

## TELECOM BATTERY PACK SPECIFICATION SHEET

Model No. PSCLN048100ESS, V1, TEC GR (67030:2024),

TSEC No. – TSEC/NCR/B/LIB-67030:2024 /248.AUG 2025



### PRODUCT DESCRIPTION:

This New Telecom 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 battery module. This pack has RS485 communication and a built-in BMS with automatic protection, cell balancing and master slave function for higher capacity 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 fails, 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/wake-up 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:

- Telecommunication Equipment Power
- Off-Grid/ On-Grid Sites
- Railway: Signaling & Communication Equipment

# TECHNICAL SPECIFICATION:

## NOMINAL:

|                             |                                                 |
|-----------------------------|-------------------------------------------------|
| Voltage                     | 48.0 VDC                                        |
| Nominal Capacity (25°C)     | 100 Ah (Capacity is measured under 0.5C / 25°C) |
| Cell Type and Chemistry     | Prismatic, LFP                                  |
| Cell Make                   | 3.2V100Ah                                       |
| Max Battery Module Parallel | 8 No's                                          |

## ELECTRICAL:

|                                  |                                                  |
|----------------------------------|--------------------------------------------------|
| <b>Energy</b>                    |                                                  |
| Nominal Energy (25°C, 0.5C)      | 4800 Wh (capacity is measured under 0.5C / 25°C) |
| Volumetric Energy Density        | 184 Wh/L                                         |
| Gravimetric Energy Density       | 107 Wh/kg                                        |
| <b>Standard Discharge (25°C)</b> |                                                  |
| Maximum Continuous Current       | 100 A                                            |
| Low Voltage Cut-off              | 42 VDC                                           |
| <b>Standard Charge (25°C)</b>    |                                                  |
| Maximum Continuous Current       | 50 A                                             |
| Recommended Charging Current     | 30 A                                             |
| Low Voltage Cut-off              | 54 VDC                                           |
| Charging Voltage                 | 53.25 VDC                                        |
| Charge Current Limit Function    | Yes                                              |
| Internal Impedance               | < 19 mΩ                                          |

## ENVIRONMENTAL:

|                                  |                                  |
|----------------------------------|----------------------------------|
| Calendar Life (25°C)             | 10 Years                         |
| Cycle Life (0.5C, DOD 80%, 25°C) | > 6000 cycles                    |
| Operating Temperature**          | 0 to +65°C (De-rating from 35°C) |
| Storage Temperature              | 0 to +55°C                       |

## BMS PARAMETERS:

|                     |                                                                                                                                     |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Voltage (Charge)    | Cell voltage protection: 3.60 V<br>Cell Recover Voltage: 3.50 V<br>Total voltage protection: 54 V<br>Total Voltage Recovery: 52.5 V |
| Voltage (Discharge) | Cell voltage protection: 2.8 V<br>Cell Recover Voltage: 2.9 V<br>Total voltage protection: 42 V<br>Total Voltage Recovery: 43.5 V   |
| Current (Charge)    | Normal ≤ 100 A<br>Charging current limiting function: > 110 A (10 sec)<br>Charging current limiting function: > 125 A (3 sec)       |
| Current (Discharge) | Normal ≤ 100 A<br>Over current protection 1: > 110 A and < 125 A (10 sec)<br>Over current protection 2: > 125 A (3 sec)             |

