

## Lithium Iron Phosphate (LiFePO4) Battery

12.8V, 12AH/10A BMS

### Features of LiFePO4 Batteries

- **Longer Cycle Life:** Offers up to 20 times longer cycle life and five times longer float/calendar life than lead acid battery, helping to minimize replacement cost and reduce total cost of ownership.
- **Lighter Weight:** About 40% of the weight of a comparable lead acid battery. A 'drop in' replacement for lead acid batteries.
- **Higher Power:** Delivers twice power of lead acid battery, even high discharge rate, while maintaining high energy capacity.
- **Wider Temperature Range:** -20 C~60 C.
- **Superior Safety:** Lithium Iron Phosphate chemistry eliminates the risk of explosion or combustion due to high impact, overcharging or short circuit situation.
- **Increased Flexibility:** Modular design enables deployment of up to four batteries in series and max 20 batteries in parallel.

### Application

- Electric vehicles,Boats,Caravan,
- electric mobility Solar/wind energy
- Medical equipment
- Lighting, etc.

### Specification of battery pack

Offgridtec offers two-year warranty. It is the benefit of years of continuous engineering improvement and proven experience with all of our batteries in the harshest environment .Compared to conventional lead-acid batteries,This 12V 12Ah Lithium us more light in weight ,saving space and has has extremely efficient and high performance.

Our Deep Cycle has 12 volts (12.8V) and a 12Ah capacity and is perfect for powering your deep cycle systems, this lithium battery a strong, safe and easy to use energy storage solution,This is a very safest Lithium technology available now,with our unique BMS and electronics further increase safety and durability.

#### ELECTRICAL SPECIFICATIONS

|                                |                          |
|--------------------------------|--------------------------|
| Nominal Voltage                | 12V                      |
| Nominal Capacity               | 12Ah                     |
| Nominal Energy                 | 128Wh                    |
| Internal Resistance            | ≤30 @50% SOC             |
| Capacity                       | @ 2A: 300minutes(5hours) |
| Self Discharge                 | 5% /per month            |
| Maximum In Series and Parallel | NO                       |
| Maximum In Parallel            | Recommend max 10Pcs      |

#### MECHANICAL SPECIFICATIONS

|  |                     |
|--|---------------------|
| Terminal Type                                  | F2                  |
| Weight   | 1,7kg               |
| Case Dimension(L*W*H)                          | 150*99*94mm         |
| Case Type                                      | ABS                 |
| Cell type / Chemistry                          | Cylindrical-LiFePO4 |
| LCD or Bluetooth Function                      | Optional            |
| BMS:low voltage,high voltage,over temperature, |                     |
| Over current,short-circuit protection .etc     |                     |

### Discharge Current and Voltage Specifications

|                                  |  |
|----------------------------------|--|
| MAX Continuous Discharge Current | 10A  |
| Peak Current                     | 15A  |
| Discharge pulse current          | 20A±5A (31±10ms)                             |
| BMS Low Voltage Cut-off          | 9V (2.25V±0.05v) pc                          |
| BMS Reconnect Voltage            | 10V (2.5V±0.05v) pc                          |
| Short Circuit Protection         | 200-800 μs<br>Auto recover or charge release |

### Charge Current and Voltage Specifications

|                                 |                     |
|---------------------------------|---------------------|
| Max Charge Current              | 10A                 |
| Recommended Charge Current      | 2A - 5A             |
| End of Charge voltage           | 14.4V±0.2V          |
| End of discharge voltage        | 8V                  |
| BMS Over Charge Voltage Cut-off | 15V(3.75V±0.05v pc) |
| Balancing Voltage               | 3.6V±0.05v pc       |

### Temperature Ranges

|                                     |           |
|-------------------------------------|-----------|
| Discharge Temperature               | -20~+65°C |
| Charge Temperature                  | -20~+45°C |
| Storage Temperature Range           | -20~+45°C |
| BMS High Temperature Protection     | 90°C      |
| Battery High Temperature Protection | 60°C      |

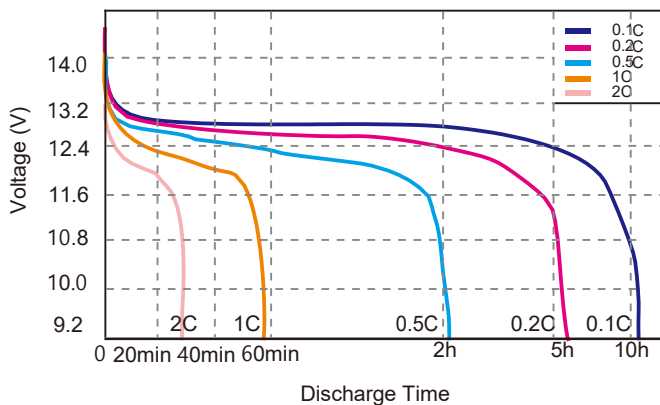
### COMPLIANCE SPECIFICATIONS

|                         |   |
|-------------------------|---|
| Certifications          | CE for Battery Pack<br>IEC62133 & BIS for cells |
| Shipping classification | UN 3480   |

