

LITHIUM CUSTOM SYSTEM / EK Series

High efficiency and maximum customization!

Solutions from 24V up to 800V / from 60 Ah up to XXX Ah

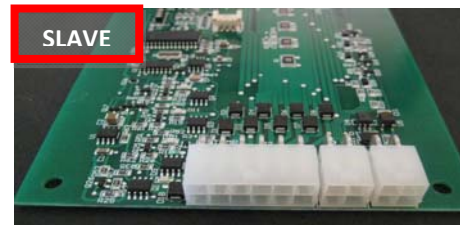
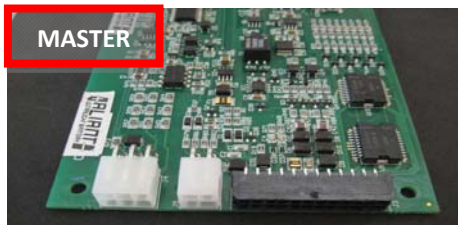


Battery systems made with lithium iron phosphate LiFePO4 cells. Developed specifically for ad hoc on the basis of customer-specific applications, They are mainly oriented to:

- Power stud-loads / platforms / excavating machines
- Hybrid / Electric traction
- UPS for industrial applications
- Storage systems for energy production systems from renewable sources

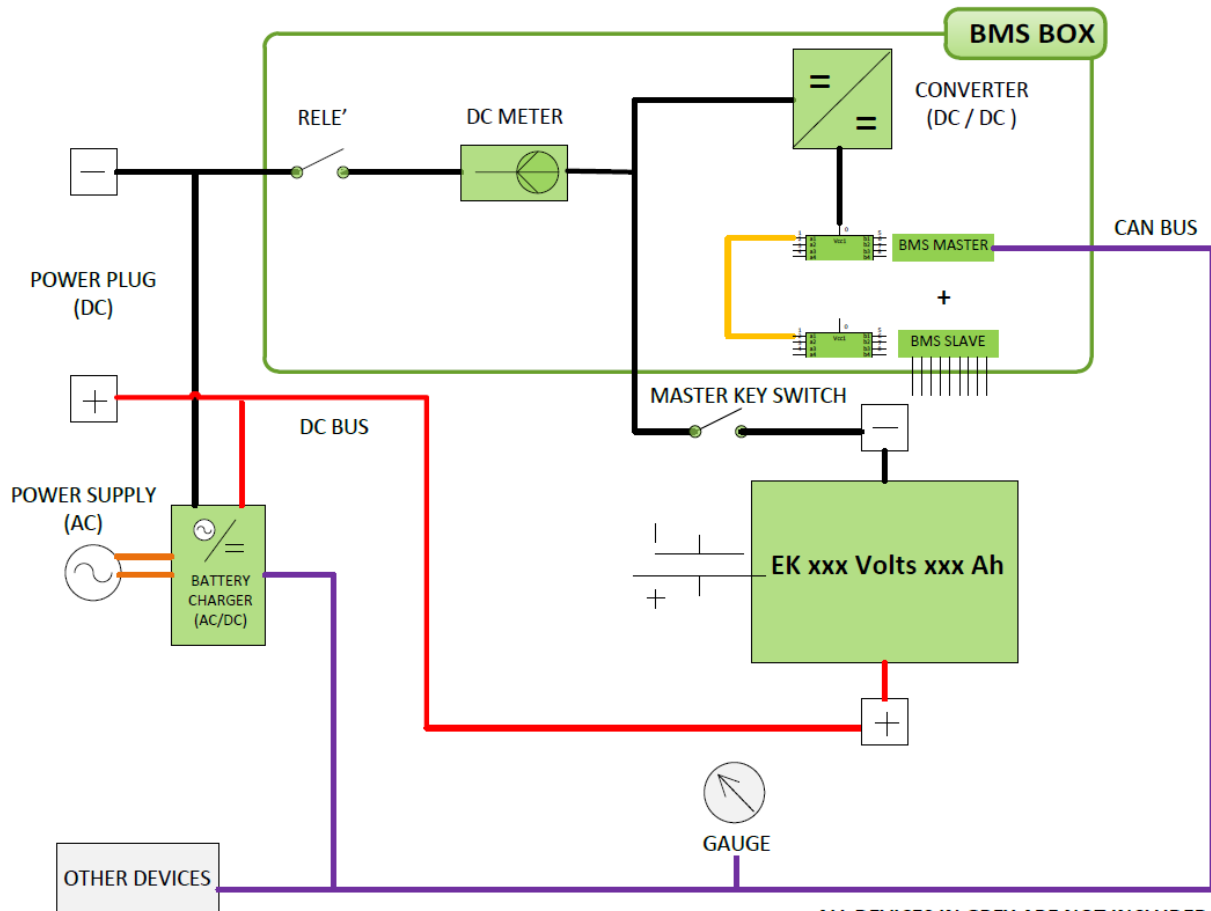
Exclusive features

- Maximum capacity in minimal space
- Useful life from 5 to 10 times higher than traditional batteries
- BMS microprocessor electronic management in the battery module with scalable Master \ Slave architecture for 24V to 800V systems



- Communication interface CAN Bus 2.0a / 2.0b / CANopen and RS232
- Communication of the main parameters of the battery
 - SOC – State of charge
 - SOH – Health state
 - I_{max} – Maximum current
 - V_{nom} – Nominal Voltage
- Main hardware management integrated: SHUNT, POWER CHARGING CIRCUIT RELAY AND POWER DISCHARGING CIRCUIT RELAY
- Design and production of the external case in IP54 / IP65 metal. Alternatively we offer the realization of LifePO4 batteries together with external case provided by customer as mounting account part for maximum integration with customer solution.
- Adjustable charging curve in REAL TIME - only compatible with pre-configured battery charger

General Scheme - Version BMS Box



ALL DEVICES IN GREY ARE NOT INCLUDED

Guaranteed quality

- Quality control carried out separately for each production step
- Assembled and tested in ITALY
- Selected components of latest generation
- Lithium Iron Phosphate cells armored with Aluminium case – up to 2000 cycles 80% D.O.D. – maximum security *Explosion Proof + Vibration Proof*

Dimensions [mm]	BMS BOX
W	410
D	310
H	150

Maximum security

- Protection of the cells by:
 - Over-charging
 - Deep discharge
 - Short Circuit
 - Maximum output current

Battery charger

- Optimization of the charging curve
- Available in IP32 version
- Power 1 KW to 12 KW
- Current and temperature automatic adjustment

