



HY-Energy Fan Lithium-Ion Modular Battery Pack

GENERAL		
Part Number	HYP-00-2844	
Voltage Nominal	44.4V	
Voltage Range Min/Max	37.2V/49.8V	
Charge Current	160A maximum De-rated by BMS message over CAN depending on cell voltage/temperature. Charger integration must follow this dynamic current limit. See user manual ¹	
Discharge Current	130A maximum De-rated by BMS message over CAN depending on cell voltage/temperature. System/inverter should follow this dynamic current limit. See user manual ¹	
Maximum Capacity	4.94kWh/111Ah	
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	4x M8 mounting points for easy secure mounting	
CELLS		
Cell Specification	12S2P Envision AESC Gen 4	
Chemistry	Manganese Laminated Li-ion (LMNC)	
ENVIRONMENTAL		
Enclosure	Plastic case designed for IP20	
Operating Temp Range	Charge: -25°C to +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 at user selectable baud rate (proprietary message format). ¹	
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 Note: The Hyperdrive modular battery pack cannot directly protect itself without an external protection circuit. This circuit must be approved by Hyperdrive before use. ²	
Balancing Method	Actively controlled dissipative balancing	
Multi-Pack Behaviour	BMS implements a single master and multi-slave system	
Compatible Chargers as standard	Zivan, Delta-Q, TC-Charger, SPE, Victron, Bassi. For compatible models see user manual ¹	
Charger Control	Direct current control based on cell voltage/temperature over CAN CAN bus data to allow other chargers to be implemented by user	
Auxiliary Connectors	Binder 720-Series 8-way male & female	
Power connectors	4x Amphenol SurLok Plus 8mm When using battery pack above 150A for considerable time, consider using both power connection points in parallel to allow for a suitable conductor cross section.	
SYSTEM CONFIGURATION		
Max no of packs in series	8	
Max Number of Parallel Packs	127	
External System Requirements	<ul style="list-style-type: none"> • External Protection Device (e.g. Contactor) controlled by BMS Interlock ² • One External Fuse per series string • BMS Enable signal (12-24V) 	
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	

¹ HYP-131-MAN-Z-001 – User manual R11 or above.

² ENG-FO-018 - Customer Schematic Checklist R2 or above.



HY-Energy Plus Lithium-Ion Modular Battery Pack

GENERAL		
Part Number	HYP-00-2890	
Voltage Nominal	51.8V	
Voltage Range Min/Max	43.4V/58.1V	
Charge Current	132A maximum De-rated by BMS message over CAN depending on cell voltage/temperature. Charger integration must follow this dynamic current limit. See user manual ¹	
Discharge Current	132A maximum De-rated by BMS message over CAN depending on cell voltage/temperature. System/inverter should follow this dynamic current limit. See user manual ¹	
Maximum Capacity	5.76kWh/111.4Ah	
Maximum Energy Density	164Wh/kg	
Useable capacity	Limited to 90% by BMS to improve cell life	
Dimensions	W: 243 x L: 352 x H: 300.5mm	
Weight	37kg	
Mounting Fixtures	4x M8 mounting points for easy secure mounting	
CELLS		
Cell Specification	14S2P Envision AESC Gen 4	
Chemistry	Manganese Laminated Li-ion (LMNC)	
ENVIRONMENTAL		
Enclosure	Sealed plastic case (IP55)	
Operating Temp Range	Charge: -25°C to +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 at user selectable baud rate (proprietary message format). J1939 compatible option available. ¹	
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 Note: The Hyperdrive modular battery pack cannot directly protect itself without an external protection circuit. This circuit must be approved by Hyperdrive before use. ²	
Balancing Method	Actively controlled dissipative balancing	
Multi-Pack Behaviour	BMS implements a single master and multi-slave system	
Compatible Chargers as standard	Zivan, Victron, Delta-Q, TC-Charger, SPE, Bassi. For compatible models see user manual ¹	
Charger Control	Direct current control based on cell voltage/temperature over CAN CAN bus data to allow other chargers to be implemented by user	
Auxiliary Connectors	Binder 720-Series 8-way male & female	
Power connectors	4x Amphenol SurLok Plus 8mm When using battery pack above 150A for considerable time, consider using both power connection points in parallel to allow for a suitable conductor cross section.	
SYSTEM CONFIGURATION		
Max no of packs in series	10	
Max Number of Parallel Packs	127	
External System Requirements	<ul style="list-style-type: none"> • External Protection Device (e.g. Contactor) controlled by BMS Interlock ² • One External Fuse per series string • BMS Enable signal (12-24V) 	
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	

¹ HYP-131-MAN-Z-001 – User manual R11 or above.

