400 Watt Electric Vehicle Li-Ion Charger Data Sheet

Description:

The EVC400 Watt is a 2 stage constant current / constant voltage charger for use in chargin Lithium Ion battery systems used in Electric Vehicles.

Features:

- Universal AC Input / Full Range
- 90 – 264 VAC Input
- High Reliability
- Communications via CAN bus
- Efficiency up to 92%
- Over Voltage Protection
- Short Circuit Protection
- Over Temperature Protection
- Waterproof IP64 Enclosure
- RoHS Compliant
- 2 Year Warranty

Model Number	*Output Current*	*Current Range*	*Voltage Range*
EVC-58-400	6.8A	3.4 - 6.8 A	39.2 V - 58.15V

Specifications:

Input Parameters				
	Min	Typ	Max	Units
Input Voltage Range* *Designed to optimum performance at 110 and 220 nominal lines	90	110	264	VAC
Input Frequency		47 – 63		Hz
Power Factor 110 VAC Input, Full Load 220 VAC Input, Full Load	 0.98 0.96			
Input Current 110 VAC, Continuous 240 VAC, Continuous			 4.5 2.0	 A $_{RMS}$
Efficiency 115 VAC Full Load 220 VAC Full Load		 92 93		 %

Output Parameters				
	Min	Typ	Max	Units
Output Power	133.3	380.3	395.4	W
Noise & Ripple – Iout 25ºC – 20MHz bandwidth			20	% Iout
Turn-on Delay Time – Full Load			3	Sec
Overshoot and Undershoot Response (Power On/Off)			30	%

Specifications:

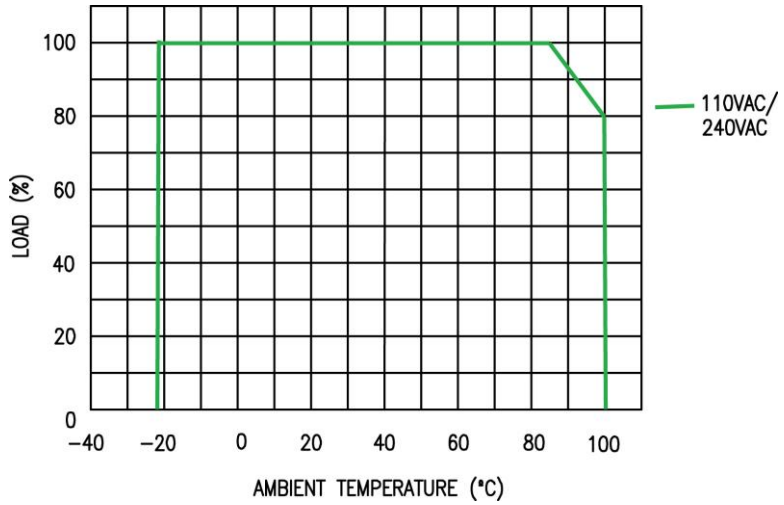
General Specifications			
Short Circuit Protection	Hiccup Mode Self Recovery when fault is removed		
Over Voltage Protection	Enters latch mode OVP when output voltage is between 65 and 75V. The unit will return to normal operation when powered back on.		
Over Temperature Protection	The unit will go into thermal protection as the maximum temperature outside the case exceeds 100±5 ºC. The unit will enter hiccup mode and will self-recover when the temperature becomes normal.		
MTBF: (MIL-HDBK-217F 25ºC)	≥ 200,000 Hours		
Temperature - Operating	MIN MAX	-23 85	ºC
Temperature - Storage	MIN MAX	-40 +85	ºC
Relative Humidity	10% - 100%		
Weatherproof	IP64 for Enclosure IP25 for Charger Connector		
Case Size	8.27” x 6.10” x 1.65” 210mm x 155mm x 42mm		
Unit Weight	TBD kg		
Agency Approval	Designed to meet UL/CSA and TUV		

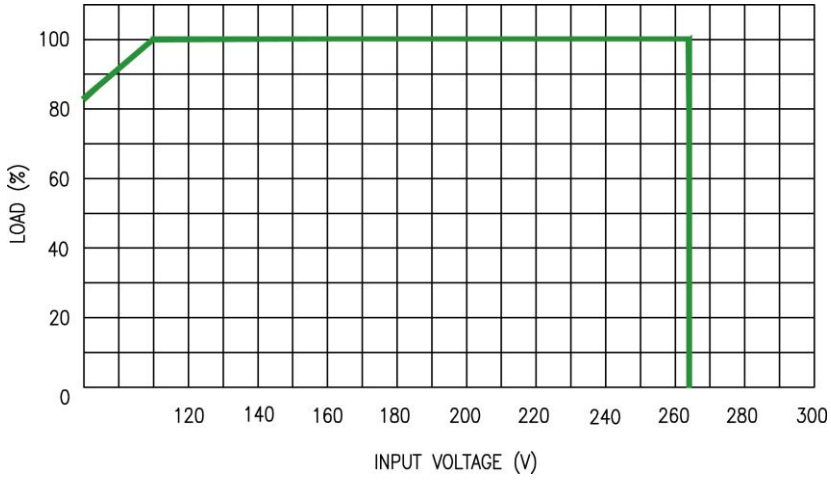
Electromagnetic Compatibility EMI/EMC	
EMI, RFI	Comply with EN55002 Class A, shall have a minimum if 6dB margin.
Immunity:	
EN61000-3-2	Harmonic Current Emission
EN61000-3-3	Voltage Fluctuations and Flicker
EN61000-4-2	ESD 8kV Air Discharge, 4kV Contact Discharge
EN61000-4-3	Radio-Frequency Electromagnetic 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:

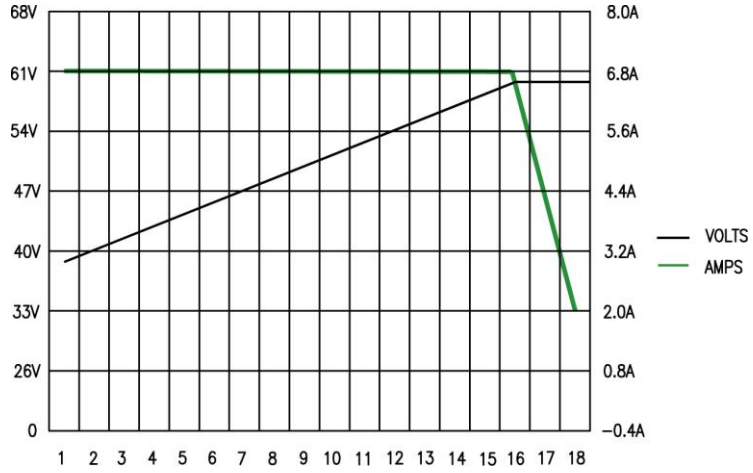
(1) Specification is subject to change without notice.

Derating Curves:



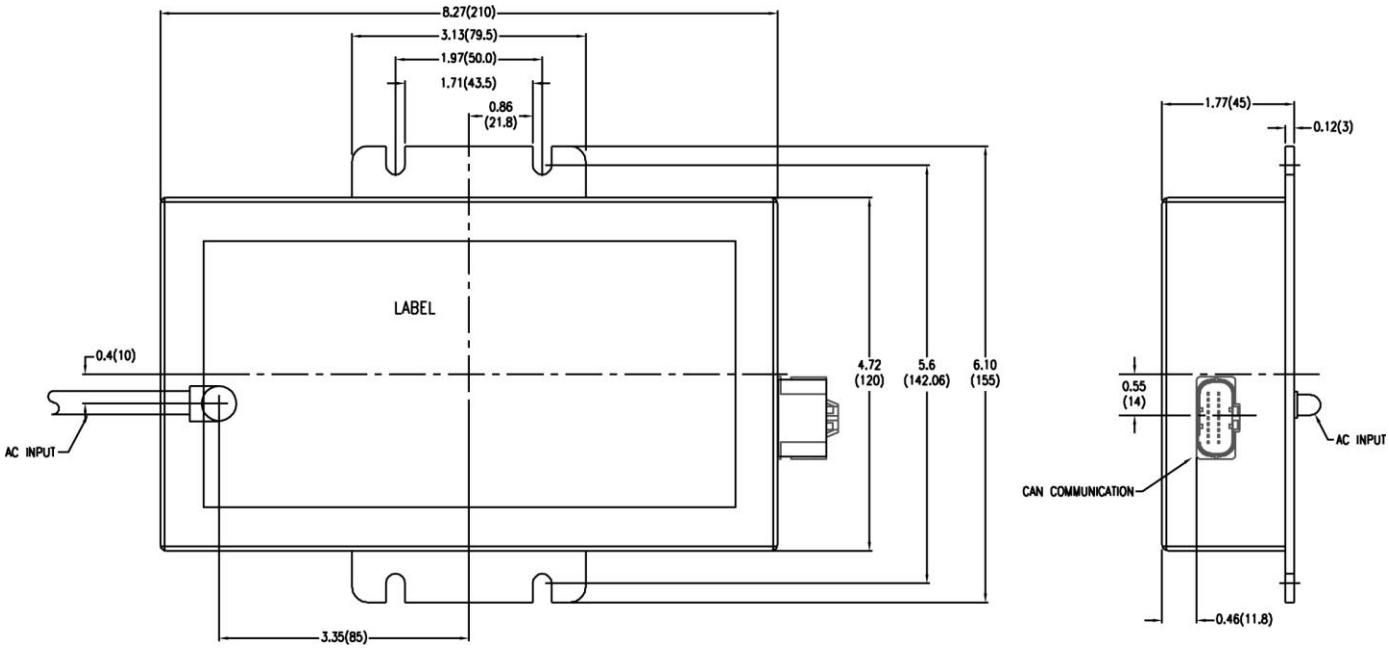


Charging Curve:



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
1	LED Power
2	LED ref
3	Charger Output -
4	Not Connected
5	Not Connected
6	CANL
7	CANH
8	Not Connected
9	Charger Output +

Pin	Function
10	Charger Output +
11	Ob_charger_attached [charger_atttached]
12	Charger_en_0 [charger_en_n]
13	Ob_charger_ref_0 [charger_gnd_ref]
14	Charger Output -
15	Programming gnd
16	Programming bgnd
17	Programming reset
18	Programming vdd