



HP602030 LFP

Lithium Ion Cell
High Power, Low Temperature

3.2 V / 40 Ah / 128 Wh

Physical and Mechanical Characteristics

Diameter	60 mm
Length	232 mm (203 mm without terminals)
Weight	1.36 kg
Volume	0.57 l
Material	Stainless steel housing Positive terminal: Al M12 length: 10 mm Negative terminal: Cu M12 length: 10 mm

Chemical Characteristics

Cathode	Lithium Iron Phosphate (LFP)
Anode	Graphite

Electrical Characteristics

Reference temperature 23°C +/- 3°C

Nominal operating voltage	3.2 V
Nominal capacity at 0.2 C	40 Ah
AC Impedance (1 kHz)	≤ 0.4 mOhm
DC Resistance (ESR) 2s pulse discharge @ 20°C / 50% SOC	≤ 1.0 mOhm
Specific energy at 0.2 C	94 Wh/kg
Energy density at 0.2 C	223 Wh/l
Specific power 2s pulse discharge @ 50% SOC, 60C	2,250 W/kg
Power density 2s pulse discharge @ 50% SOC, 60C	5,500 W/l

Operating Conditions

Reference temperature 23°C +/- 3°C

Recommended charge method	Constant current / Constant voltage
End of charge	$I \leq C/100$
Recommended charge voltage	3.5 V
Maximum charge voltage	3.6 V
Recommended charge current	Up to 40 A (1 C)
Maximum continuous charge current	Up to 120 A (3 C)
Maximum pulse charge current (15 s) (Max SOC 70%, average current <88 A)	320 A (8 C)
Recommended voltage limit for discharge	2.5 V
Lower voltage limit for discharge	2.0 V (at high current or low temperature)
Recommended discharge current	Up to 80 A (2 C)
Maximum continuous discharge current	Up to 800 A (20 C)
Maximum pulse discharge current (2 s)	Up to 1,600 A (40 C)
Operating temperature	-30°C to +60°C
Recommended charge temperature	-10°C to +40°C
Storage and transport temperature	-40°C to +60°C
Recommended storage	+10°C to +25°C, 30-50% SOC
Cycle life at 20°C and 100% DoD, 0.5 C	> 5,000 cycles to 80% of nominal capacity
Cycle life at 20°C and 80% DoD, 0.5 C	> 6,000 cycles to 80% of nominal capacity

Features and Benefits

Stainless steel construction avoids corrosion and provides shock resistance	M10 terminals allow easy assembly and provide low resistance interface
Ultra high maximum pulse discharge to meet exceptional peak demands	Large cell size reduces the number of interconnections and the demand of management systems
Suitable for low temperature operation	Tested and certified to UN 38.3 & IEC 62619 (<i>not yet completed – expected 4Q19</i>)