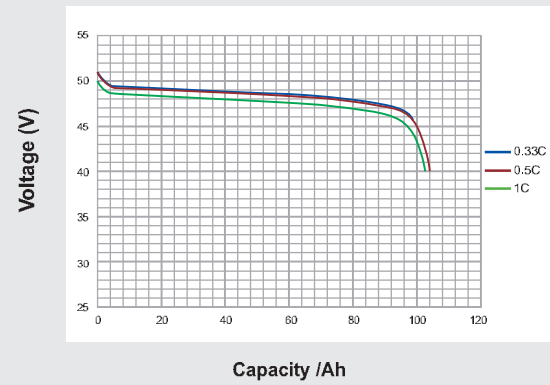
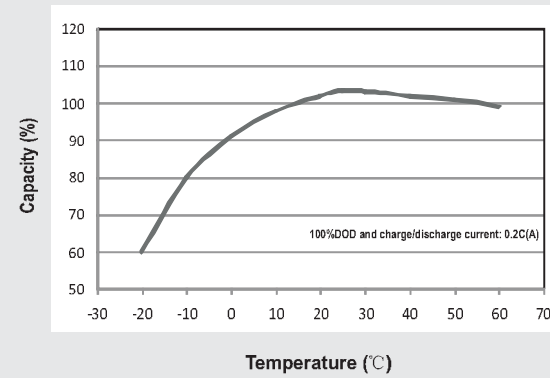


Characteristic Curves

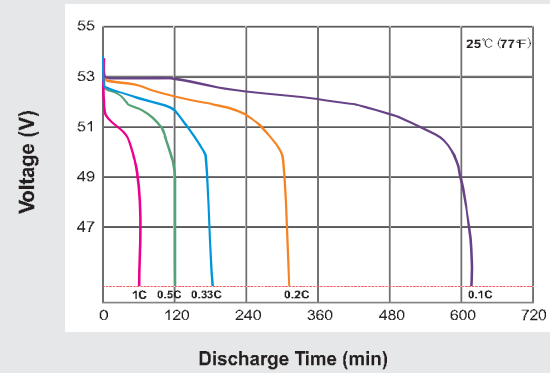
Discharge Capacity in relation to Discharge Rate



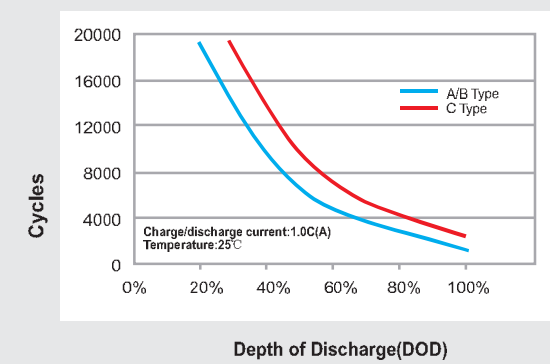
Temperature Effect in relation to Battery Capacity



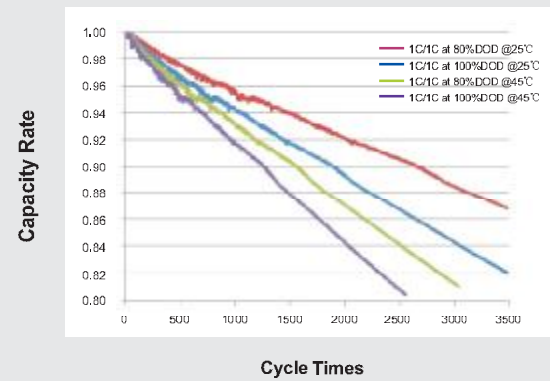
Discharge Time in relation to Discharge Rate



Depth of Discharge in relation to Cycle Life



Cycle Curves at different DOD & Temp



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INTEGRATED LiFePO₄ BATTERY SYSTEM FOR TELECOMMUNICATIONS



UL® CE EMC TS16949 ISO14001

ISO9001 OHSAS18001

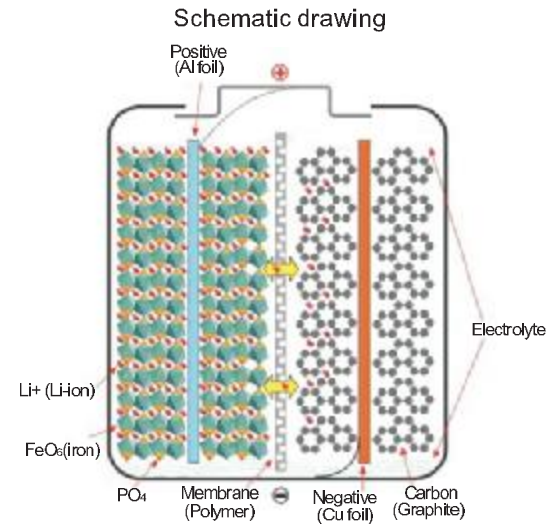
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Leoch International Technology Limited

