

ZQ7200

Lithium-Ion Battery Charging System

Built for electric on-road vehicles and off-highway mobile machinery, the on-board solution will optimally charge any nominal 100, 400, or 800 volt battery pack. The unique design combines a high-performance 7.2 kW charger, a 1.0 kW DC-DC converter, and an EV charging station interface, all in a highly compact liquid-cooled package.



Available Models

125V 500V 1000V

ZQ7200 Models



Application Examples



Charger Features



DC-DC Converter

Integrated DC-DC converter technology provides 1.0 kW of auxiliary power for the operation of low-voltage accessories such as lights, turn signals, navigation and communication devices.



High Reliability

The IP67-rated, rugged, sealed aluminum die-cast enclosure and connectors provide protection against vibration, shock, dirt, chemicals, and fluids. Designed for industrial and non-road mobile machinery reliability.



Enhanced Protection

Extensive protection features, such as short circuit, output over voltage, input inrush current limiting, and over-temperature protections, ensure reliable and safe operation. Active monitoring of HVDC.



EV Charging System Interface

Complies with J1772 (Type 1), Type 2, NACS/J3400, GBT and communicates directly with the EVSE. Including status and locking capability of inlet actuator.



Hardware/Circuit Control and Encrypted Firmware

Fully digital, enabling dynamic control & monitoring of functional parameters with 128-bit key encrypted firmware.



Global Standard Compliance

Compliance with North American and European regulatory standards allows for easy integration into electric vehicles.

OEM Features

- The combination of an on-board battery charger, DC-DC converter, and EVSE interface saves space, weight, cabling, and cost.
- High power density presents space advantages for on-board installations.
- High-voltage models available to support next-generation battery pack designs.
- CAN bus communication supporting CANopen, UDS protocol and SAE J1939 protocols with the battery management system (BMS) or vehicle control unit (VCU) ensures seamless machine integration to grant original equipment manufacturers (OEMs) wide flexibility in their design and deployment.

Specifications

*All specifications are preliminary/Product in development.

DC Output	125 V Models	500 V Models	1000 V Models
Output Power (Max)	7200 W		
Output Voltage Range	80 - 125 VDC	250 - 500 VDC	500 - 1000 VDC
AUX DC Output	125 V Models	500 V Models	1000 V Models
DC/DC Converter Nominal Power Output (Max)	1000 W		
DC/DC Converter Output Voltage Range	6 - 16 VDC (Full current from 8 - 15 V)		
DC/DC Converter Output Current (Max)	72 A		
Quiescent Draw (Max)	0.625 W		
Input Current (Max)	12 A	4.4 A	2.2 A
Insulation Resistance	Input - Output - Shell >50 MΩ (25°C, 70% RH)		
AC Input			
AC Input Voltage Range	90 - 300 V (100 - 277 V nominal)		
AC Input Frequency Range (Nominal)	50 - 60 Hz		
AC Input Current (Max)	32 A		
Power Factor	>0.98		
Ground Leakage Current	<0.35 mA		
Communication			
CAN Bus	SAE J1939, CANopen protocols, UDS protocol		
EVSE	SAE J1772 (Level 1 and 2) IEC 61851 (Mode 1, Mode 2 and 3), NACS/J3400, GBT		

Specifications

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Mechanical	
Dimensions (including connectors)	432 x 249 x 85 mm (17 x 9.8 x 3.3")
Weight	9.8 kgs (21.6 lbs)
Cooling	Liquid (50:50% Glycol/Water)
Coolant Hose Size	12mm (½")
IP Protection	IP66/IP67
AC & DC Connectors	Amphenol ePower-Lite Series
Signal Connectors	TE Connectivity AMPSEAL
Mounting Holes	M6 diameter threaded holes
Protection	
Input	Input Over-voltage Protection, Input Under-voltage Protection, Input Current Protection
Output	Output Over-current Protection, Output Under-voltage Protection, Output Over-voltage Protection, Over-temperature Protection, Output Short Circuit Protection, HVIL Protection.
Environmental	
Efficiency	≥94.6%
Operating Temperature Range	-40°C to +65°C (-40°F to +149°F) Full nominal output power -40°C to +60°C (-40°F to 140°F)
Storage Temperature Range	-45°C to +95°C (-49°F to 203°F)
Flow Rate (Nominal)	9 L/min
Pressure Drop	0.2 bar
System Pressure (Max)	1.5 bar
System Coolant Volume	410 ml
Regulatory	
Safety	UL 1564, CSA 22.2 No.107.2, EN IEC 62477-1
Emissions (compliant)	FCC Part 15 / ISED ICES-002, Class A EN IEC 61000-6-4, EN IEC 61000-3-11/-12
Immunity (compliant)	EN 61000-6-2