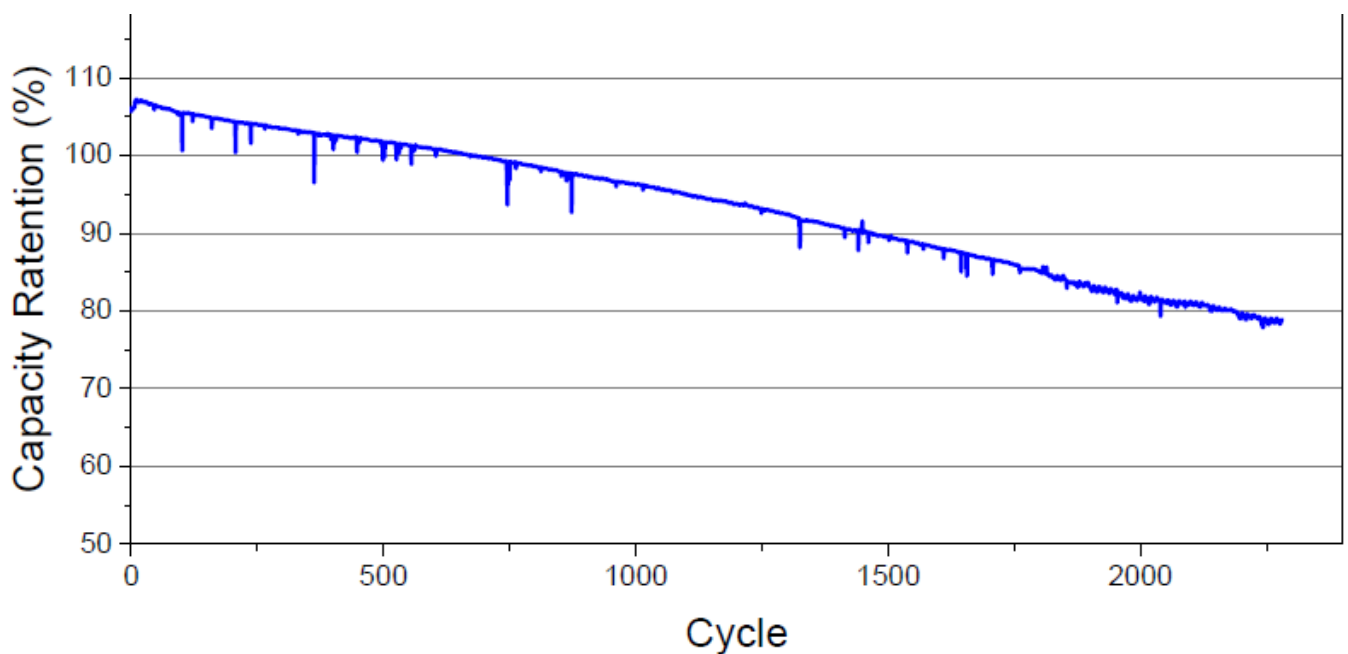
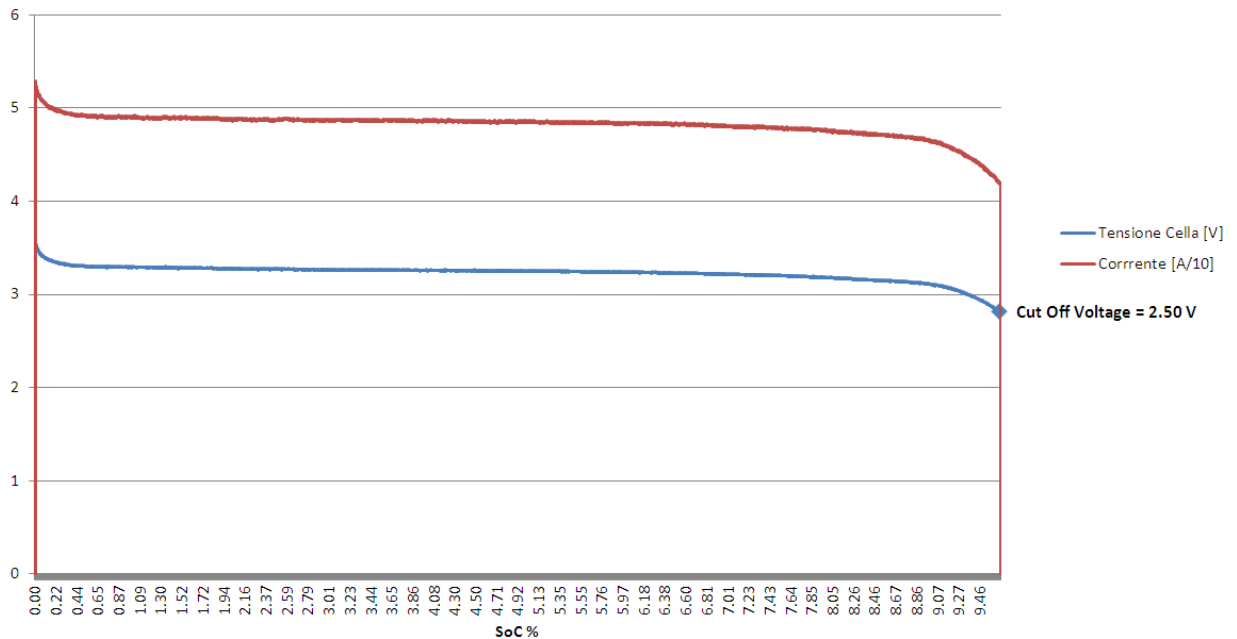
Remote diagnostics

- Aliant Netbook with battery diagnostic software via RS232
- Remote parameterization of fine Firmware BMS
- Check SoC - SoH in time

