

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 ranges from 44V to 52V and a standardized modular design. They are ideal for many off-highway applications from construction and agriculture to marine and material handling.



Features

- Integrated charger controls
- UN38.3 certified: approved for global shipping
- Rated capacity from 4.5 to 8 kWh
- Scalable: increase capacity without additional controllers
- High voltage: connect modular packs in series for systems up to 500V
- Environmental protection enclosure: fully plastic case (IP66)
- Battery housing to allow ease of mounting on at least 2 axis
- Air cooled with an option for liquid cooling

Specifications

Battery Model	NMC BPK 44/4.5	NMC BPK 44/6.7	NMC BPK 52/5.3	NMC BPK 52/8
Number of Modules	2 X (2P6S)	3 X (3P4S)	2 x (2P7S)	2 x (3P7S)
Nominal Battery Voltage	44V	44V	52V	52V
Battery Energy	4.5 kWh	6.7 kWh	5.3 kWh	8.0 kWh
Total Weight	26 kg	38 kg	29 kg	43 kg
Gravimetric Density	173 Wh/kg	177 Wh/kg	177 Wh/kg	184 Wh/kg
Volumetric Density	223 Wh/l	230 Wh/l	230 Wh/l	245 Wh/l

Battery Model	NMC BPK 44/4.5	NMC BPK 44/6.7	NMC BPK 52/5.3	NMC BPK 52/8
Nominal Battery Voltage	44V		52V	
Voltage Range Min/Max	37.2V / 49.8V		42V / 59.5V	
Continuous Charge Current*	100 A	150 A	100 A	150 A
Peak Charge Current (10 secs)	300 A	450 A	300 A	450 A
Continuous Discharge Current*	100 A	150 A	100 A	150 A
Peak Discharge Current (10 secs)	300 A	450 A	300 A	450 A
Stored Energy	4.5 kWh/100 Ah	6.7 kWh/150 Ah	5.3 kWh/100 Ah	8.0 kWh/150 Ah
Usable Energy	4.1 kWh/91 Ah	6.1 kWh/135 Ah	4.8 kWh/91 Ah	7.2 kWh/135 Ah
Dimensions (LxWxH)	441 x 333 x 137 mm	441 x 484 x 137 mm	441 x 381 x 137 mm	441 x 539 x 137 mm
Weight	26 kg	38 kg	29 kg	43 kg
Enclosure & Mounting	Plastic, 4xM6 mounting points			
Cell Configuration	2P12S	3P12S	2P14S	3P14S
Operating Cell Temperature Range	Charge: -20 °C to + 55 °C/Discharge: -30 °C to + 55 °C			
Storage Condition	Temperature: -40 °C to + 70 °C, Humidity: Below 75%			
Typical cycle life	2000 cycles to 80% SOH**			
Cooling	Air / Liquid Cooling			
Communication protocol	CAN J1939			
Battery Control Unit (BCU)	All battery systems will require a battery control unit			
Limited Warranty	Customer application to be assessed by Turntide personnel to determine it's suitability for products use. Deviation from these conditions will be assessed on a case by case basis Only to be used in Turntide approved applications			

* Dynamically de-rated by BMS message over CAN depending on cell condition

** May vary with the operating condition



For further information please contact our team of experts at electrificationsales@turntide.com

Details are correct at time of publishing

Product is under development. Final specification to be confirmed post test and validation

TURNTIDE TECHNOLOGIES

Our breakthrough technologies accelerate electrification and sustainable operations for energy-intensive industries

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