24V 50Ah | Advanced Lithium-Ion Battery Module

ALTAIR NANO
charging the energy revolution

The 24V 50Ah Advanced Lithium-Ion Battery Module is ideal for use in high power applications with demanding duty cycles that require high abuse tolerance and long operational life.

Altairnano's unique cell technology attributes provide a cost effective battery solution that delivers exceptional performance using Altairnano's patented nano-lithium titanate technology.

Nano Lithium Titanate Battery Module

Benefits

- High power without sacrificing energy storage
- Ability to recover without capacity loss from a complete discharge
- Higher levels of operational abuse tolerance than existing batteries
- Virtually maintenance free
- Rugged capabilities – duty cycle, safety, long calendar & operational life
- Symmetrical charge/discharge ideal for regenerative braking applications

MODULE SPECIFICATIONS	
Operating temperature range	-40°C to +55°C
Recommended storage temperature	-40°C to +55°C
Nominal voltage	23 V
Nominal capacity (1C charge/1C discharge)	50 Ah
Internal discharge impedance (10 sec, DC)	5.5 m ohms typical
Internal charge impedance (10 sec, DC)	5.5 m ohms typical
Recommended standard charge/discharge	50 A & constant current
Recommended fast charge	300 A & constant current
Max continuous discharge	300 A
Pulse charge/discharge rate (10 sec pulse)	Up to 500 A max
Module weight (nominal +/- 1 kg)	25.3 kg
Physical dimensions (nominal L x W x H +/- 2mm)	279.1 mm x 154.6 mm x 303.4.0 mm
Typical power , at 25°C	18 kW & 711.4 W/kg
Typical energy, 1C at 25°C	1160 Wh & 45.8 Wh/kg
Expected calendar life at 25°C	20 years
CYCLE LIFE	
At 2C charge & 2C discharge, 100% DOD, 25°C	>12,000 cycles
At 1C charge & 1C discharge, 100% DOD, 55°C	>4,000 cycles
Voltage Limits*	
Typical end of discharge voltage in the range -40°C to +30°C	17.0 V
Typical end of discharge voltage in the range +30°C to +55°C	20.5 V
Typical end of charge voltage in the range +20°C to +55°C	27.0 V
Typical end of charge voltage in the range -40°C to +20°C	28.0 V

*Charge/Discharge voltages will be measured at the cell level. Once one cell reaches the upper or lower limit, module charge/discharge will be limited by the BMS.

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