# ADVANCED 100
DATA SHEET [PAGE 1]

**LiFePO4**
**12.8V**
**Leisure Battery**


## Battery service life:

The Teconnex Advanced 100 is a 12.8V 100Ah LiFePO4 battery. Designed to offer 3000 cycles[1] (equivalent to up to 10 years[2] of use). This can be up to 10 times the life of a typical lead-acid battery.

At 11.4kg the Advanced 100 weighs approximately half of the weight of a typical lead-acid battery. Benefit from performance advantages way beyond other battery types. Enjoy 12.8V including when operating at high discharge levels.

Enjoy a minimum of 12V even at high discharge rates of up to 100A not only when the Advanced 100 is fully charged, but throughout each use including as the battery approaches a complete discharge.

## Safety protection:

The Teconnex Power Advanced 100 has an in-built Battery Management System (BMS) to protect the unit from overcharging, overheating, short circuit, excess discharging, long storage cell failure and cold storage cell failure.

Robust environmental safety features have been designed within the Advanced 100, providing high levels of LiFePO4 product assurance and safety protection for the owner.

1. We define a cycle as when the product completes a combined charge and discharge of at least 70% of the specified original nominal energy capacity.
2. Our specifications are based on the Advanced 100 performing a maximum of 300 cycles in any measured 12 month period.

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DATA SHEET [PAGE 2]

**LiFePO4 12.8V Leisure Battery**

| Electrical Specifications | |
|---|---|
| Nominal Voltage | 12.8V |
| Nominal Capacity at 25°C | 100Ah |
| Depth of Discharge (DoD) | >95%[3] (plus an operational variance allowance of up to ± 3%)[4] |
| Resistance at 50% State of Charge (SoC) | ≤30mΩ |
| Nominal Energy at 25°C | 1280Wh |

[3] This DoD value is at time of manufacture. DoD capacity will naturally decrease over time. DoD capacity is also subject to type of usage performed and operating environment factors.
[4] An operational variance allows for individual cell fluctuations, BMS balancing, BMS safety operations, specific use case requirements and variances in temperature and humidity during product lifetime operation.

| Mechanical Specifications | |
|---|---|
| Dimensions (L x W X H) | 328mm x 172.5mm x 217.3mm |
| Weight | 11.4 Kg |
| Terminal Connections | M8 thread |
| Terminal Torque | 11-13 Nm |
| Enclosure Protection | IP43 |
| Cell Type & Chemistry | Prismatic LiFePO4 100Ah 3.2V |

| Discharge Specifications | |
|---|---|
| Max Continuous Discharge Current | 100A |
| Peak Discharge Current | 105A for 10 seconds |
| BMS Low Discharge Voltage cut-off | 10.8V after 2 seconds at a pack level or 2.7V after 2 seconds at an individual cell level |
| Recommended Discharge Current | 50A |
| Operating temperature less than 75% relative humidity | Between -10°C to +52°C* |

| Charge Specifications | |
|---|---|
| Max Continuous Charge Current | 100A |
| Peak Charge Current | 105A for 10 Seconds |
| Recommended Charge Current | 50A to 20A (use 20A if extending the product life is paramount over time to charge) |
| Operating temperature less than 75% relative humidity | Between 0.5°C and 52°C* |

| Environmental & Storage condition | |
|---|---|
| Operating temperature less than 75% relative humidity | Store the Advanced 100 in a safe and dry location with an ambient temperature between -20 to +52°C*<br><br>The Advanced 100 has a self discharge rate of 0.35%[5] |

*Note: these temperatures are set to ensure the Advanced 100 LiFePO4 battery cells do not exceed operational specification parameters.
[5] Based on an uninterrupted 30 day period at a constant temperature of 25°C

| Abbreviation | Meaning |
|---|---|
| V | Voltage |
| A | Amps |
| Ah | Amps per hour |
| Nm | Newton-metre |

| Abbreviation | Meaning |
|---|---|
| mΩ | Milliohm |
| Wh | Watts per hour |
| Kg | Kilogram |
| °C | Degrees Celsius |

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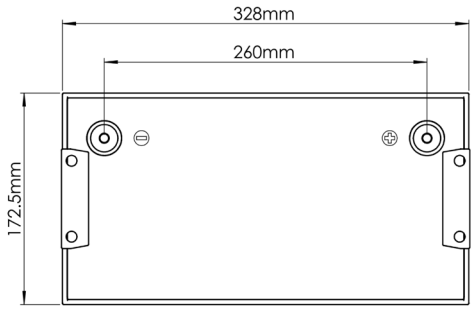
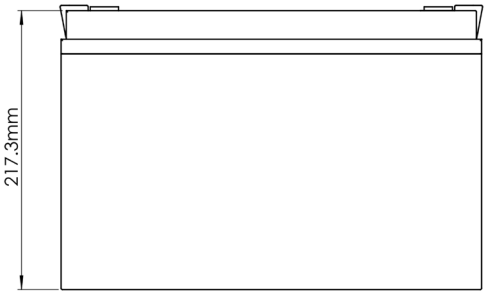
# LiFePO4 12.8V Leisure Battery

