

1300 Watt Electric Vehicle Li-Ion Charger Data Sheet



Description:

The EVC 1300 Watt is a constant output current and constant voltage 2-stage charger for use in charging Electric Vehicles and Lithium Ion battery systems contained within them.

Features:

- Universal AC Input / Full Range
- 100 – 264 VAC Input
- High Reliability
- Communications via CAN bus
- Efficiency up to 94%
- Over Voltage Protection
- Short Circuit Protection
- Over Temperature Protection
- Waterproof IP64 Enclosure



| Model Number | Output Current | Current Range | Voltage Range |
|--------------|----------------|---------------|---------------|
| EVC-116-1300 | 11A | 11 – 12A | 70V – 116V |

Specifications:

| Input Parameters | | | | |
|---|--------------|----------|-----|-------|
| | Min | Typ | Max | Units |
| Input Voltage Range* *Designed to optimum performance at 110 and 220 nominal lines | 100 | 110 | 264 | VAC |
| Input Frequency | | 47 – 63 | | Hz |
| Power Factor 110 VAC Input, Full Load 220 VAC Input, Full Load | 0.99 0.96 | | | |
| Input Current 110VAC, Full Load | | | 14 | A |
| Inrush Current 220 VAC/60Hz, Full Load, Cold Start | | | 15 | A |
| Efficiency 115VAC Full Load 220VAC Full Load | | 92 94 | | % |

| Output Parameters | | | | |
|--|-----|------|------|--------|
| | Min | Typ | Max | Units |
| Output Power | 770 | 1173 | 1392 | W |
| Noise & Ripple – Iout 25°C – 20MHz bandwidth | | | 10 | % Iout |
| Turn-on Delay Time – Full Load | | | 3 | Sec |
| Overshoot and Undershoot Response (Power On/Off) | | | 10 | % |

Specifications:

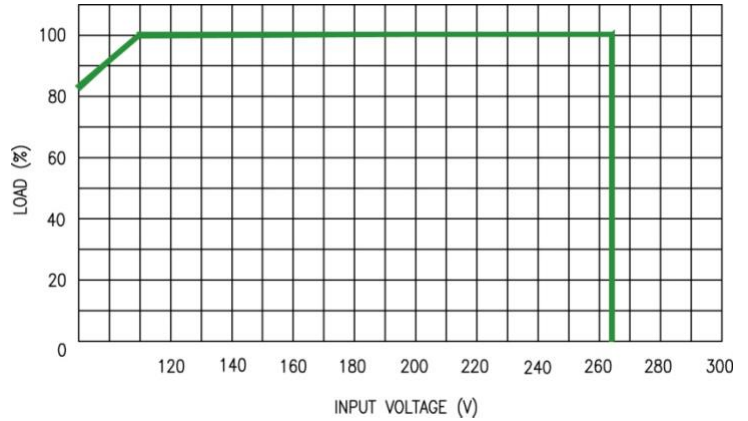
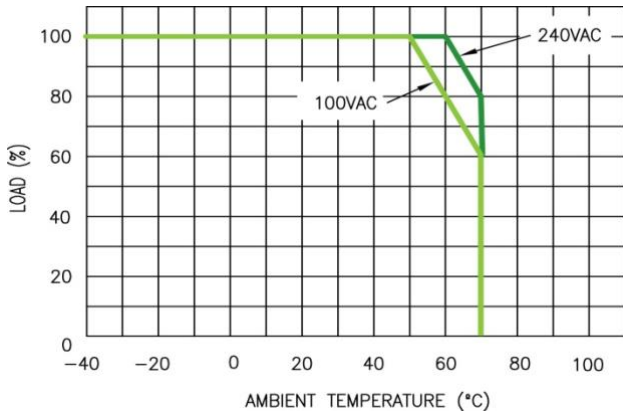
| General Specifications | | | |
|-----------------------------|--|-----|----|
| Short Circuit Protection | Hiccup Mode Self Recovery when fault is removed | | |
| Over Voltage Protection | Enters Auto recovery mode when output voltage is between 127.8 and 162.7V. The unit will return to normal operation when powered back on. | | |
| Over Temperature Protection | The unit will go into thermal protection as the maximum temperature outside the case exceeds 85±5 °C. The unit will enter hiccup mode and will self-recover when the temperature becomes normal. | | |
| MTBF: (MIL-HDBK-217F 25°C) | ≥ 200,000 Hours | | |
| Temperature - Operating | MIN | -23 | °C |
| | MAX | +50 | |
| Temperature - Storage | MIN | -40 | °C |
| | MAX | +85 | |
| Relative Humidity | 10% - 100% | | |
| Weatherproof | IP64 for Enclosure IP25 for Charger Connector | | |
| Case Size | 14.76" x 9.76" x 1.77" 375mm x 248mm x 44mm | | |
| Unit Weight | 7.6 kg | | |
| Agency Approval | Designed to meet UL/CSA and TUV | | |

| Electromagnetic Compatibility EMI/EMC | |
|---------------------------------------|--|
| EMI, RFI | Comply with EN55002 Class A, shall have a minimum if 6dB margin. |
| Immunity: | |
| EN61000-3-2 | Harmonic Current Emission |
| EN61000-3-3 | Voltage Fluctuations and Flicker |
| EN61000-4-2 | ESD 8kV Air Discharge, 4kV Contact Discharge |
| EN61000-4-3 | Radio-Frequency Electromagnetic Field Susceptibility Test-Rs |
| EN61000-4-4 | Electrical Fast Transient/Burst – EFD |
| EN61000-4-5 | Surge Immunity Test, AC power line: line to line 2kV, line to each 4kV |
| EN61000-4-6 | Conducted Radio Frequency Disturbance |
| EN61000-4-8 | Power Frequency Magnetic Field Test |
| EN61000-4-11 | Voltage Dips |

