

Gen 5 Turntide NMC Battery Pack Range

Turntide's new lithium-ion modular battery solutions combine high-performance battery packs with system controllers for temperature and voltage measurement and internal cell balancing. The Turntide battery solution provides a flexible and scalable energy storage solution with nominal voltage of 44V and a standardized modular design. They are ideal for many off-highway applications from constructions and agricultural to marine and material handling.



Features

- Integrated charger controls
- UN38.3 certified: approved for global shipping
- Rated capacity from 4.5 to 6.8 kWh
- Scalable: Increase capacity without additional controllers
- High Voltage: connect modular packs in series for systems up to 455V
- Environmental protection enclosure: fully plastic case (IP65)
- Battery housing to allow ease of mounting on at least 3 axis

Applications



TURNTIDE ELECTRIFICATION

Details are correct at time of publishing

Turntide Technologies designs and manufactures breakthrough electric motors, power electronics and energy storage solutions that optimize performance, reliability, and efficiency in all things that move.

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TTS-MAN-014
V2.0 – 27/09/2024

Specification

Key Features			
Nominal Vdc	44V		44V
Stored Energy (kWh)	4.5		6.8
Usable Energy (kWh)	4.2		6.3
Working Voltage Range (V)	37.2 – 50.4		37.2 – 50.4
Nominal Capacity (Ah)	100		150
Continuous Charge Current (A)	100*		150*
10s Peak Charge Current (A)	300*		300*
Continuous Discharge Current (A)	130*		195*
10s Peak Discharge Current (A)	300*		300*
Gravimetric Energy Density (Wh/kg)	173		177
Volumetric Energy Density (Wh/l)	224		233
<i>* Dynamically de-rated BMS message over CAN depending on cell condition</i>			
Environmental			
Operating cell temperature	Charge: -10°C to +50°C	IP Rating	IP65
	Discharge: -15°C to +50°C		
Storage Condition	Temperature	Humidity	Duration
	-30 °C to 55°C	<85 RH%	< 7 days
	-30 °C to 30°C	<85 RH%	< 6 months
Safety and Compliance			
Temperature	<ul style="list-style-type: none"> • EN 60068-2-1 • EN 60068-2-2 • EN 60068-2-14 • EN 60068-2-30 	Shock & Vibration	<ul style="list-style-type: none"> • EN 60068-2-64 (Random) • EN 60068-2-6 (Sinusoidal) • EN 60068-2-27 (Shock)
Transport	<ul style="list-style-type: none"> • UN38.3 	EMC	<ul style="list-style-type: none"> • EN 61000-6-2 • EN 61000-6-3
Road Electric Vehicles	<ul style="list-style-type: none"> • ECE-R100 	Battery Regulation	<ul style="list-style-type: none"> • CE marking
Safety Requirements for industrial applications †	<ul style="list-style-type: none"> • EN62619 • EN62620 		
<i>† Subject to final validation</i>			
Performance Data			
Cycle life (Cell level) ††	<ul style="list-style-type: none"> • Over 3000 cycles at 85% capacity retention 		
<i>†† Conditions: 1C Step Charge & 1C Discharge 100% DOD, at 25°C</i>			
BMS			
Battery Control Unit (BCU)	<ul style="list-style-type: none"> • All battery systems will require a battery control unit 	Communications Protocols	<ul style="list-style-type: none"> • CAN J1939
Enclosure	<ul style="list-style-type: none"> • 15% GF PC/ABS plastic 	Mounting Points	<ul style="list-style-type: none"> • M8