Temperatura Ambiente: 24°C

Data: 12/09/2013

Celle 100Ah Caratteristica V / Soc % Scarica 50A - Cut Off Voltage 2.5V

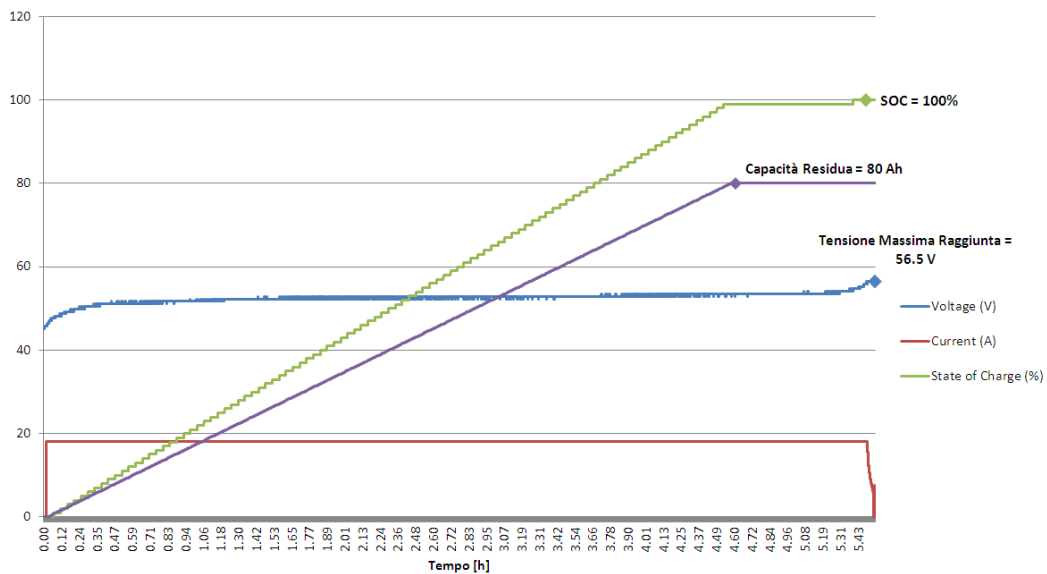


The above shown chart refers to charge / discharge cycles @ 100% D.O.D. with current equal to 1C

