Delta 48V100Ah Series

Lithium Iron Phosphate (LFP) Battery

This new Delta 48 V battery pack is designed with a 100 Ah capacity battery cell of lithium-ion iron phosphate chemistry. It provides larger capacity in the compact size of a 19” rack-mounted 3U chassis. This pack has RS485 communication and a built-in BMS with automatic protection and cell balancing to offer safe and highly efficient operation to customers.

The pack application is developed for telecom equipment power backup. Under normal conditions, grid AC power supplies to a rectifier module and the telecom loads and also charges a battery pack.

When the AC power failed, the rectifier module stops power supply to loads, the battery ensures the telecom equipment operates normally. When the AC power is switched on again, power from the rectifier module to the telecom equipment is recovered and it charges the battery pack back to backup status.

Key Features

- RS485 communication output for monitoring
- Built-in automatic protection for over-charge, over-discharge and over-temperature conditions
- Built-in BMS with a charging current limiting circuit
- Built-in battery optimal control algorithm to manage sleep/wakeup and intermittent charging mode to improve operation efficiency.
- Built-in cell balancing function
- LED indicators state of charge and Alarm/Run status
- Compatible with standard telecom rectifiers
- Maintenance free

Applications

- 3G / 4G / 5G
- Fixed Line
- Datacom

Delta 48V100Ah Series

NOMINAL

Voltage	48.0 V_{DC}
Nominal Capacity (25°C)	100 Ah (capacity is measured under 0.2C / 25°C @ BOL)

ELECTRICAL

Energy Nominal Energy (25°C, 0.2C) Volumetric Energy Density Gravimetric Energy Density	 4800 Wh (capacity is measured under 0.2C / 25°C @ BOL) 184 Wh/L 123 Wh/kg
Standard Discharge (25°C) Maximum Continuous Current Cut-off Voltage LVBD Voltage	 100 A 37.5 V_{DC} 41.3 V_{DC}
Standard Charge (25°C) Maximum Continuous Current Recommended Charging Current and Time Charge Voltage	 100 A 50 A 52.5~53.5 V_{DC} (Recommended: 53.0 V_{DC})
Charge Current Limit Function	10 A
Internal Impendence	< 19 mΩ

MECHANICAL

Dimensions (W x H x D)	Without handle: 442 (±1) x 131 (±1) x 450 (±1) mm With handle & terminal: 482 (±1) x 131 (±1) x 491 (±1) mm
Weight	Approx. 39 ± 2 kg
Total Cells Quantity in Battery Module	15 pcs of cell in series (Prismatic type cell)
Materials of Battery Case	Carbon steel with corrosion resistant coating
Cell	LFP 100 Ah
Max Quantity of Battery Parallel Connection	15 for one RS-485 and max 30 pcs in system.
Color	RAL9003 (White)

ENVIRONMENTAL

Calendar Life (25°C)	> 10 years
Cycle Life (1C/1C, DOD 100%, 25°C)*	SOH 80%, 3000 cycles
Operating Temperature**	0 to +50°C (De-rating from 35°C)
Storage Temperature	0 to +45°C (Recommended range: 10 to +30°C)

BMS PARAMETERS

Voltage (Charge)	Cell voltage protection: 3.75 V protection (Recover at 3.45 V) Total voltage protection: 55.5 V protection (Recover at 50.4 V)
Voltage (Discharge)	Cell voltage protection: 2.5 V protection (Recover at 3.1 V) Total voltage protection: 37.5 V protection (Recover at 45 V)
Current (Charge)	Normal ≤ 100 A Charging current limiting function: > 110 A (10 sec) Charging current limiting function: > 125 A (3 sec)
Current (Discharge)	Normal ≤ 100 A Over current protection 1: > 110 A and < 125 A (10 sec) Over current protection 2: > 125 A (3 sec) Short circuit protection: ≥ 320 A (< 1 ms)
Temp (Cell)	Low temp protection: Charging < 0°C, Discharging < -20°C High temp protection: Charging > 55°C, Discharging > 60°C
Temp (PCB)	Temp protection ≥ 95°C (Recovery < 75°C)
Cell Balance (Balance)	BMS includes passive balancing circuit and algorithm, (Current: < 100 mA)
Dry Contact	D.O x 2

STANDARDS

Safety	UN38.3, IEC62619, IEC60730, CE, UL1973
EMC	IEC EN 61000-6-1

ORDERING INFORMATION

BSPMT-GT1151C0US0	Battery pack Li-ion 48.0 V 100 Ah

* 1C/1C means charge 1C and discharge 1C
** Operation temperature means the ambient temperature. Protection may be triggered if the conditions defined in the specification are exceeded.

All specifications are subject to change without prior notice.
Performance may vary depending on, but not limited to cell usage and application. If a cell is used outside specifications, performance will diminish.