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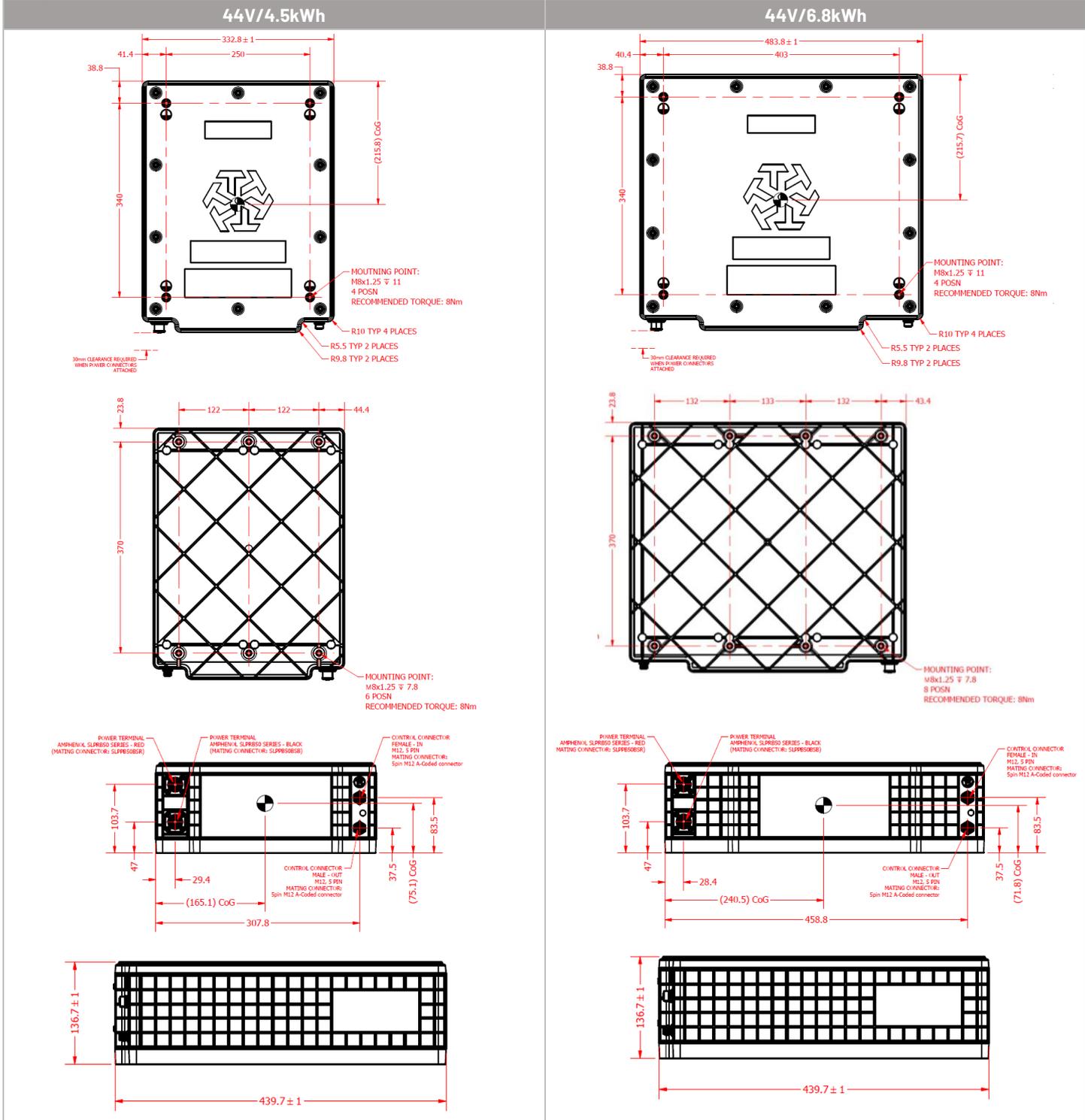
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Mass, Dimensions and Drawings

	44V/4.5kWh	44V/6.8kWh
Weight (kg)	26	38
Length (mm)	440	440
Width (mm)	333	484
Height (mm)	137	137



For more information on this product or Turntide’s range of inverters, motors, batteries, pumps and fans, please visit our web-site or contact our team of experts at electrificationsales@turntide.com.

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