² ENG-FO-018 - Customer Schematic Checklist R2 or above.



HY-Energy Plus Peak Lithium-Ion Modular Battery Pack

GENERAL		
Part Number	HYP-00-2972	
Voltage Nominal	51.8V	
Voltage Range Min/Max	43.4V/58.1V	
Charge Current	160A maximum De-rated by BMS message over CAN depending on cell voltage/temperature. Charger integration must follow this dynamic current limit. See user manual ¹	
Discharge Current	300A maximum De-rated by BMS message over CAN depending on cell voltage/temperature. System/inverter should follow this dynamic current limit. See user manual ¹	
Maximum Capacity	5.76kWh/111.4Ah	
Maximum Energy Density	164Wh/kg	
Useable capacity	Limited to 90% by BMS to improve cell life	
Dimensions	W: 243 x L: 352 x H: 300.5mm	
Weight	37kg	
Mounting Fixtures	4x M8 mounting points for easy secure mounting	
CELLS		
Cell Specification	14S2P Envision AESC Gen 4	
Chemistry	Manganese Laminated Li-ion (LMNC)	
ENVIRONMENTAL		
Enclosure	Sealed plastic case (IP55)	
Operating Temp Range	Charge: -25°C to +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 at user selectable baud rate (proprietary message format). J1939 compatible option available. ¹	
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 Note: The Hyperdrive modular battery pack cannot directly protect itself without an external protection circuit. This circuit must be approved by Hyperdrive before use. ²	
Balancing Method	Actively controlled dissipative balancing	
Multi-Pack Behaviour	BMS implements a single master and multi-slave system	
Compatible Chargers as standard	Zivan, Victron, Delta-Q, TC-Charger, SPE. For compatible models see user manual ¹	
Charger Control	Direct current control based on cell voltage/temperature over CAN CAN bus data to allow other chargers to be implemented by user	
Auxiliary Connectors	Binder 720-Series 8-way male & female	
Power connectors	4x Amphenol SurLok Plus 8mm When using battery pack above 150A for considerable time, consider using both power connection points in parallel to allow for a suitable conductor cross section.	
SYSTEM CONFIGURATION		
Max no of packs in series	10	
Max Number of Parallel Packs	127	
External System Requirements	<ul style="list-style-type: none"> • External Protection Device (e.g. Contactor) controlled by BMS Interlock ² • One External Fuse per series string • BMS Enable signal (12-24V) 	
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	

¹ HYP-131-MAN-Z-001 – User manual R10 or above.

² ENG-FO-018 - Customer Schematic Checklist R2 or above.



HY-Energy Standard Lithium-Ion Modular Battery 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 message over CAN depending on cell voltage/temperature. Charger integration must follow this dynamic current limit. See user manual ¹	
Discharge Current	132A maximum De-rated by BMS message over CAN depending on cell voltage/temperature. System/inverter should follow this dynamic current limit. See user manual ¹	
Maximum Capacity	4.94kWh/111Ah	
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	4x M8 mounting points for easy secure mounting	
CELLS		
Cell Specification	12S2P Envision AESC Gen 4	
Chemistry	Manganese Laminated Li-ion (LMNC)	
ENVIRONMENTAL		
Enclosure	Sealed plastic case (IP55)	
Operating Temp Range	Charge: -25°C to +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 at user selectable baud rate (proprietary message format). J1939 compatible option available. ¹	
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 Note: The Hyperdrive modular battery pack cannot directly protect itself without an external protection circuit. This circuit must be approved by Hyperdrive before use. ²	
Balancing Method	Actively controlled dissipative balancing	
Multi-Pack Behaviour	BMS implements a single master and multi-slave system	
Compatible Chargers as standard	Zivan, Delta-Q, TC-Charger, SPE, Victron, Bassi. For compatible models see user manual ¹	
Charger Control	Direct current control based on cell voltage/temperature over CAN CAN bus data to allow other chargers to be implemented by user	
Auxiliary Connectors	Binder 720-Series 8-way male & female	
Power connectors	4x Amphenol SurLok Plus 8mm When using battery pack above 150A for considerable time, consider using both power connection points in parallel to allow for a suitable conductor cross section.	
SYSTEM CONFIGURATION		
Max no of packs in series	12	
Max Number of Parallel Packs	127	
External System Requirements	<ul style="list-style-type: none"> • External Protection Device (e.g. Contactor) controlled by BMS Interlock ² • One External Fuse per series string • BMS Enable signal (12-24V) 	
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	

¹ HYP-131-MAN-Z-001 – User manual R11 or above.

² ENG-FO-018 - Customer Schematic Checklist R2 or above.