



## Hyperdrive GEN4 12-Cell (44V<sub>nom</sub>) Lithium-Ion Modular Pack

GENERAL		
Part Number	HYP-00-2889	
Voltage Nominal	44.4V	
Voltage Range Min/Max	37.2V/49.8V	
Charge Current	132A maximum, de-rated by BMS depending on cell voltage/temperature	
Continuous Discharge Current	130A	
Maximum Capacity	4.94kWh/111.4Ah	
Maximum Energy Density	152Wh/kg	
Useable capacity	Limited to 90% by BMS to improve cell life	
Dimensions	W: 243 x L: 352 x H: 265mm	
Weight	32kg	
Mounting Fixtures	Threaded mounting points for easy, secure connection	
CELLS		
Cell Specification	3 x GEN4 AESC Modules (each Module Contains 4S2P cells)	
Chemistry	Manganese Laminated Li-ion (LMNC)	
Pack Arrangement	3 series modules = 12S2P Cells	
ENVIRONMENTAL		
Enclosure	Fully sealed plastic case (IP55)	
Operating Temp Range	Charge: -25°C to +45°C/+60°C *	Discharge: -25°C to +60°C
Storage Conditions	Temperature: -40°C to +70°C	Humidity: Below 75%
BATTERY MANAGEMENT SYSTEM (BMS)		
Communication Protocol	CAN bus @ 1000, 500, 250, 125, 50 kbit/s (J1939 compatible option available)	
Reported Information	Cell Temperatures and Voltages, Pack Current, State of Charge and Faults	
Pack Protection Mechanism	Interlock to control external protection device e.g. contactor	
Balancing Method	Actively controlled dissipative balancing	
Multi-Pack Behaviour	BMS implements a single master and multi-slave system	
Compatible Chargers as standard	Bassi (CAN-Enabled), Zivan, Victron, Delta-Q, TC-Charger **	
Charger Control	Current control based on cell voltage/temperature CAN bus data to allow other chargers to be implemented by user	
Auxiliary Connectors	Binder 720-Series 8-way	
Power connectors	Amphenol SurLok Plus	
SYSTEM CONFIGURATION		
Max no of packs in series	12	
Max Number of Parallel Packs	127	
<b>External System Requirements</b>	<ul style="list-style-type: none"> <li>External Protection Device (eg. Contactor) controlled by BMS Interlock</li> <li>One External Fuse per series string, max 150A Rating</li> <li>BMS Enable signal (12-24V)</li> </ul>	
STANDARDS		
EMC	Designed to meet: EN61000-6-2:2005 and EN61000-6-3:2007 + A1:2011	
Transport	UN38.3 rev 6 including impact and vibration testing	
Other	RoHS directive and WEEE directive	
<b>LIMITED WARRANTY</b>	>85% capacity for minimum 2000 cycles when cycled to 100% DoD at 50A at a cell temperature of 25°C. Deviation from these conditions will be assessed on a case by case basis <b>Only to be used in Hyperdrive approved applications</b>	
<b>Note *</b>	Temperature limit is firmware dependent	
<b>Note **</b>	See Application Notes for specific charger models	