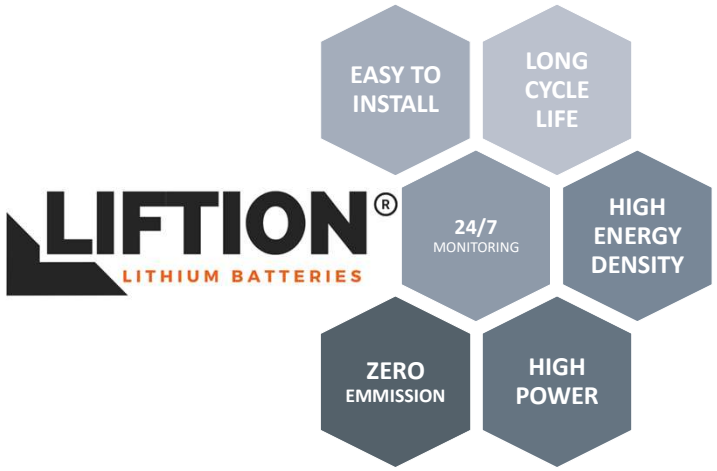
LIFTION®
LITHIUM BATTERIES

LITHIUM MOTIVE POWER BATTERY PRESENTATION

VTIndustrial SL

POWER + CONTINUITY
Power to keep you moving…

General Outlook to Li-Ion Technology



Cell Chemistries / LFP - LITHIUM IRON PHOSPHATE (Standard)	
Voltage Band	3.20 VPC nominal; Cut off 2.5 Vpc , 3.65 Vpc
Energy Density	120 Wh/kg
Charge	1 C
Discharge	0,5 - 1,5 C
Cycle life	3.000 - 5.000 @ %80 DoD
Thermal Runaway	240°C

Cell Chemistries / NCM – LITHIUM NICKEL MANGANESE COBALT(Optional)	
Voltage Band	3.70 VPC nominal; Cut off 3.0 Vpc , 4.20 Vpc
Energy Density	220 Wh/kg
Charge	1 - 2 C
Discharge	1 - 3 C
Cycle life	1.000 - 2.000 @ %80 DoD
Thermal Runaway	200°C

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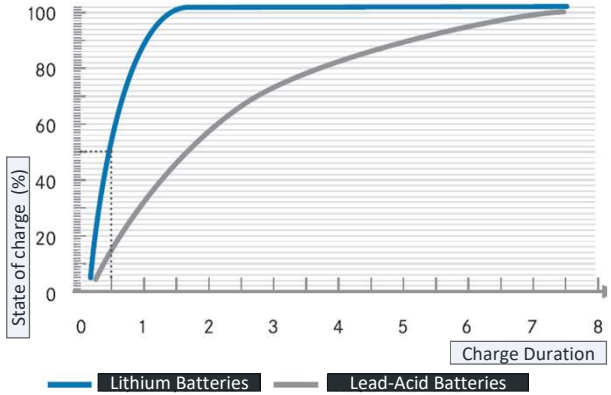

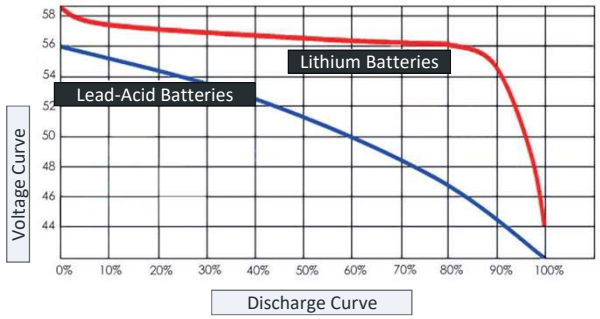

Features of LIFTION®

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High Energy Efficiency
100 % efficiency, additional 10 % capacity, up to 30 % energy cost saving with fast charge

Maintenance Free
Reduced after-sales costs; no water refill, no cleaning , no corrosion.

