

1200 Watt Series Electric Vehicle Charger



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Description

The EVC 1200 Watt series 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.

- Universal AC Input / Full Range
- 90-264 VAC Input
- High Reliability
- Communication via CAN bus
- Efficiency up to 94%
- Over Voltage Protection
- Short Circuit Protection
- Over Temperature Protection
- Waterproof IP65 Enclosure
- RoHS Compliant
- 2 Year Warranty



Model Selection

| Model Number | Output Current | Current Range | Voltage Range |
|--------------|----------------|---------------|---------------|
| EVC-116-1200 | 11 A | 11 - 12 A | 70V -116 V |

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Specifications

| Input Parameters | | | |
|---|-------------------|------------------|-----|
| Input Voltage Range* *Designed to optimum performance at 110 and 220 nominal lines | MIN TYP MAX | 90 110 264 | VAC |
| Input Frequency | TYP | 47 - 63 | Hz |
| Power Factor 110 VAC Input, Full Load 220 VAC Input, Full Load | MIN | 0.99 0.96 | |
| Input Current 110 VAC, Full Load | MAX | 14 | A |
| Inrush Current 220 VAC/60Hz, Full Load Cold Start | MAX | 15 | A |
| Efficiency 115VAC Full Load 220VAC Full Load | TYP TYP | 92 94 | % |

| Output Parameters | | | |
|--|-------------------|---------------------|--------------------|
| Output Power | MIN TYP MAX | 770 1173 1392 | W |
| Noise & Ripple - I _{out} 25°C - 20 MHz bandwidth | MAX | 10 | % I _{out} |
| Turn-on Delay Time Full Load | MAX | 3 | s |
| Overshoot and Undershoot Response (Power On/Off) | MAX | 10 | % |

| 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 MAX | -23 +50 °C |
| Temperature - Storage | MIN MAX | -40 +85 °C |
| Relative Humidity | 10% - 100% | |
| Weatherproof | IP65 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 of 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 Test-Cs |
| EN61000-4-8 | Power Frequency Magnetic Field Test |
| EN61000-4-1-1 | Voltage Dips |

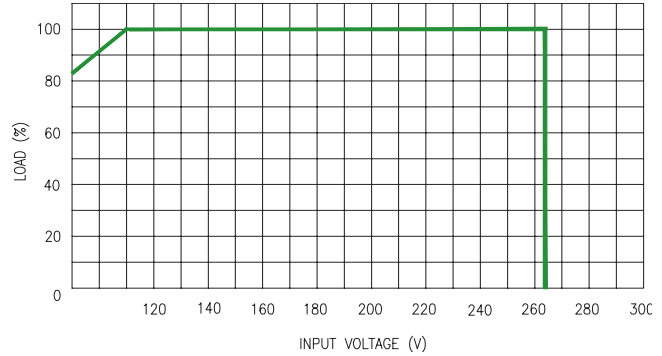
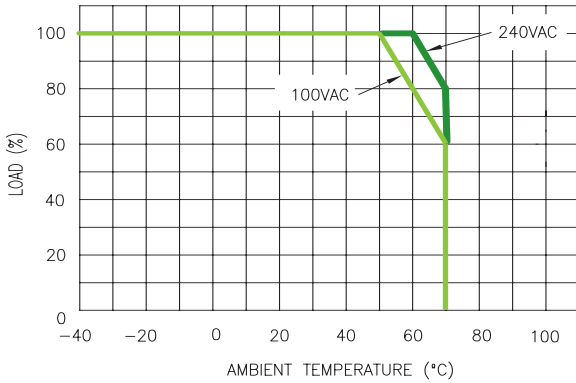
Notes:

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

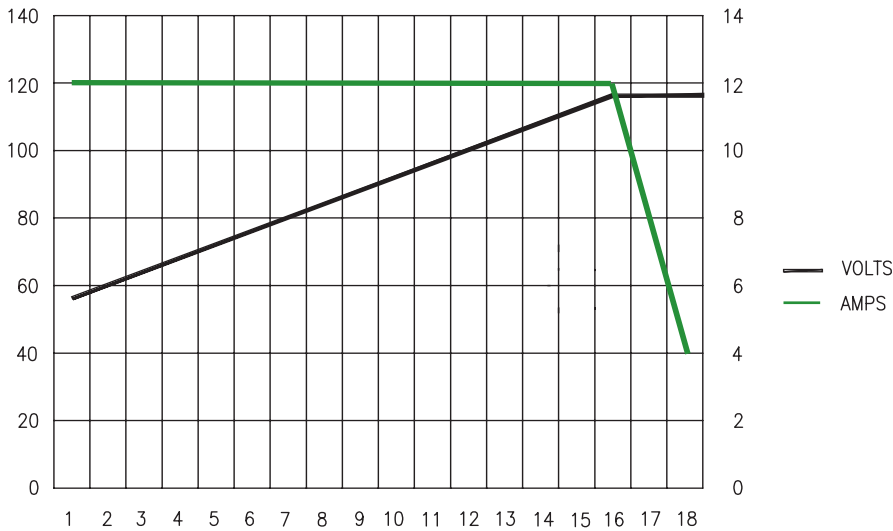
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Derating Curves