LiFePO₄ Battery Cell

Lithium iron Phosphate battery (LiFePO₄) has a nominal voltage of 48VDC. It is comprised by 16 cells of 3.2V each. The internal structure of LiFePO₄ battery cell is shown in the figure on the right. Shown is the olivine structure of LiFePO₄ as the positive electrode of cell. Aluminum foil functions as current collector of positive pole. A polymer membrane separates positive and negative electrodes of the cell. The electron (e⁻) can't pass through the polymer separator but Li⁺ can pass through it freely. The negative electrode which consists of graphite is shown in the figure on the right. Copper foil is the current collector of negative electrode. There is organic electrolyte in the cell which is sealed by Al-plastic composite film.



General Features

- Lithium iron phosphate (LiFePO₄) is used as positive material, which offers extended cycle life and good safety performance.
- Embedded BMS offers voltage, current, temperature protection and alarm functions. BMS can communicate with other device by modbus protocol.
- Embedded BMS unit measures current, voltage, single cell surface temperature and the ambient temperature of the battery.
- Embedded BMS offers four remote functions which can communicate with far-end central control center by computer management.
- The combination of BMS and computer management technology can achieve real-time monitoring and control of various parameters and status.
- The power system has secondary cut-off protection and when the voltage is too low the system will cut off the support from the battery to protect the battery service life.
- Under normal operating conditions, the entire system emits very little noise due to their passive cooling design.
- Good electromagnetics shielding.



Advantages

- Environment-friendly, not containing heavy metals.
- High cycle times, Type C is with up to 5000 cycles to 80% DOD (≥3500 cycles to 100% DOD) Type A/B is with up to 3000 cycles to 80% DOD (≥2000 cycles to 100% DOD).
- Low self-discharge rate (per month): ≤2%, no memory effect.
- Low weight, Specific Energy is 2-3 times larger than conventional lead acid batteries.
- Being in sleep mode to reduce energy loss when storage and transport.
- Easy installation, the battery can be installed in 19" standard cabinet or wall-mounted
- Convenient interface design, all wiring harness is connected with plug.
- Small size, Volumetric Specific Energy is about 2 times larger than lead acid battery.
- **Safety**, LiFePO₄ battery completely solves the safety problems of traditional lithium battery.
- Wide operating temperature range (-20~+60°C) and good high temperature performance.
- Flexible configuration, a plurality of modules in parallel can support expansion of capacity to extend backup time.
- Excellent fast charging performance, after fast charging with 1C current, the capacity can reach 95% of rate capacity in half-hour.
- Having FTTH usually supersedes FTTB (FTTx) could be simpler to use.



Applications

- Wireless Hut back-up power
- Wireless Repeater back-up
- Fiber-Optic access network back-up power
- Outdoor Billboard lighting
- 48V Switchgear & Control Back-up Power
- Long duration Industrial UPS Systems
- FTTB & LAN/WIFI Connection Power
- Street & Highway Monitoring & Surveillance

Specifications

Model	Nominal Voltage (V)	Rated Capacity (AH)	Dimensions (mm/inches)			Weight (Kg)
			Length	Width	Height	
LFeLi-4810	48	10	442 / 17.40	330 / 12.99	44 / 1.7	9.50
LFeLi-4820	48	20	442 / 17.40	330 / 12.99	88 / 3.5	14.00
LFeLi-4830	48	30	436 / 17.17	400 / 15.75	132.5 / 5.2	20.00
LFeLi-4840	48	40	436 / 17.17	400 / 15.75	132.5 / 5.2	25.00
LFeLi-4850	48	50	436 / 17.17	400 / 15.75	132.5 / 5.2	25.00
LFeLi-4850C	48	50	443 / 17.44	441.5 / 17.38	132 / 5.2	32.00
LFeLi-4850D	48	50	436 / 17.17	350 / 13.78	132.5 / 5.2	25.00
LFeLi-4860	48	60	436 / 17.17	400 / 15.75	132.5 / 5.2	33.00
LFeLi-4875C	48	75	440 / 17.32	401.5 / 15.81	177.5 / 7.0	42.00
LFeLi-4880	48	80	436 / 17.17	420 / 16.54	220 / 8.7	39.00
LFeLi-48100	48	100	436 / 17.17	420 / 16.54	220 / 8.7	52.00
LFeLi-48100C	48	100	442 / 17.40	395 / 15.55	222 / 8.7	72.00
LFeLi-48100D	48	100	436 / 17.17	350 / 13.78	221.5 / 8.7	52.00

Note: Every model rated at ≥30AH can be installed with up to 10 systems in parallel to increase capacity. Type A systems do not have a LCD screen display, Type B systems have a LCD display screen. Type C is high performance, more than 3500 cycles at 80% DOD