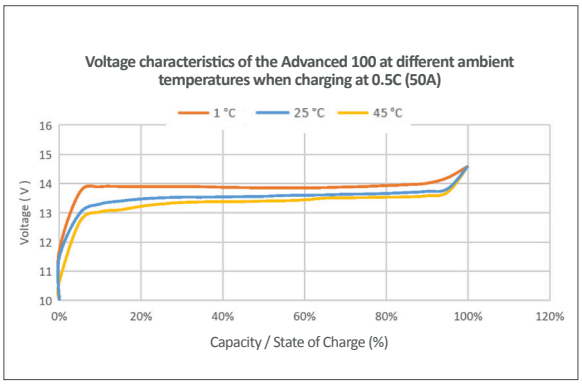
## Dimensional Specifications

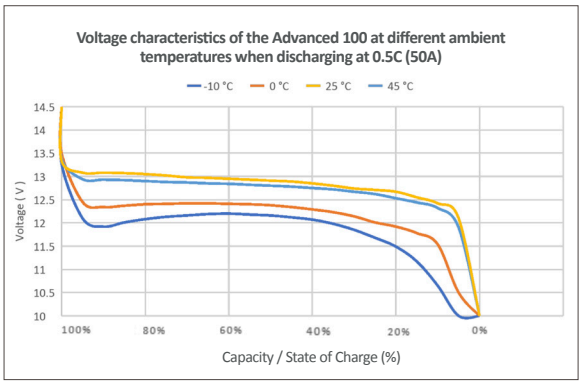


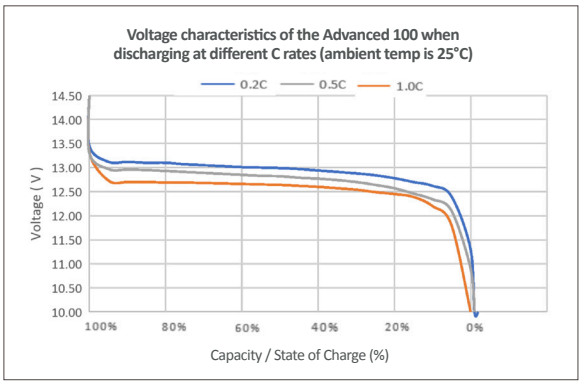



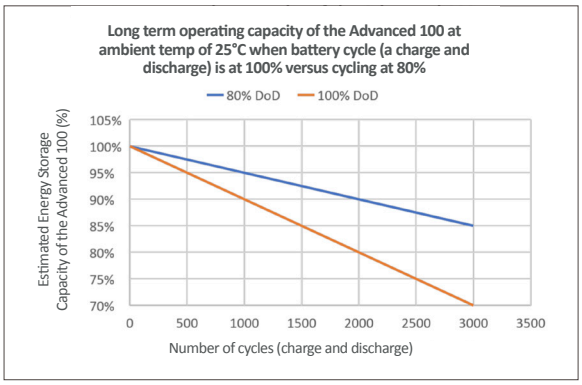

## Performance Characteristics

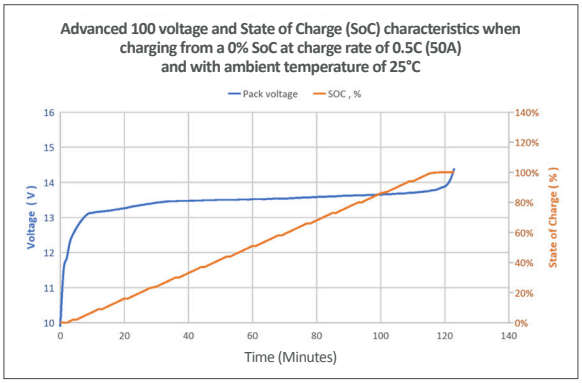
Note: C = rate of charge / rate of discharge.
A 0.5C charge is a 50A charge and a 1C charge is a 100A charge.
A 0.5C discharge is 50A discharge and a 1C discharge is 100A discharge.




The C-rate is the charge or discharge rate that a battery is charged or discharged at.

For example, a C or charge rate of 1C means a charge rate of 100A.

Therefore, the Teconnex Power Advanced 100 would be charged from 0% to 100% in one hour as it is a 100Ah leisure battery.

A charge rate of 0.5C is a rate of 50A. In this situation the Advanced 100 would be charged from 0% to 100% in two hours.

A charge rate of 0.2C is a rate of 20A. If a fully charged Advanced 100 discharges electricity at a rate of 0.2C it would take approximately 5 hours before the Advanced 100 would reach empty (that is a 0% State of Charge or SoC).

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