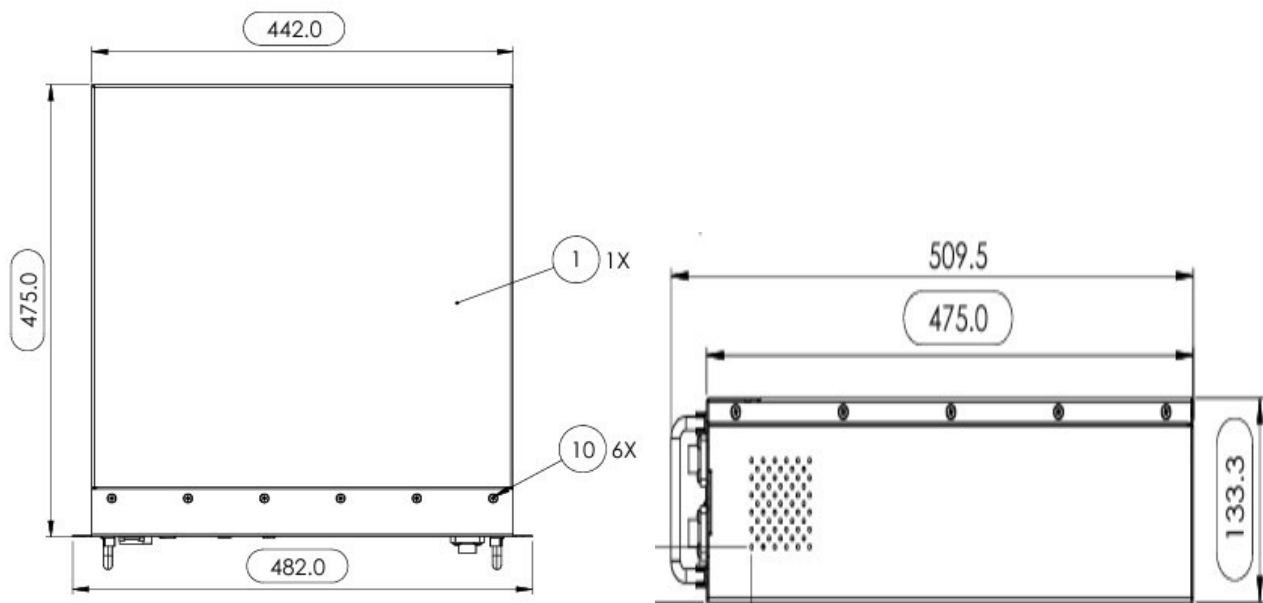
|                        |                                                                                                                                                                                                               |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        | Short circuit protection: $\geq 320\text{ A}$ ( $< 1\text{ ms}$ )                                                                                                                                             |
| Temp (Cell)            | <b>Low temp protection:</b><br>Charging $> 0^{\circ}\text{C}$<br>Discharging $> -20^{\circ}\text{C}$<br><b>High temp protection:</b><br>Charging $< 50^{\circ}\text{C}$<br>Discharging $< 65^{\circ}\text{C}$ |
| Temp (PCB)             | Temp protection $\geq 95^{\circ}\text{C}$ (Recovery $< 75^{\circ}\text{C}$ )                                                                                                                                  |
| Cell Balance (Balance) | Balancing Current Per Cell 250mA.                                                                                                                                                                             |
| Pre-Charge Protection  | Yes                                                                                                                                                                                                           |
| Data Storage Available | Yes                                                                                                                                                                                                           |
| Monitoring Function    | Display                                                                                                                                                                                                       |
| Antitheft              | Yes                                                                                                                                                                                                           |

## CERTIFICATION:

|                                               |                  |
|-----------------------------------------------|------------------|
| Battery Safety Standard                       | IEC 62619        |
| Cell Safety Standard                          | IEC 62133-2-2017 |
| Electrostatic Discharge (ESD) Immunity Limits | IEC 61000-4-2    |
| Environmental                                 | QM333            |

## MECHANICAL

|                                             |                                                                              |
|---------------------------------------------|------------------------------------------------------------------------------|
| Dimensions (W x H x D)                      | Without handle: 475x482x133.3mm<br>With handle & terminal: 510 x482x 133.3mm |
| Mounting Design                             | 19 Inch Rack Based                                                           |
| Unit Height                                 | 3U                                                                           |
| Module IP Protection                        | IP 20                                                                        |
| Weight                                      | Approx. $48 \pm 1\text{ kg}$                                                 |
| Total Cells Quantity in Battery Module      | 15 No. of cell in series (Prismatic type cell)                               |
| Painted Material                            | Painted Galvanized (IS 277)                                                  |
| Cell                                        | LFP 100 Ah                                                                   |
| Max Quantity of Battery Parallel Connection | 8 No's in parallel system.                                                   |
| Color Code                                  | RAL7035 (Light Gray)                                                         |
| Connector                                   | Through Wall Connector                                                       |



#### Note -

1. 0.5C/1C means charge 0.5C and discharge 1C
2. Operation temperature means the ambient temperature. Protection may be triggered if the conditions defined in the specification are exceeded.
3. All specifications are subject to change without prior notice.
4. Performance may vary depending on but not limited to cell usage and application. If a cell is used outside specifications, performance will diminish.