

Gen1 320V HV Battery (36.1kWh)

High Performance Lithium-ion NMC Battery Pack with built-in intelligent Battery management.

Designed to support the ambitious decarbonization goals to bring all greenhouse gas emissions to net zero. With High energy and high-power capabilities replacing diesel power generation in multiple applications.

Fully type-approved for use on rail and non-rail applications.

The Battery Pack has two types A (master) and B (slave). Type A can control up to 3 type B units.



Features

- SIL2 (equivalent to ASIL-C) approved Battery Management System.
- Contactor control with anti-valent feedback.
- Proprietary CAN communications.
- Series and Parallel configurations to meet power and voltage requirements.
- Patented active cooling solution.
- Data collection for maintenance management.

Applications



TURNTIDE TECHNOLOGIES

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.

Turntide Technologies, Eighth Avenue, Team Valley Trading Estate, Gateshead, NE11 0QA, UK

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TTS-MAN-015
V2.0 – 03/12/2024

Specification

Key Features

Type A and Type B battery units

Stored Energy (kWh)	36.1	Continuous Charge Current (A)*	90
Rated Capacity (Ah)	112.5	10s Peak Current (A)	233
Power (kW)	51.4	Power Density (W/kg)	96.1
Working Voltage (V)	321.2	Energy Density (MJ/kg)	0.43
Nominal Capacity (A)*	160		

*Dynamically Derated BMS Message over CAN depending on charge status and cell condition

Environmental

Operating Temperature	<ul style="list-style-type: none"> -25 °C to 45°C 	IP Rating	IP2X (IP66 including external housing)
Storage Condition	Temperature	Humidity	Duration
	<ul style="list-style-type: none"> -30 °C to 55°C -30 °C to 30°C 	<ul style="list-style-type: none"> <85 RH% <85 RH% 	<ul style="list-style-type: none"> < 7 days < 6 months

Safety and Compliance

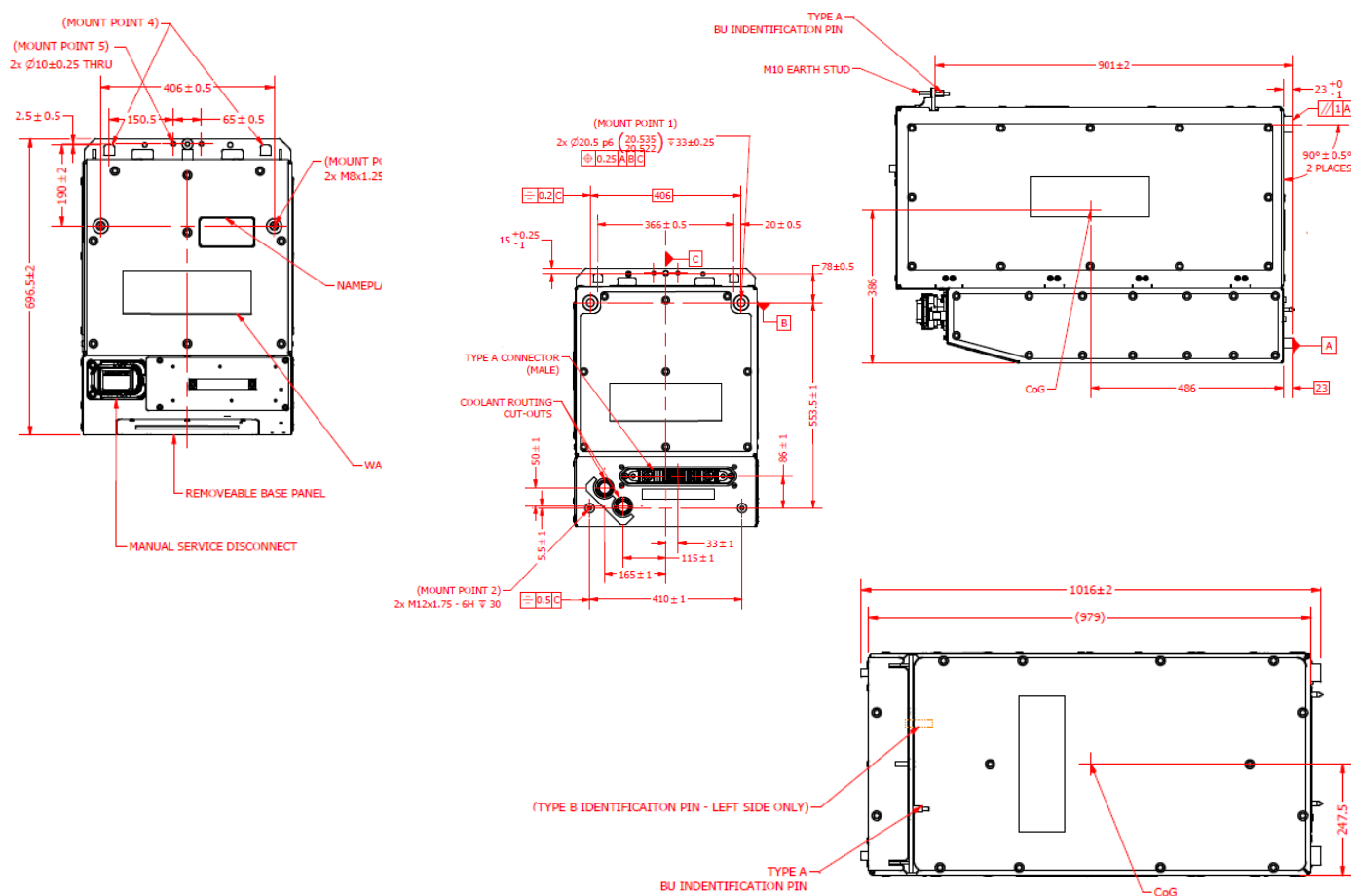
Railway Compliance	<ul style="list-style-type: none"> BS EN IEC 62928 BS EN 50155 BS EN 50128 	Safety Requirements for Industrial Applications	<ul style="list-style-type: none"> IEC 62619 IEC 62133
Temperature	<ul style="list-style-type: none"> EN60068-2-1 EN60068-2-2 EN60068-2-14 EN60068-2-30 	EMC	<ul style="list-style-type: none"> EN50121-3-2 – emissions and immunity EN50155 – supply Interruption
Functional Safety	<ul style="list-style-type: none"> EN50128 – SIL2 		

Mass, Dimensions and Drawings

Type A and Type B

Weight (kg)	305	Width (mm)	498 ± 2
Length (mm)*	1016 ± 2	Height (mm)	696.5 ± 2

*Including mounting points



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Battery Management System					
Battery String BMS		<ul style="list-style-type: none">Each Type A contains the Battery management system	Communication Protocol	<ul style="list-style-type: none">Proprietary CANFibre Optic between Battery Units	
Performance Data					
Dependent on Energy throughput		Calculated using customer specific Duty Cycle			
Additional Information					
System Configuration Options					
	Types	Voltage (Nominal)	Battery Power	Current	Rated Energy
 1s 1p	1 * Type A	321.20V	51.39kW	160A	36.08 kWh
 2s 1p	1 * Type A 1 * Type B	642.4V	102.78kW	160A	72.16 kWh
 3s 1p	1 * Type A 2 * Type B	963.6V	154.17kW	160A	108.24 kWh
 4s 1p	1 * Type A 3 * Type B	1284.8V	205.56kW	160A	144.32 kWh

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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