

## 12.8V - 20Ah Lithium LiFePO4 Battery

XTREME Series Lithium Iron Phosphate batteries are powerful LiFePO4 products that have the highest capacity in standard casings available on the market. The highly sophisticated and integrated BMS with very low self-consumption brings safety, functionality and ease of use together in a lightweight and robust casing. The batteries have been specifically designed to provide energy for RV (Recreational Vehicles), marine, solar and backup power systems. Bluetooth and LED indicators, LCD screen, self-heated functions could be optional.



### Benefits of Lithium

- High capacity, low weight, Increased energy in given space
- Fast charging
- High operational reliability
- Safest lithium technology
- Excellent life cycles
- Built-in intelligent BMS to protect the battery pack and prolong its service life
- Maintenance free

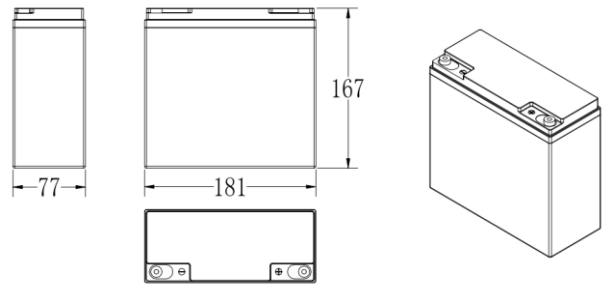
### Certifications and standards

#### a.Products

- UL1642(cells)
- FCC
- UN38.3
- IEC62619

#### b.MS certifications

- ISO9001
- ISO14001
- OHSAS 18001



### Specifications

| Nominal Characteristics          |        |                               |
|----------------------------------|--------|-------------------------------|
| Battery model                    |        | TP1220LFP                     |
| Nominal voltage                  |        | 12.8V                         |
| Typical capacity                 |        | 20Ah(25°C,0.2C)               |
| Typical energy                   |        | 256Wh                         |
| Cells type/chemistry             |        | Prismatic-LiFePO <sub>4</sub> |
| Gravimetric Energy density       |        | 111Wh/Kg                      |
| Dimensions                       | Length | 181mm                         |
|                                  | Width  | 77mm                          |
|                                  | Height | 167mm                         |
| Reference Weight                 |        | 2.3Kg                         |
| Case Material                    |        | ABS                           |
| Cycle life                       |        | >2000 cycles(100% DoD)        |
| Electrical Characteristics       |        |                               |
| Charge method                    |        | CC/CV                         |
| Charge voltage Range             |        | 14.3~14.6V                    |
| Max.continuous Discharge Current |        | 20A                           |
| Max.continuous Charge Current    |        | 20A                           |
| Discharge Pulse Current (10 sec) |        | 50A                           |
| End of Discharge Voltage         |        | 10V                           |
| Operation Environment            |        |                               |
| Charge Temperature               |        | 0°C~55°C                      |
| Discharge Temperature            |        | -20°C~60°C                    |
| Storage Temperature              |        | -20°C~60°C                    |
| Protection Class                 |        | IP56                          |

## BMS Specifications

| ITEM                      | CONTENT                               | CRITERION                    |
|---------------------------|---------------------------------------|------------------------------|
| Voltage                   | Charging voltage                      | 3.65V/cell                   |
|                           | Balance voltage                       | 3.45V/cell                   |
| Current                   | Max continues charge current          | 20A                          |
|                           | Max continues discharge current       | 20A                          |
| Over charge Protection    | Over charge detection voltage         | 3.75±0.05V                   |
|                           | Over charge detection delay time      | 1~3S                         |
|                           | Over charge release voltage           | 3.6±0.05V                    |
| Over discharge Protection | Over discharge detection voltage      | 2.5±0.05V                    |
|                           | Over discharge detection delay time   | 1~3S                         |
|                           | Over discharge release voltage        | 2.70±0.10V                   |
| Over current protection   | Over discharge current protection     | 50A                          |
|                           | Detection delay time1                 | 50~150mS                     |
|                           | Over charge current detection current | 40A                          |
|                           | Detection delay time                  | 300~800mS                    |
| Short Circuit Protection  | Short Circuit Protection Current      | 130A, External short circuit |
|                           | Detection delay time                  | 400uS                        |
|                           | Release condition                     | Cut load and charging        |
| Battery temperature       | Over-temperature protection           | 65±5°C                       |
|                           | Release temperature                   | 50±5°C                       |

## Performance curve

