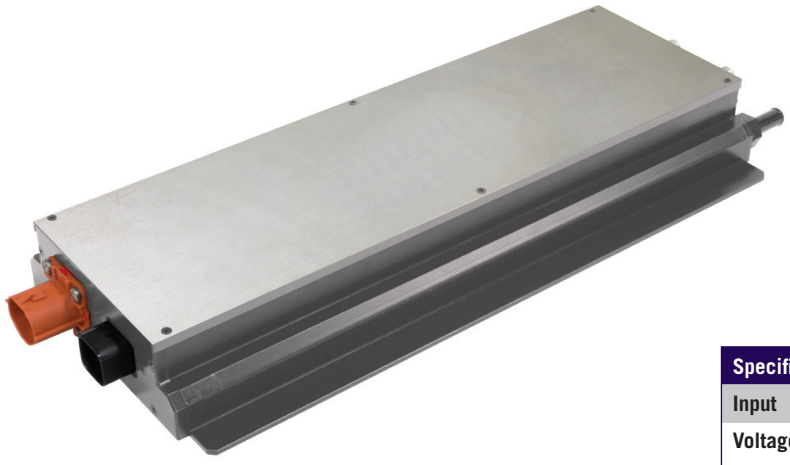
3 KW DC-DC
LIQUID COOLED SEALED MODULE FOR VEHICLE APPLICATIONS

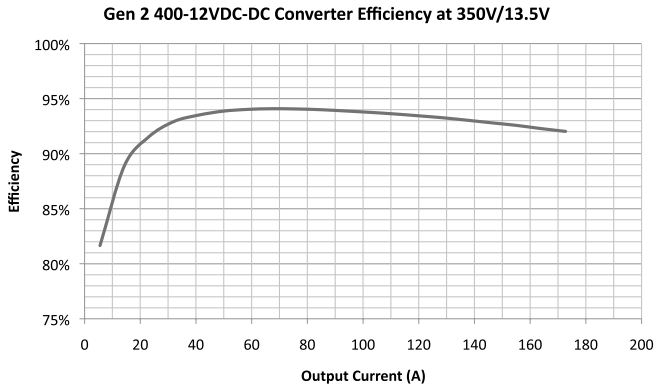


The 3000W LiquaCore® power module is a high voltage liquid cooled DC-DC converter which steps down 400V and provides 12V output, common in hybrid and electric vehicle applications. The output voltage is electrically isolated from the input voltage and suits the conventional 12V accessories and HVAC system requirements of industrial and ecofriendly vehicles.

Features:

- 200A Battery Charger
- Liquid Cooled
- IP67 and IP6k9k Environmental Protection
- 180-450VDC Input Voltage Range
- 9-16VDC Output Voltage Range
- Galvanic Isolation Input - Output
- High Efficiency - Greater then 94%
- Automotive Grade Components
- Field Configurable CAN parameters
- RoHS

Specifications	
Input	
Voltage	180-450VDC. Power delivered in the operational range will depend on Operating Envelope
Transient Voltage	Up to 470VDC
Inrush Current	25A Maximum under cold start conditions
Efficiency	>94% Typical



Output	
Voltage	13.5VDC Nominal / 9 – 16VDC Adjustment Range
Current	200A Maximum
Power	3000W Maximum
Ripple and Noise	400mVp-p (20MHz Bandwidth)
Load Regulation	2.5% Droop from No Load to Full Load (Designed to support droop current share when paralleled with other similar units)
Parallel Use	May be paralleled with other like units or for increased system output – Standard unit must be paralleled with a battery for normal operation.
Temperature Coefficient	<+/- 0.02% per ºC
Dimensions	19.8 x 7.6 x 2.3" (504 x 194 x 59mm)
Weight	5.6kg (12.3lb)
Model Number	LSM3k0-400-12

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LSM3K0-200-12DS REV A 10-3-2014