Charging Curve

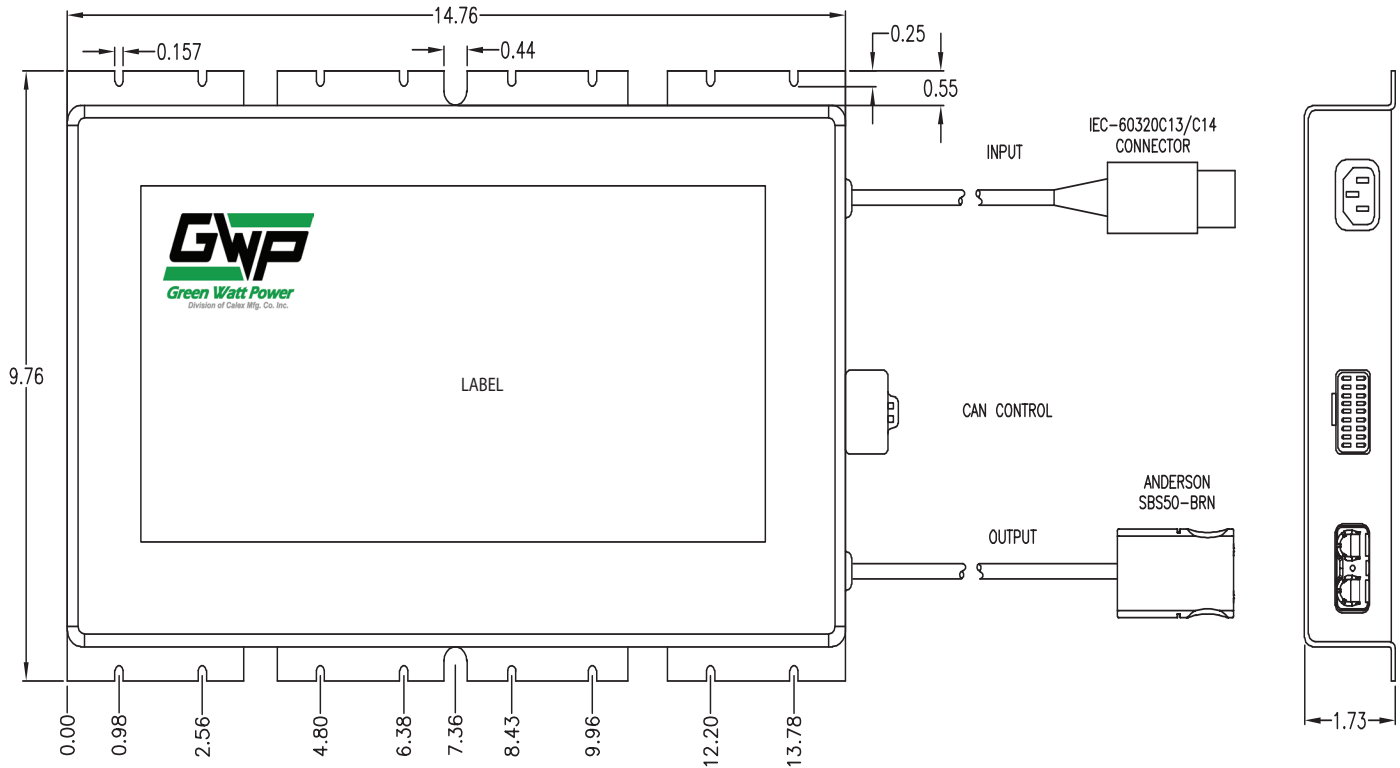


| AMPS | VOLTS |
|------|-------|
| 12 | 56 |
| 12 | 60 |
| 12 | 64 |
| 12 | 68 |
| 12 | 72 |
| 12 | 76 |
| 12 | 80 |
| 12 | 84 |
| 12 | 88 |
| 12 | 92 |
| 12 | 96 |
| 12 | 100 |
| 12 | 104 |
| 12 | 108 |
| 12 | 112 |
| 8 | 116.2 |
| 4 | 116.2 |

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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] |
| | |
| | |