

## AT-LFP-12-150-AV01

Heavy Duty - Built in Battery Protection System

AMPTRON lithium batteries have a built-in Battery Protection System (BPS) designed to prevent damage to the cells from almost any external accidental occurrence that would normally cause damage. The internal BPS will automatically disconnect to prevent damage to the cells if the battery drains below 10 volts. It will automatically reconnect when the charger is turned on. This protects the battery from over-discharging and damaging the cells. This technology also protects the battery from overcharge, short circuit and reverse polarity.

### Internal Features:

- Low Voltage Protection Switch - Automatically disconnects around 10V
- Over Voltage Protection Switch - Automatically disconnects around 14.8V
- Short Circuit Protection Switch - Automatically disconnects
- Reverse Polarity Protection Switch - Automatically disconnects
- Internal cell balancing - Automatically balances cells
- Charge Balancing - Independent balancing for multiple batteries connected in parallel or in series.
- This Battery Protection System is designed to last throughout the life of the battery and provide reliable power for thousands of cycles.

### CELL BALANCING

The BMS balances the cells by sending more current through the length way circuit boards and into cells with a lower voltage. The BMS will also discharge cells that exceed 3.65V during charging.

### THERMAL FUSE

Internal Cell Safety Fuse

Our latest cell technology is manufactured with a internal thermal safety fuse between the anode and cathode that will break and disconnect in the unlikely event the cell would begin to overheat.

### SAFETY VENT

High pressure safety vent

Each cell has a high pressure safety vent that will flip open to release energy and prevent explosion.

### ELECTROLYTE

Flame Retardant Electrolyte

Our cells are manufactured with our patented flame retardant additive in our electrolyte.

### EXPLOSION PROOF

Explosion proof Nickel plated steel

Every AMPTRON cell is manufactured in our explosion proof Nickel plated steel Prismatic case.



## SPECIFICATIONS

| Item   | Specification   | Description/Remark   |
|--|---|--|
| <b>Model</b>   | AT-LFP-12-150-AV01  | 12V 150Ah Lithium LiFePO4 battery  |
| <b>Chemistry</b>   | Lithium Iron Phosphate (LiFePO4)                                |  |
| <b>Battery dimensions</b>                                | L-405mm x W-175mm x H-220mm                                     | Height to top of fixed Handel 240mm  |
| <b>Weight</b>  | 19kg  |  |
| <b>Cell type</b>   | 3.2V 75Ah   | Prismatic  |
| <b>Battery module</b>                                    | 8 pcs 3.2V 75Ah cells, 2 parallel & 4 serial                    |  |
| <b>Casing material for single cell</b>                   | Nickel plated steel   |  |
| <b>Standard capacity (0.2C5A)</b>                        | 150 Ah / 1920Wh   |  |
| <b>&gt; 2000 cycles at 100% Depth of Discharge (DoD)</b> | Cycle life  | Under normal usage where the DOD is <80%, cycle life is expected to be up to 5000 cycles                 |
| <b>Rated voltage</b>                                     | 12.8V   | Working voltage per cell: 3.2V   |
| <b>Charge voltage</b>                                    | 14.6V   | Max. charge voltage per cell: 3.65V  |
| <b>Cut-off volate</b>                                    | 10V   | Discharge voltage per cell: 2.50V  |
| <b>Depth of discharge (DoD)</b>                          | 100%  | Batteries can be discharged to 100% of the rated capacity  |
| <b>Standard charge current</b>                           | 30A   | 0.2C   |
| <b>Charging time</b>                                     | Approximately 5 hours   | When charging from low voltage cut-off point   |
| <b>Optimum charge current range</b>                      | 30A (0.2C) to 75A (0.5C)  | Cell max voltage < 3.9V  |
| <b>Rapid charging</b>                                    | Max. charge current 100A (0.67C3A)                              | Temperature increase falling within 15°C is normal. Over 15°C will affect the service life of the cells. |
| <b>Max continuous discharge current</b>                  | 100A  | 1C, cell min voltage> 2.0v   |
| <b>Peak discharge current</b>                            | 200A  | 2C (5 seconds)   |
| <b>Discharge performance in normal temperature</b>       | 20A (0.2C3A) ≥ 100%<br>1C3A ≥90%                                |  |
| <b>Operating temperatures</b>                            | Standard 0°C~45°C<br>Discharge -20°C~65°C<br>Storage -20°C~45°C |  |
| <b>Impedance (Max, at 1000Hz.)</b>                       | ≤ 45mΩ  |  |
| <b>Storage performance</b>                               | Capacity can be kept ≥ 80% in storage for 12months              | Battery should be kept at -20°C ~ 45°C where it's dry, clean and well-ventilated.                        |
| <b>Connecting Terminals Pos (+) &amp; Neg (-)</b>        | M8  |  |