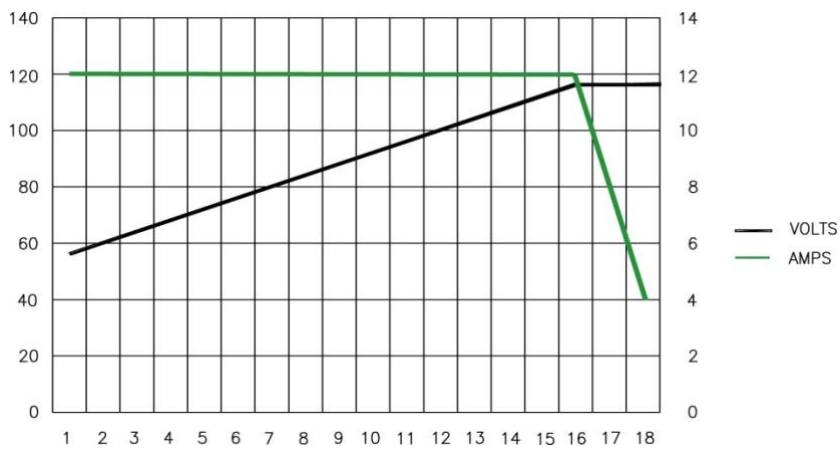
Notes:

- (1) Specification is subject to change without notice.
- (2) See Green Watt Power website for RoHS statement.
www.greenwattpower.com/pdf/rohs.pdf

Derating Curves:

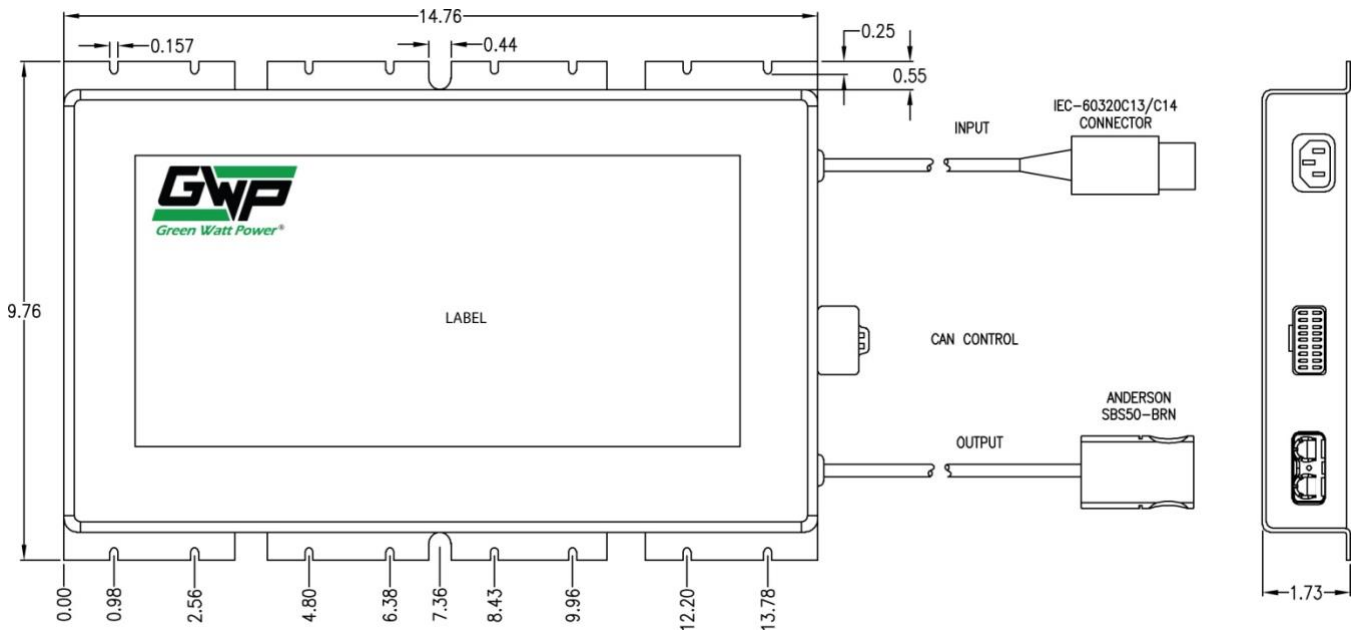


Charging Curve:



| AMPS | VOLTS |
|------|-------|
| 12 | 56 |
| 12 | 60 |
| 12 | 64 |
| 12 | 68 |
| 12 | 72 |
| 12 | 76 |
| 12 | 80 |
| 12 | 84 |
| 12 | 88 |
| 12 | 92 |
| 12 | 96 |
| 12 | 100 |
| 12 | 104 |
| 12 | 108 |
| 12 | 112 |
| 8 | 116.2 |
| 4 | 116.2 |

Case Specifications:



All dimensions are inches

CAN Signal Connector:

Will be JAE MX23A18NF1 present on a PCB connector and shall be mounted to the charger body Pinout, by pin number. Undefined pins are no connection or factory use.

| Pin | Function |
|-----|--|
| 4 | can_gnd |
| 5 | can_5V |
| 6 | canl |
| 7 | canh |
| 10 | ob_charger_attached_n [charger_attached] |
| 11 | ob_charger_attached-n [charger_attached] |
| 12 | charger_en_0 [charger_en_n] |
| 13 | ob_charger_ref_0 [charger_gnd_ref] |