



Lithium Iron Phosphate Battery

Type: HP-PW-20AH

Power Type / 3.2V 20AH

The PW (power type) series batteries, featured as high continuous & peak power, battery of this type focus on best power supply ability.



Hipower began LiFePO4 battery production in 2004. Batteries are widely used in electric vehicles, energy storage, marine, industry, telecommunications, electric tools, etc. For LiFePO4 molecular structure is reliable and has a high degree of electrical conductance. Hipower LiFePO4 batteries offer high continuous / peak power even when nearing the end of the depth of discharge, batteries also will accept large charging current such as regeneration when the EV's are braking or reducing speed. Those features give electric vehicles above average performance when starting or accelerating or climbing.

Charge data @ 23 C / 77 F

Charge voltage: 3.65 V
 Cut-off charge voltage: 3.85 V
 Charge mode: CC / CV (3.65V)
 Standard charge current: 6.67 (C/3) A
 Max. cont current in CC state : 20 (1C) A
 (constant current) @0~90% SOC
 Peak charge current: 40 A (2C) @15sec
 @0~80% SOC
 Balance time in CV state : 1~2 hours
 (constant voltage)
 Floating charge voltage: 3.40 V

Discharge data @ 23 C / 77 F

Discharge voltage: 3.2V @ C/2 discharge
 Cut-off discharge voltage: 2.50 V
 Standard discharge current: 6.67 (C/3) A
 Max. cont current: 60 (3C) A
 Peak discharge current:
 Peak current for 5 sec: 200 (10C) A
 Peak current for 15 sec: 100 (5C) A
 Peak current for 60 sec: 100 (5C) A
 Self-discharge rate: 3 % (Monthly)

Appearance

Overall dimensions: 103 x 41 x 168 mm
 L*W*H (mm, inches) 4.06" x 1.61" x 6.61" inch
 Weight: (Kg / lbs) 0.83 kg / 1.83 lbs
 Terminals on poles : M12 Nuts
 Poles Distance: (mm) 54 mm

Capacity , Energy density & Cycle life

Nominal Capacity
 @ 23 C / 77 F 20 AH @ C/3 discharge
 Available Capacity 98% @ 1C discharge
 @ 23 C / 77 F 95% @ 2C discharge
 90% @ 3C discharge
 Energy density:
 (C/3, 23 C / 77 F) 90.2 Wh / l
 Specific energy:
 (C/3, 23 C / 77 F) 77.1 Wh / kg
 Specific power: 386 W / kg @ 15 sec
 (23 C / 77 F) 231 W / kg (continuous)
 Inner resistance: 2 m
 Cycle Life: 2000 times @ 80% DOD
 (23 C / 77 F) 1000 times @100% DOD