## PERFORMANCE CHARACTERISTICS

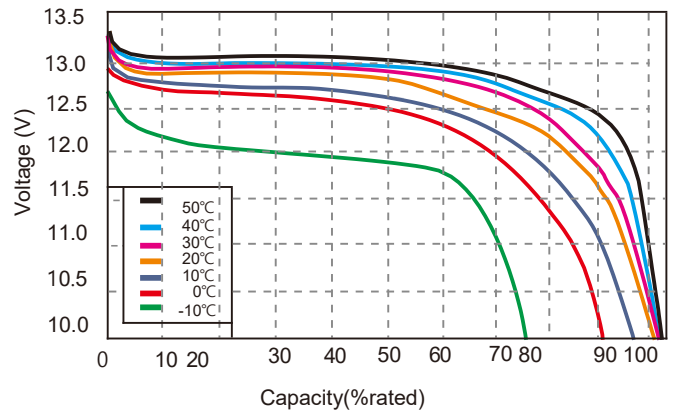
### Different Rate Discharge Curve

Different Rate Discharge Curve @25°C



### Different Temperature Discharge Curve

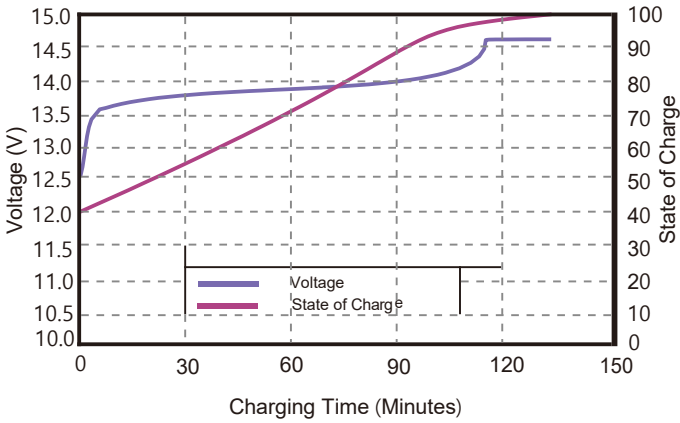
Different Temperature Discharge Curve @0.5C



PERFORMANCE CHARACTERISTICS

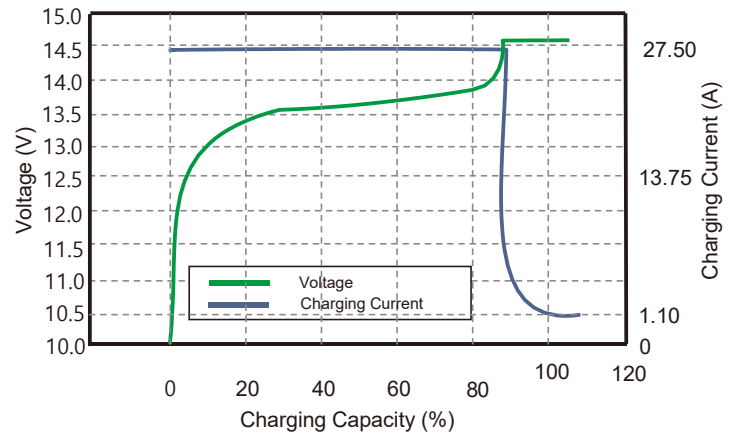
State of Charge Curve

State of Charge Curve @0.5C 25°C



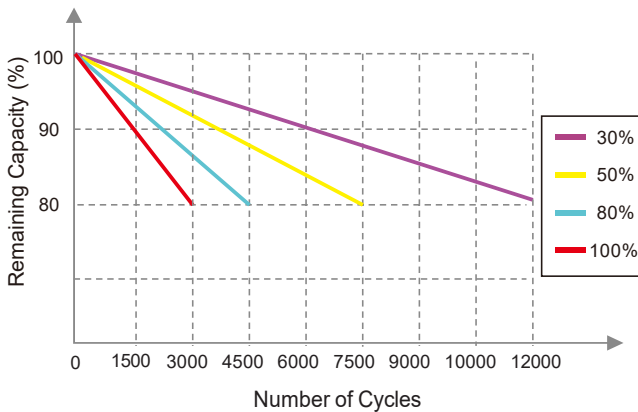
Charging Characteristics Curve

Charging Characteristics @0.5C 25°C



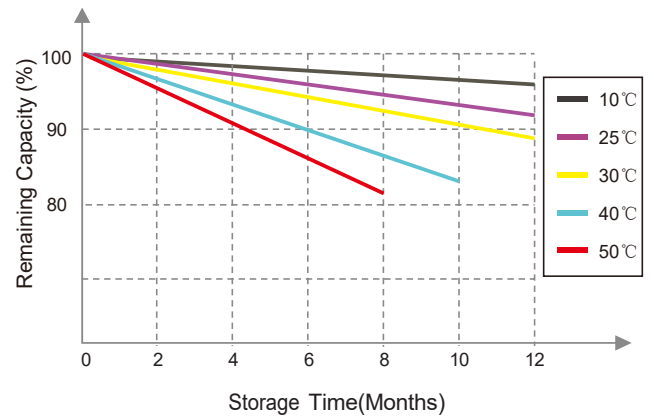
Cycle Life Curve

Different DOD Discharge Cycle Life Curve @1C



Self Discharge Characteristics Curve

Different Temperature Self Discharge Curve



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