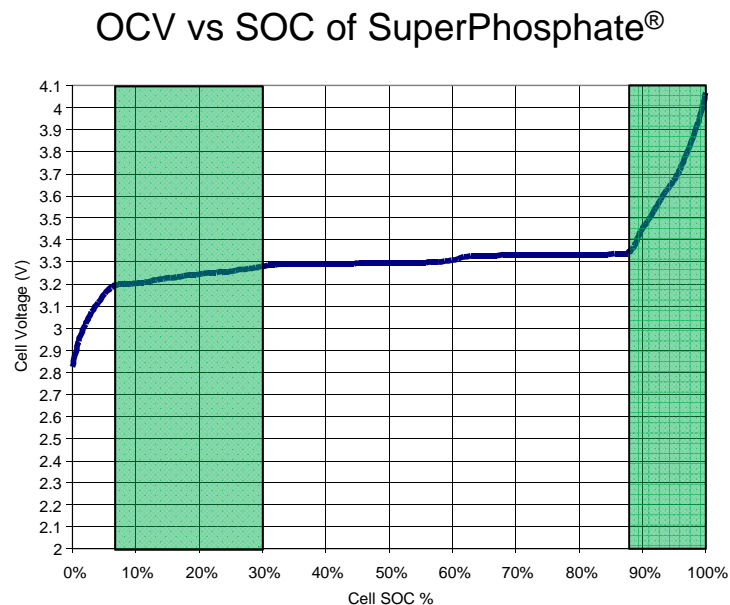




12 V High Energy Super-Phosphate[®] Battery

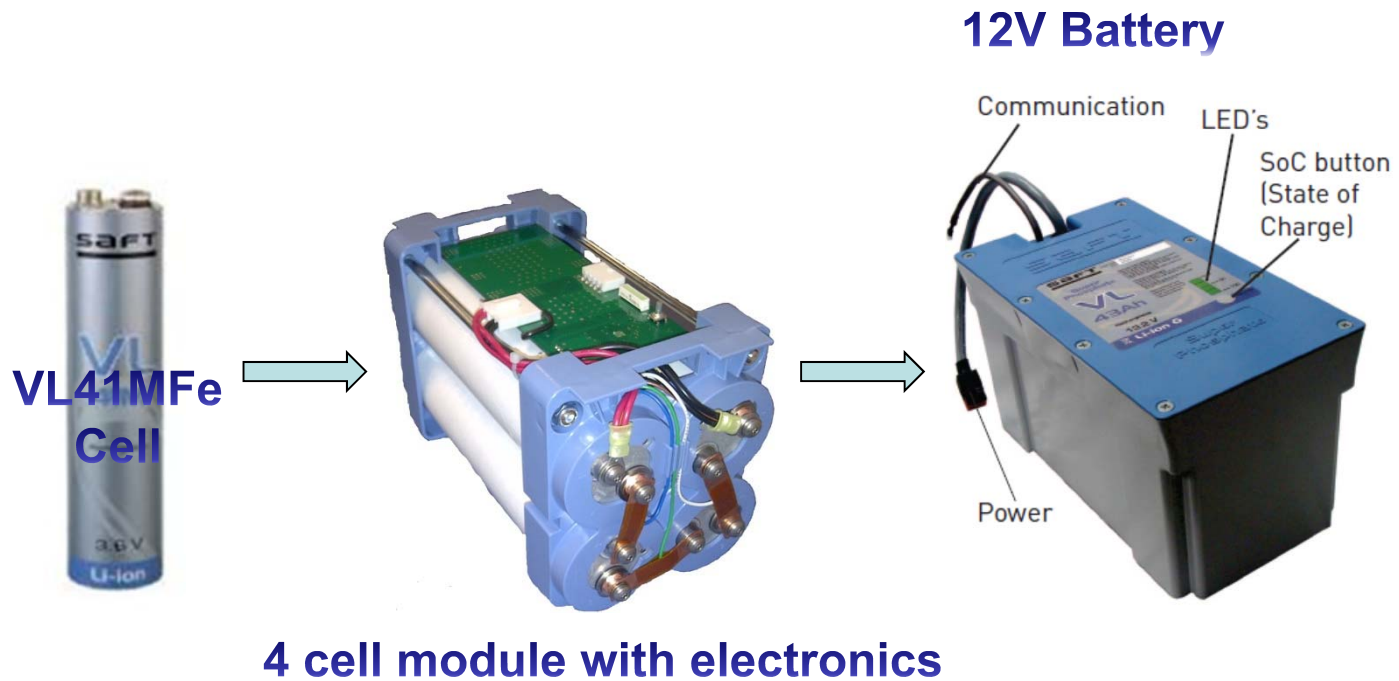


The Super-Phosphate[®] difference



- Flat voltage curve, like standard phosphates, from 30% to 90% SOC
- Unlike standard LFP, SLFP has a voltage to SOC relationship below 30% and from 90% - 100% SOC allowing for **improved performance of electronics**, ensuring accurate balancing of cells and fuel gauge accuracy

12V Super-Phosphate[®] Battery



12 V SLFP Battery Product Information

- High energy, >500Wh
- +3000 deep discharge cycles or 3 years to 60% remaining capacity.