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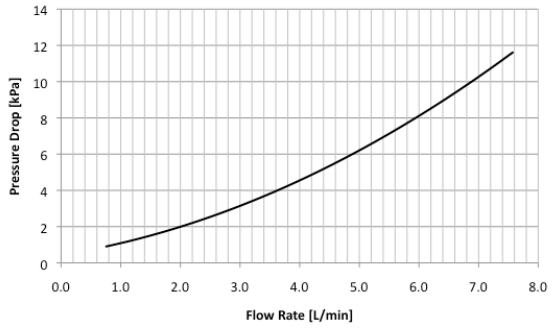
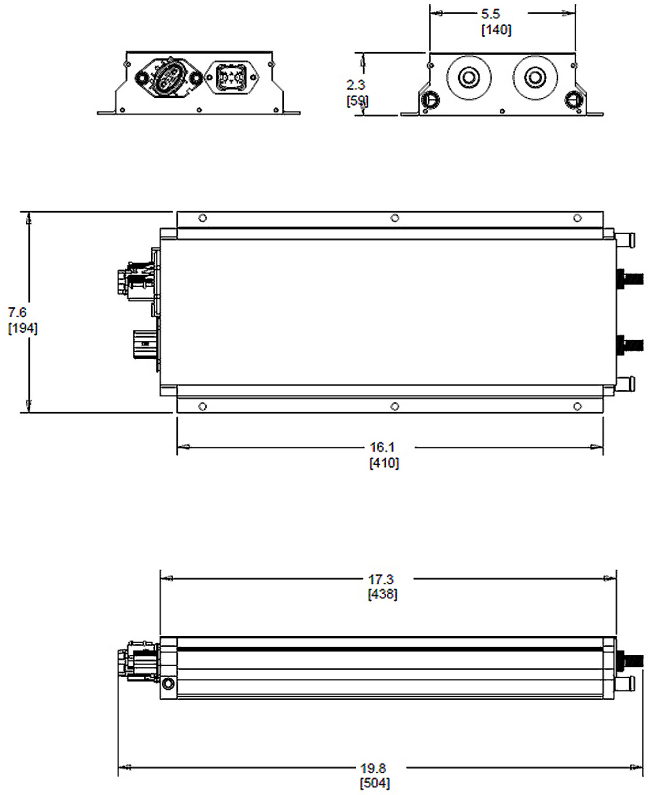
3 KW DC-DC
LIQUID COOLED SEALED MODULE FOR VEHICLE APPLICATIONS

Specifications	
Electronic Control Inputs	
Remote Enable	>7V input signal will enable the unit's Output.
Connectors	
Input	IP67/IP6k9k connector rated to 600VDC
Output	Heavy Duty M10x1.5 Threaded Studs
Control	(Molex MX150L series)
Environmental Specifi cations	
Coolant Medium / Mixture	60/40 Propylene or 50/50 Ethyline Glycol/Water
Coolant Flow	7.5 L/min (2GPM) at 27.5kpa (4psi) - Typical
Inlet / Outlet Coolant Connections	SAE-J1231 Type 1 beaded head fittings, hose dash size-8
Maximum Coolant Pressure:	350kpa (50psi)
Differential Pressure	



Inlet Coolant Temperature	-30 to +60ºC
Working Ambient Temperature Mixture	-30 to +85ºC
Low Temperature Turn On	-40ºC minimum
Warm up Time	1 minute
Storage / Transportation	-40ºC to +85ºC
Vibration, Operating	The converter is designed to meet vibration profi les used in automotive applications: IEC 60068-2-64 Spectrum A.3 (Equipment in wheeled vehi-cles) Category 1 and Category 2 MIL-STD-810G, Method 514.6 (Ground Mobile)
Vibration, Transport	The packaged unit is designed to withstand, without damage MIL-STD-810G Method 514.6 Category 4-Common Carrier
Salt Fog	MIL-STD-810C, Method 509.5

Specifications	
Protection	
Output Over-Voltage	Output Hiccup on OV
Output Over-Current	The converter becomes a current source during OC, down to short circuit. Unit shuts off if output voltage drops below 7.5V.
Over-Temperature	Shutdown with auto recovery
Communication	
Communication Protocol	CAN Bus field confi gurable to J1939 or CAN open
CAN Bus Signals	DC In OK, Output OK, Output Current Monitor, Output Voltage, heat sink temperature



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