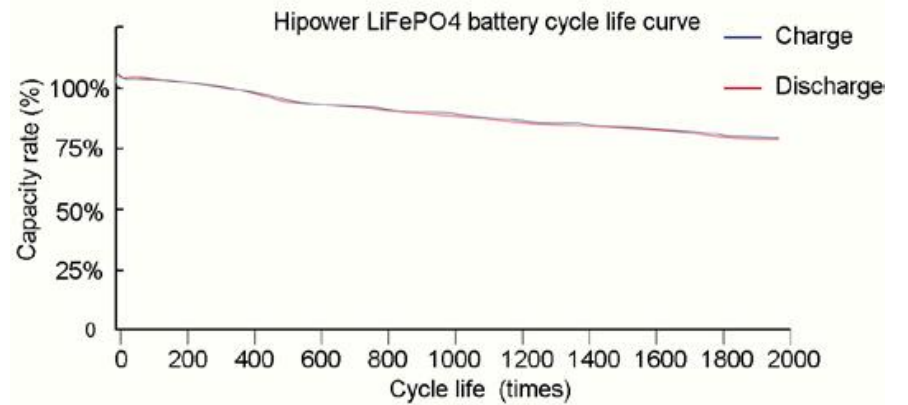
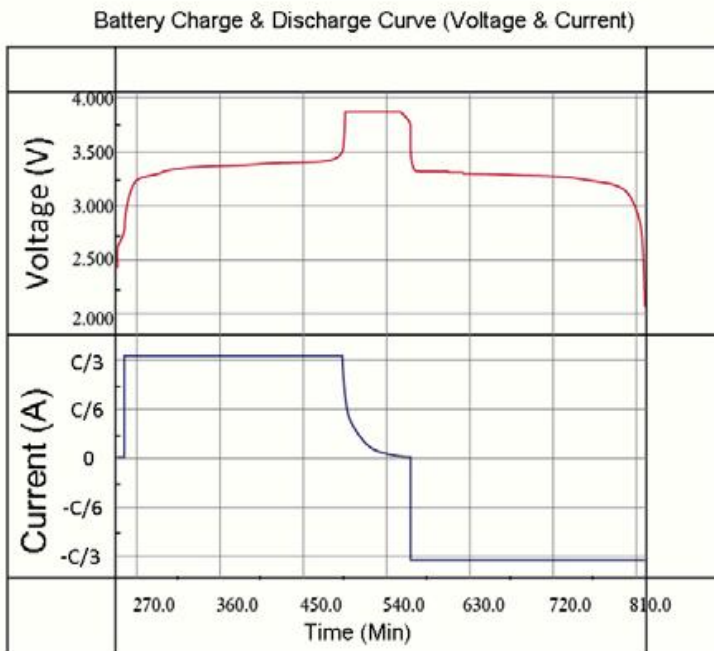
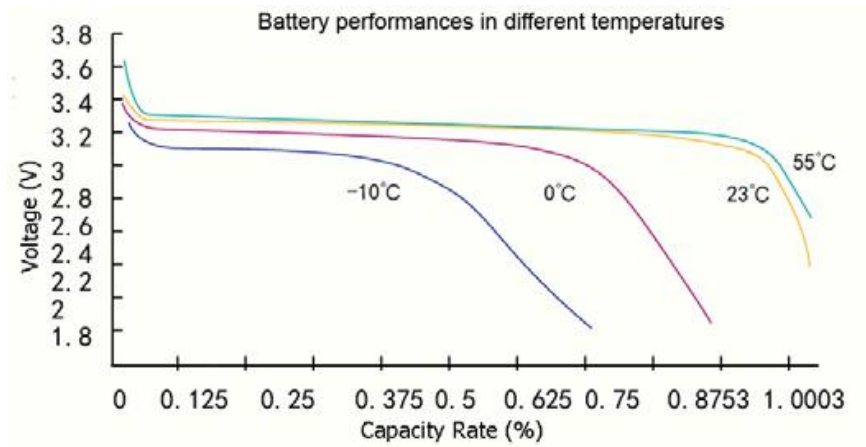
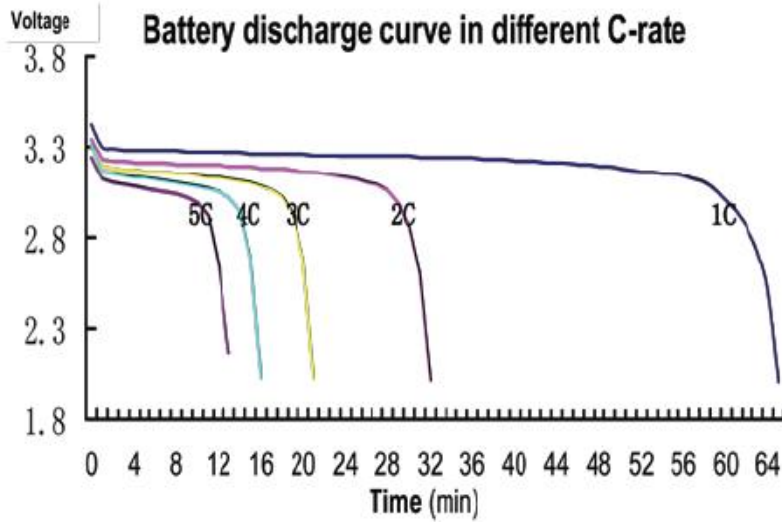
Temperature & Humidity

Working Temperature	Charging	0~45 C / 32~113 F
	Discharging	-20~60 C / -4~140 F
Storage Temperature	1 month	-20~60 C / -4~140 F
	3 months	-20~45 C / -4~113 F
	6 months	-20~25 C / -4~ 77 F
Water / dust resistance	IP67	
Atmospheric pressure	86~106 KPa	
Operation Humidity	25~85%, non-condensing	



Common advantages

1. Long cycle life. No memory effect.
2. High C-Rate discharge / charge capability.
3. High peak power available under high DOD.
4. High energy density, small size, light weight.
5. Good performance at high & low temperatures.
6. Environmentally friendly.
7. Intrinsically safe.



Remarks:

1. C-rate can be used to describe current, "C" means capacity rating (Amp-hour), easy for calculating. For example, 50AH cell, 3C means $3 \times 50 = 150A$, C/5 means $1/5 \times 50 = 10A$, also can be called 0.2C.
2. Test is accord with QC/T743-2006.

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