Electrical characteristics	
Typical capacity at C rate at 25°C	40 Ah
Nominal voltage	13.2 V
Voltage range	15.6 V - 10.0 V
Energy	>500 Wh
Recommended maximum discharge current at 25°C (Continuous)	25 A
Physical characteristics	
Length	252 mm
Width	142 mm
Height	146 mm
Volume	
Maximum envelope	5.2 L
Actual volume	4.1 L
Mass	5.2 kg
Operating conditions	
Charging method	Constant current / Constant voltage
Charging voltage	15.6 ± 0.04 V
Recommended continuous charge current at 25°C	C/5
Maximum continuous charge current	C/2
Operating temperature	
Discharge	-30°C to +55°C
Charge*	-0°C to +55°C
Storage and transportation temperature	
Recommended	+10°C to +55°C
Allowable	-40°C to +70°C

*Fast charging may impact life - consult Saft for higher currents or lower temperatures

12V SLFP Battery Interface

Power

- > 30A internal fuse
- > Anderson Connector – standard
- > Custom connectors on request

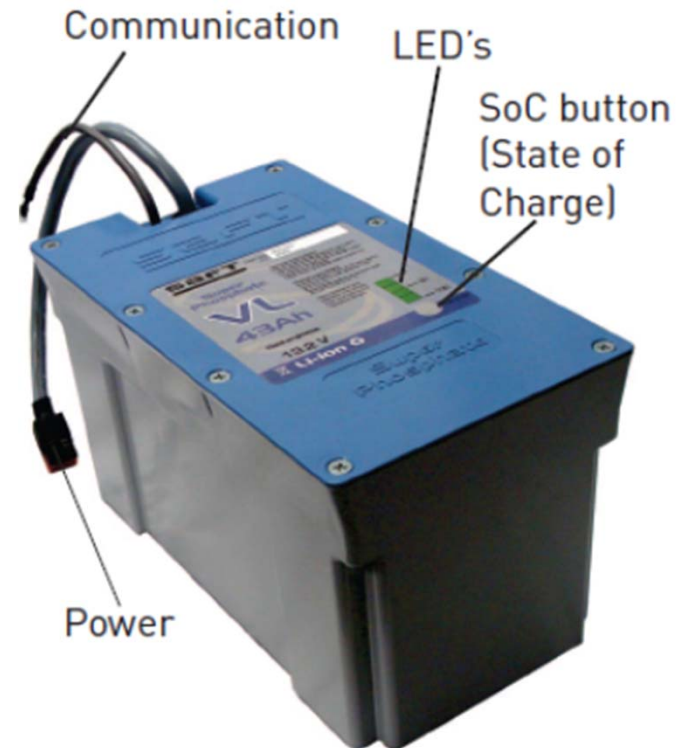
Communication

- > SMBus 1.1 compliant
- > Molex Connector – standard
- > Custom connectors on request

