

## RLT-VBAT-x - OVERVIEW

The **RLT-VBAT-x** from Réaltra Space Systems Engineering is a high energy density, space qualified modular 28V, Li-MnO<sub>2</sub> primary battery suitable for use on launch vehicles and other rugged space applications

The batteries are high current and low self-discharge type with no voltage delay. Each RLT-VBAT-x battery assembly is made up of 2 or 3 primary battery packs, each constructed from twenty SAFT M19HR cells with a spiral design in 10S2P configuration. The RLT-VBAT-x unit has been qualified for use on modern launch vehicles.

Short circuit protection is provided by an integrated polyswitch and a diode provides charge protection.

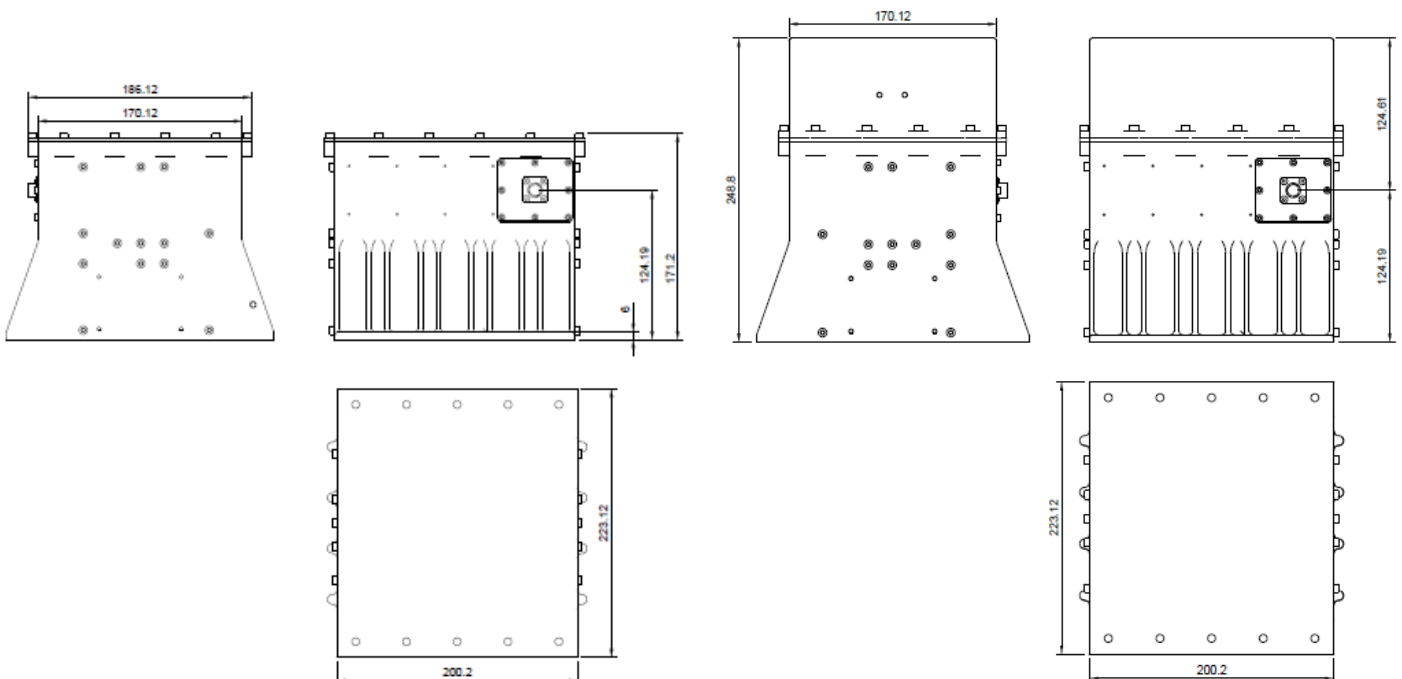
The batteries operate up to a maximum temperature of +70°C and down to -40°C but the capacity is dependent on current drain, temperature and cut-off voltage.

The batteries are housed in an aerospace grade metal monocoque enclosure. M6 holes are provided in the baseplate for mounting. The enclosure includes built-in venting holes. Power is provided through a 6-way circular connector located on the side of the housing.

A single 21Ah battery configuration is also available – please contact Réaltra for details.

## FEATURES

- Modular Li-MnO<sub>2</sub> primary battery for launchers
- 28V nominal voltage (at 0.5A, 20°C)
- 42Ah or 63Ah nominal capacity (at 0.5A, 20°C to 18V)
- Wide operating temperature range: -40°C to +70°C
- Rugged construction for launcher environment
- Low outgassing materials used in construction
- Safe internal design – cells designed to meet IEC 60086-4, UL 1642 standards
- Low self-discharge compatible with long shelf-life of 10+ years (<1%/1 year at +20 °C)
- Rugged circular electrical connections
- Mass: 8.8kg or 12.2kg
- Environment: ISO 14001, RoHS and REACH compliant



## SPECIFICATIONS

		Min	Typ	Max	Unit	Notes
<b>Electrical Characteristics</b>						
Capacity	RLT-VBAT-2		42		Ah	@0.5A, +20°C
			1180		Wh	@0.5A, +20°C
	RLT-VBAT-3		63		Ah	
			1770		Wh	
Energy Density	RLT-VBAT-2		134.1		Wh/kg	
	RLT-VBAT-3		145.6		Wh/kg	
Voltage		22	28	32	V	
<b>Physical Characteristics</b>						
Length				201	mm	
Width				224	mm	
Height	RLT-VBAT-2			172	mm	
	RLT-VBAT-3			249	mm	
Mass	RLT-VBAT-2		8.8		kg	
	RLT-VBAT-3		12.2		kg	
<b>Environmental</b>						
Operating Temperature Range		-40		+70	C	
Storage Temperature		-55		+72	C	
Shock				5000	g	3-axes, SRS, from 100Hz to 25kHz, 5000g @ >=3.5kHz
Vibration (Sine)				22.5	g	3-axes, 5Hz to 375Hz, max g @ 36Hz to 200Hz
Vibration (Random)				25	g <sub>rms</sub>	3-axes, 10 Hz to 2,000 Hz, 4 mins per axis
Fundamental Frequency		350			Hz	
Thermal-Vacuum	Operation from -40C to +70C at 1x10 <sup>-5</sup> mbar					
Damp Heat	Two 24-hour cycles from +20C to +35C at 95%					

## ELECTRICAL INTERFACE

The +28V supply is through a six-way circular connector on the side of the battery housing.

Interface	Designator	Unit Connector	Mating Connector
Power Output	J1	MS27508E8F35S	MS27484T8F35P

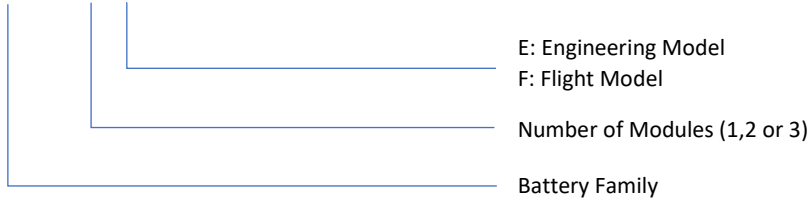
PIN	Signal Name	Description
1	Power_+28V	+28V nominal output
2	Power_RTN	+28V Return (GND)
3	NC	No Connection
4	Power_RTN	+28V Return (GND)
5	Power_+28V	+28V nominal output
6	NC	No Connection

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## ORDERING INFORMATION

### Part Number:

### RLT-VBAT-X-X



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