Banco Prova 51.2V 100Ah_Conf.16S1P80Ah
Carica - Zivan NG1 Can Bus

Temperatura Ambiente: 23°C

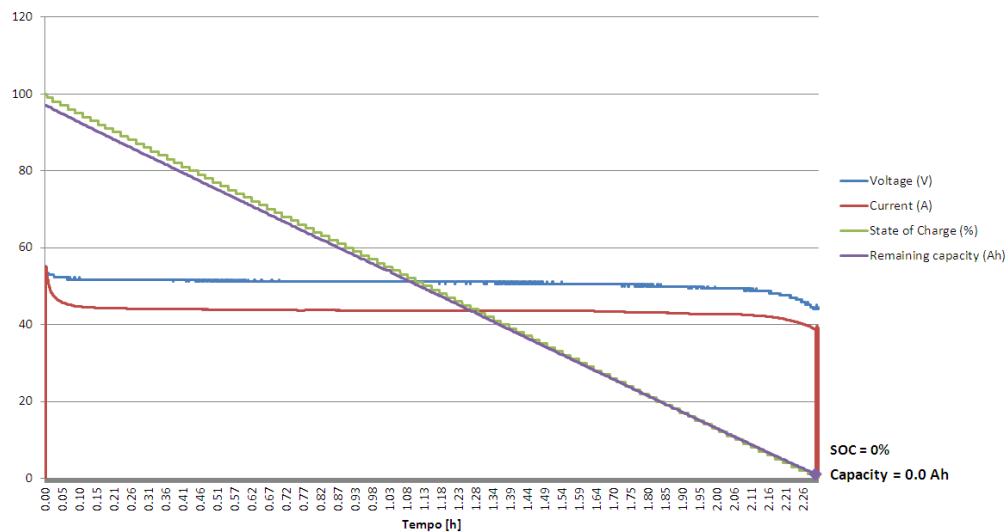
Data: 30/09/2013



Banco Prova 51.2V 100Ah_Config.16S1P80Ah
Scarica 50 A_Res 1Ω
SOC 100% - 0%

Temperatura Ambiente: 23°C

Data: 04/10/2013

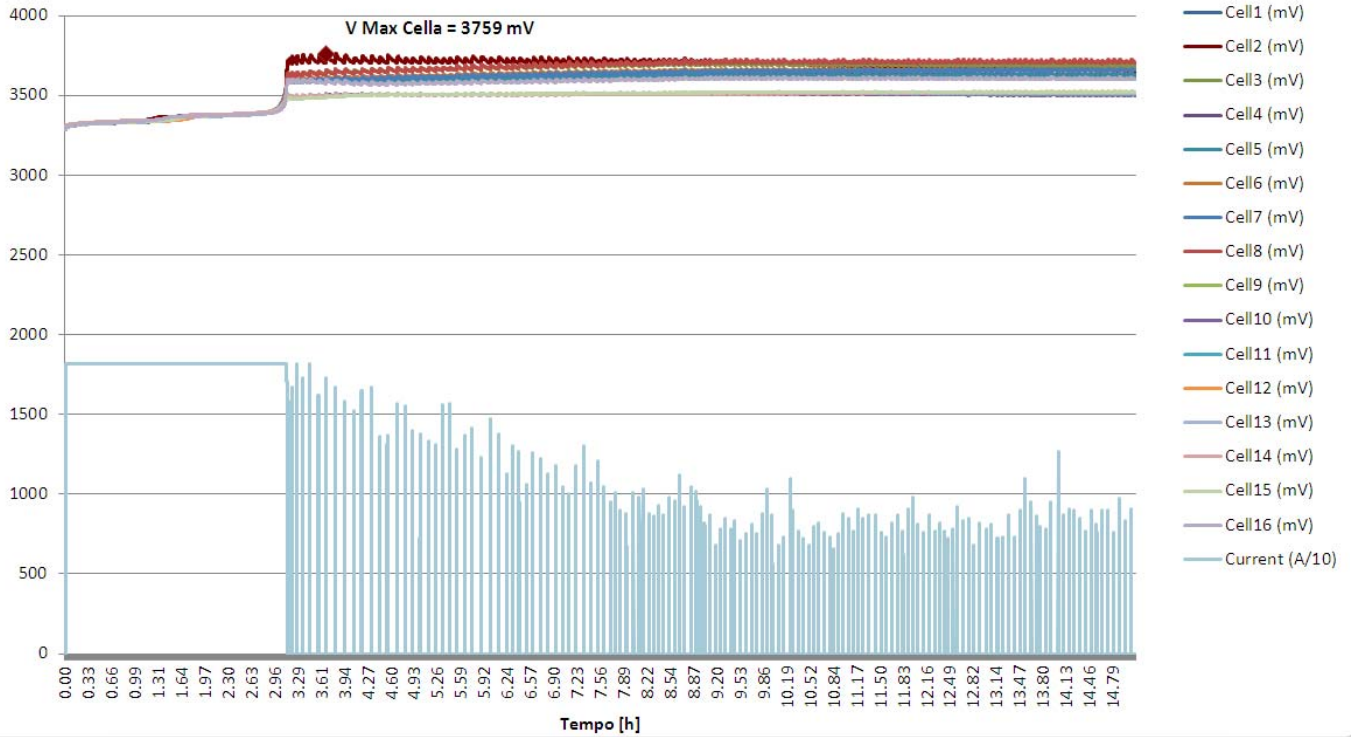


Typology	Average output current [A]	Time [h]	Actual capacity Delivered / Absorbed [Ah]	Software Capacity [Ah]		SOC %		% Error Measurement Software
				Beginning	End	Beginning	End	
Charge	18.2	5.5 h	100.1	0	80 Ah	0	100	NO
Discharge	43.5 A	2.20 h	101.3 Ah	97	0.9	100	0	5 %

Temperatura Ambiente: 23°C

Banco Prova 51.2V 100Ah_Conf.16S1P 80Ah
Carica a Scaglioni 05 - Zivan NG1 Can Bus
SoC 30% - 100% + Bilanciamento Finale

Data: 01/10/2013



Typology	Average output current [A]	Time [h]	Actual capacity Delivered / Absorbed [Ah]	Software Capacity [Ah]		SOC %		% Error Measurement Software
				Beginning	End	Beginning	End	
Charge 02	18.2 A	3 h	54.6 Ah	24.6 Ah	80 Ah	30	100	1.5 %