Enhanced Safety
Separate Cell, Module and Battery fuse detects and switches, thermal management systems

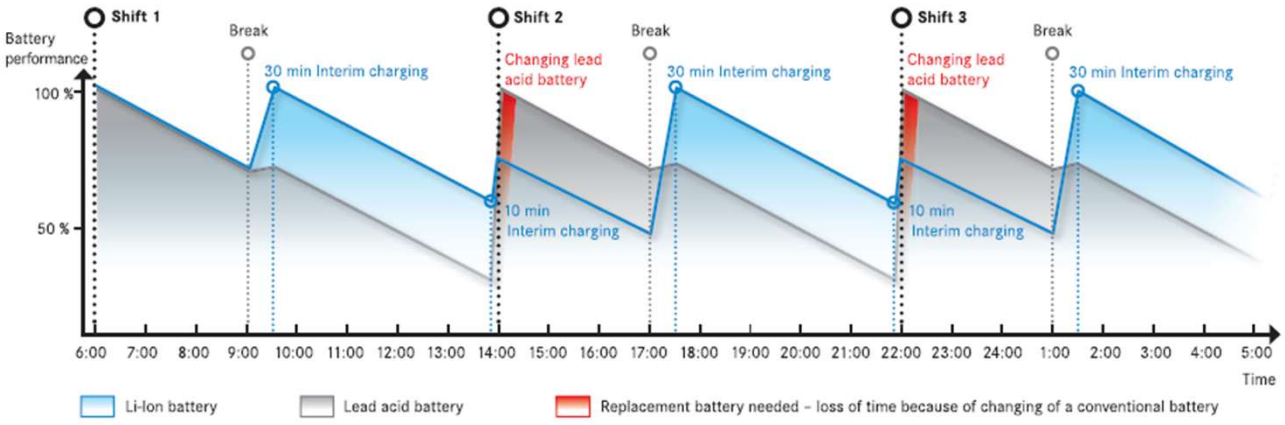
Smart Systems
BMS avoids over charge-discharge, protects against temperature and current changes

Environment Friendly
No gas emission, no dedicaded expensive charging room, recyclable

Increased Efficiency
No battery changes between shifts, no substitute battery requirements

COMMON CHARACTERISTICS

- > 3.500 cycle @ % 80 DoD for standard LFP Chemistry (NCM Optional)
- 24/7 Remote Monitoring and Diagnose with In-built Data Logger
- 3 Years / 3.000 Cycle Warranty (With Wi-fi Onboard Monitoring)
- Separate Power Ports (Charge & Discharge)
- Automatic Charge & Discharge switch
- 1 C continues Charge & Discharge
- Fully customizable, full colour , 4.3” interface (In any language)
- Contactor or Mosfet driven (optional)
- Different comm protocols (CANBus, CANOpen)
- Uninterrupted Balancing



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Battery Management System in LIFTION®

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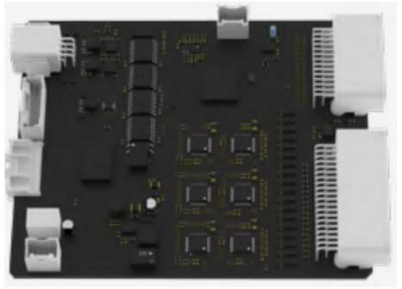
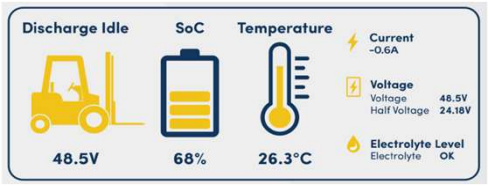
- Monitoring of cell voltage, temperature, battery current and recording all fundamental events
- Control of cooling / heating, precharge circuit, thermal status, mode of daily operative cycles in the integration of chargers, inverters and other devices
- High precision state of charge (SOC) and State of health (SOH) for a predictive maintenance service Remaining life cycle, Remaining Energy/Capacity, Cell resistance
- Protection against over & under-voltage, over-temperature, over-current
- Communication with standard and custom protocol (CANBus, CANOpen) adaptations

BATTERY MANAGEMENT SYSTEM (BMS) is the bright brain of each **LIFTION** batteries which manages real-time controls and ensures the correct pract'ces of operation, keeping the battery in a range of optimal and safe cond't'ons, thus avoiding any possible cause of failure.