Push button SOC

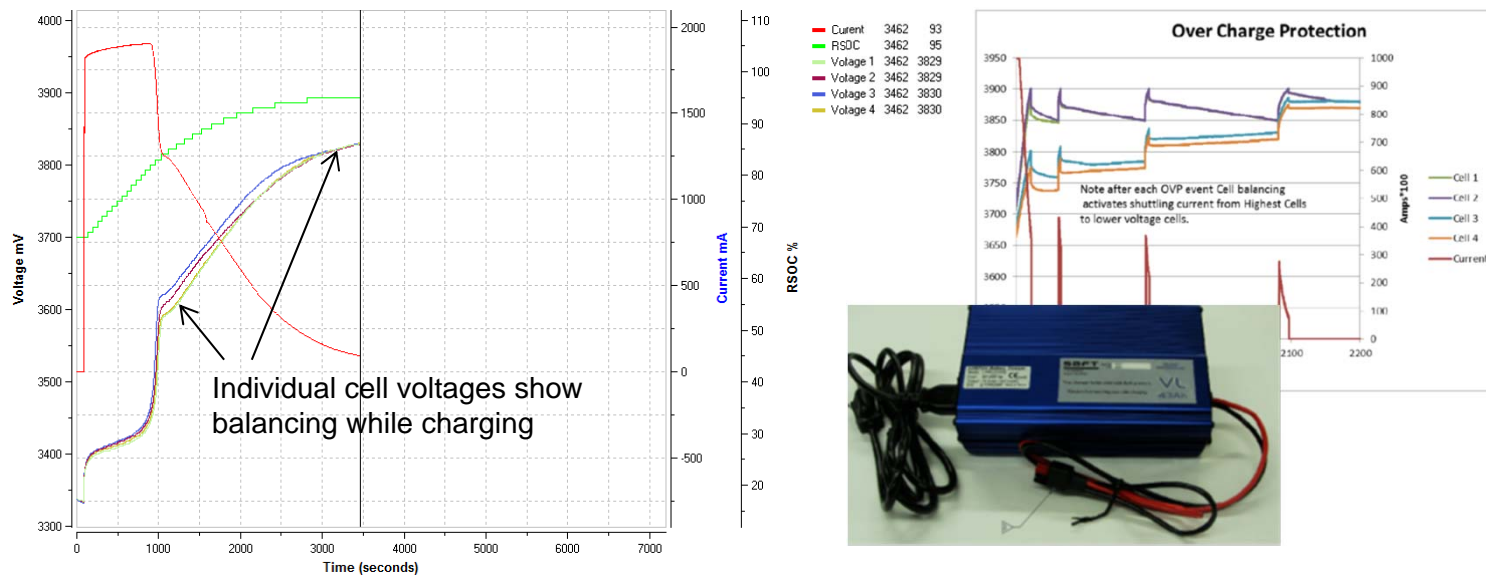
Accessories

Part No	Description
3843EFE0400	Super-Phosphate® battery
326634	Power Interface Cable
326635	Communication Interface Cable
38LFPO4	Battery Charger



Charge

- External charger offered by Saft, C/2 rate with taper.
- Battery has over voltage protection, active balancing
- Charge example below 68% SOC to 95% SOC

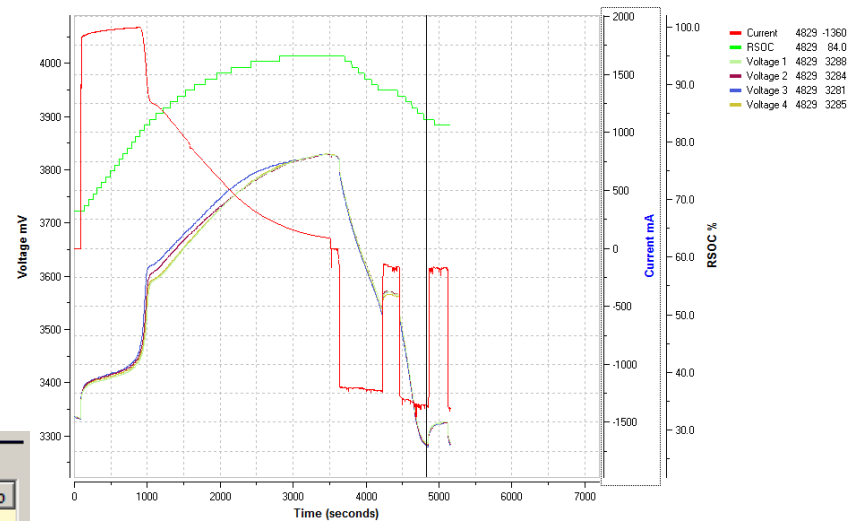


Discharge

- Over current protection
- Active balancing
- Over discharge protection
- Fuel gauge

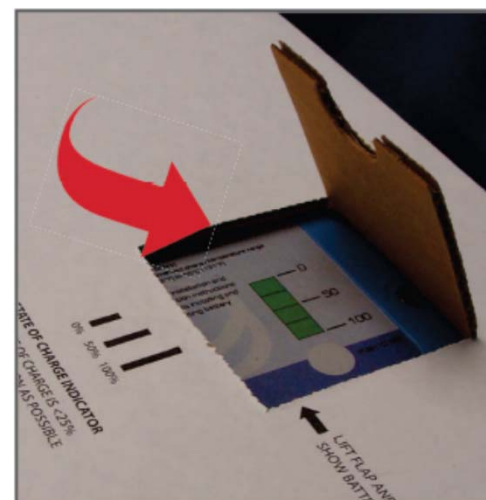
Pack					
State	Voltage	Max Temp	Current	RSOC	Brd Temp
Online	13143 mV	25.8 °C	-13790 mA	83%	34.6 °C

Cells			
Cell	Voltage	Temp	Pump
<input checked="" type="checkbox"/> 4	3285 mV	25.6 °C	South
<input checked="" type="checkbox"/> 3	3282 mV	23.1 °C	None
<input checked="" type="checkbox"/> 2	3285 mV	23.4 °C	North
<input checked="" type="checkbox"/> 1	3288 mV	25.8 °C	North



Storage

- The battery has very low self discharge and can be stored for 6 months without maintenance
- After 6 months, check the SOC periodically
- Charge the battery when the SOC reads <25%



SOC LED (steady for 5 s)	●●●●●	●●●●○	●●●○○	●○○○○
Minimum SOC	≥ 75%	≥ 50%	≥ 25%	< 25%

Summary

- A new cell and 12V battery available from the Lithium Battery Division using the Super-Phosphate[®] chemistry
- Excellent performance out of the box through end of long life.
- Simple and robust mechanical design
- Accurate electronics for a complex chemistry
- IEC62133 Pending
- UN Transportation Testing Pending

Thanks for
your
attention

