
| Power Factor (Within KVA/KW) | 0.6 lag to 1 (Within KVA and KW rating) | | | | | | |
| Nominal Output Current (A) | 4A | 9A | 13A | 17A | 22A | 26A | 44A |
| Voltage regulation | +/-2% | | | | | | |
| Voltage Stability in dynamic condition | Complies with IEC/EN 62040-3, Class 1 | | | | | | |
| Output voltage distortion with 100% linear load | < 2% * | | | | | | |
| Overload at nominal output voltage for 10 minutes | 125% | | | | | | |
| Overload at nominal output voltage for 1 minute | 150% | | | | | | |
| Inverter peak efficiency (Ref. STD IEC 61683) | Up to 90% * | | | | | | |
| Noise @ 1 meter (dBA +/-2dBA) | <58dBA | | | <62dBA | | | |
| Protection degree with open doors | IP20 | | | | | | |
| Colour | RAL 7016 Texture | | | | | | |
| Dimension (WxDxH in mm) | 250x620x500* | | | 250x640x600 | | 800x600x1100 | |
| Cooling | Forced Air | | | | | | |
| Galvanic Isolation | Inbuilt isolation transformer at inverter output | | | | | | |
| Environment | | | | | | | |
| Location | Indoor (Free from corrosive gases & conductive dust) | | | | | | |
| Temperature Operating | 0-40 °C | | | | | | |
| Max. Relative humidity @25°C (non-condensing) | Up to 95% | | | | | | |
| Max. Altitude above sea level without de-rating (m) | 1000 m (For higher altitude complies with IEC/EN 62040 - 3) | | | | | | |
| Standard Compliance | | | | | | | |
| Testing | IEC62040-1, 2, 3(for Safety, EMC Class, Testing) & IEC 60068-2(1,2,14,30) | | | | | | |

*Parameters are also available in different specifications.

| System Rating (KW) | 10KW | 15KW | 20KW | 25KW | 30KW | 35KW | 40KW | 45KW | 50KW | 100KW |
|--|--|--------------|-------|--------|-------|--------|---------------|--------|-------|----------------|
| Photovoltaic Input | | | | | | | | | | |
| MPPT Voltage | 280-340 V | | | | | | | | | |
| Maximum Output Current (A) | 36A | 55A | 73A | 92A | 107A | 128A | 147A | 165A | 183A | 367A |
| Maximum PV power recommended (KW) | 11KW | 16.5KW | 22KW | 27.5KW | 33KW | 38.5KW | 44KW | 49.5KW | 55KW | 110KW |
| No. of Charge Controller | 1 | | | | | | | | | |
| MPPT Base Charge Controller | | | | | | | | | | |
| Switching Element | IGBT | | | | | | | | | |
| Type of Charger | PWM with MPPT | | | | | | | | | |
| Grid Input | | | | | | | | | | |
| Input Supply Phase | 3 Phase 4 Wire | | | | | | | | | |
| Nominal Voltage & Voltage Range | 415VAC/ 208VAC; +10%, -15% | | | | | | | | | |
| Battery | | | | | | | | | | |
| Battery Voltage | 240V | | | | | | | | | |
| Battery recharge current setting range from Grid Side | 0-19A | 0-28A | 0-37A | 0-46A | 0-55A | 0-65A | 0-74A | 0-83A | 0-91A | 0-182A |
| Battery recharge current setting range from Array Side | 36A | 55A | 73A | 92A | 107A | 128A | 147A | 165A | 183A | 367A |
| Inverter | | | | | | | | | | |
| Switching Element | IGBT | | | | | | | | | |
| Control | 32 Bit DSP controller | | | | | | | | | |
| Nominal Output Voltage | 415VAC/208VAC; 3Ph+N | | | | | | | | | |
| Output Supply Phase | 3 Phase 4 Wire | | | | | | | | | |
| Output waveform | Sine wave | | | | | | | | | |
| Nominal Frequency (Hz) | 50/60 Hz | | | | | | | | | |
| Load Power Factor | 0.6 lag to 1 | | | | | | | | | |
| Nominal Output Current (A) | 14A | 21A | 28A | 35A | 42A | 49A | 56A | 63A | 69A | 140A |
| Voltage regulation | +/-1% | | | | | | | | | |
| Voltage Stability in dynamic condition | Complies with IEC/EN 62040-3, Class 1 | | | | | | | | | |
| Output voltage distortion with 100% linear load | < 2 | | | | | | | | | |
| Overload at nominal output voltage for 10 minutes | 125% | | | | | | | | | |
| Overload at nominal output voltage for 1 minute | 150% | | | | | | | | | |
| Inverter peak efficiency | 90% | 91% | | | | | 92% | | | |
| Noise @ 1 meter (dBA +/-2dBA) | <62dBA | | | | | | <72dBA | | | |
| Protection degree | IP20 (with open doors) | | | | | | | | | |
| Dimension (WxDxH in mm) | 400x700x800 | 500x1000x800 | | | | | 1000x900x1500 | | | 1100x1000x1700 |
| Cooling | Forced Air | | | | | | | | | |
| Galvanic Isolation | Inbuilt isolation transformer at inverter output | | | | | | | | | |
| Environment | | | | | | | | | | |
| Location | Indoor (Free from corrosive gases & conductive dust) | | | | | | | | | |
| Temperature Operating | 0-50°C | | | | | | | | | |
| Max. Relative humidity | Up to 95% @ 25°C (non-condensing) | | | | | | | | | |
| Max. Altitude above sea level without de-rating | 1000 m (For higher altitude complies with IEC/EN 62040 - 3) | | | | | | | | | |
| Standard Compliance | | | | | | | | | | |
| Testing | IEC 62040 - 1, 2, 3 (For Safety, EMC Class, Testing) | | | | | | | | | |

Due to continuous product improvement, the specifications are subject to change without prior notice.