LIFTION BMS guarantees the protection of both cell voltage and temperature which are the most important parameters for Lithium batteries.



LIFTION BMS control module is fully customizable, available in any language, with full colour 4.3" touch screen interface and welcoming screen with any brand…



* A Sample Dashboard of Control Module of BMS

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LIFTION® Product Range

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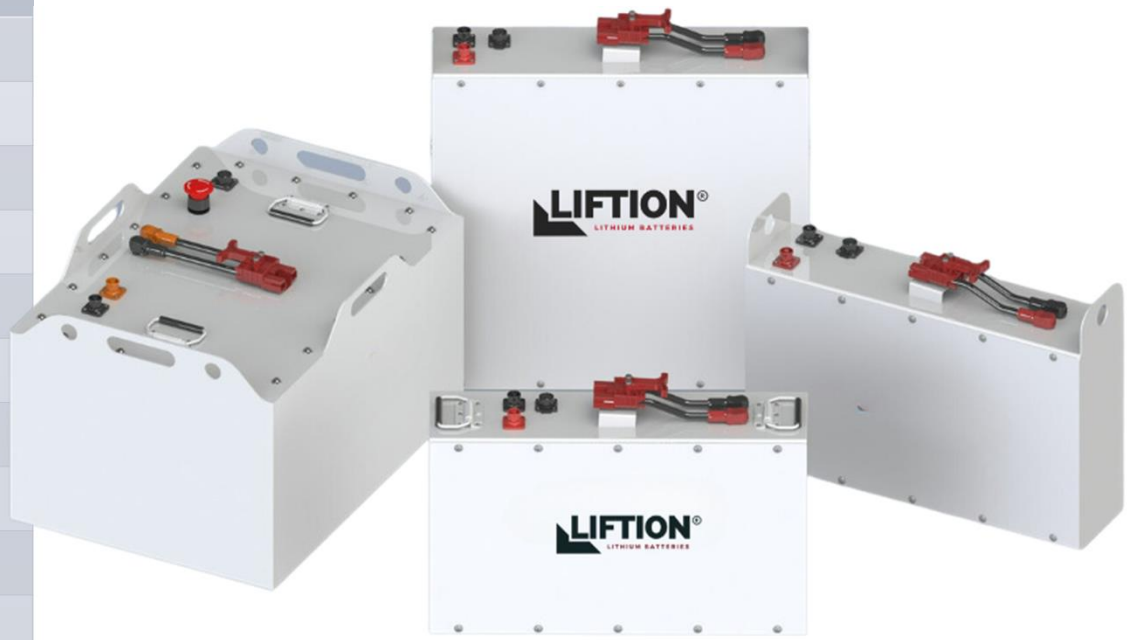
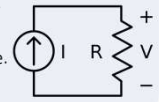
SPECIFICATION	CHARACTERISTICS
Battery Capacity [Ah	100 - 1200
Voltage [U	24 - 96
Energy [kWh]	1,2 – 115,2
Cycle life DOD 80%	> 2000 (0,5C) / > 3000 (0,2C)
Dimensions [mm]	Customisable
Weight	Customisable
Battery socket [A]	DIN 160/320
Protection class	IP54
Operating temp. [°C]	-20 to + 55 (discharge) / 0 to +50 (charge)
Storage temp. [°C]	-20°C to +60°C
Communication	CANBus, CANOpen



24V to 96V all Voltage and Capacity options available.



24/7 online monitoring to detect and diagnose the status of battery.

PLUGANDPLAY

Straight-forward replacement for all lead-acid batteries. No modification on old lead-acid system is needed...

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A registered brand of VT INDUSTRIAL, S.L.

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