

General features for MPHR series battery

- ★ MPHR stands for "High Rate Discharge." The series is a modern hi-tech energy application product;
- ★ Lead-calcium alloy grids and the use of high purity lead account for superior shelf-life characteristics;
- ★ Precision plate pasting for higher consistency with 100% load testing to ensure uniform capacity;
- ★ When it is used in safe surroundings, the battery is maintenance free, and you never need to add electrolyte,It can be recycled repeatedly;
- ★ High energy, high intensity, high quality output electrical energy product series.



Maxton Power Tech Co.,Ltd
www.maxtonpower.com
info@maxtonpower.com

MPHR12-150W (12V40Ah)

Specifications

Nominal Voltage		12V
Number of cell		6 cells
Rated capacity (25°C)	Rated capacity/cell (15 minutes rate to 1.67V/cell)	150W
	Rated capacity (10 hour rate)	40Ah
Dimensions (±2mm)	Total Height	171mm (6.73 inches)
	Height	171mm (6.73 inches)
	Length	196mm (7.70 inches)
	Width	166mm (6.54 inches)
Weight Approx (±3%)		13.5Kg (29.7 lbs)

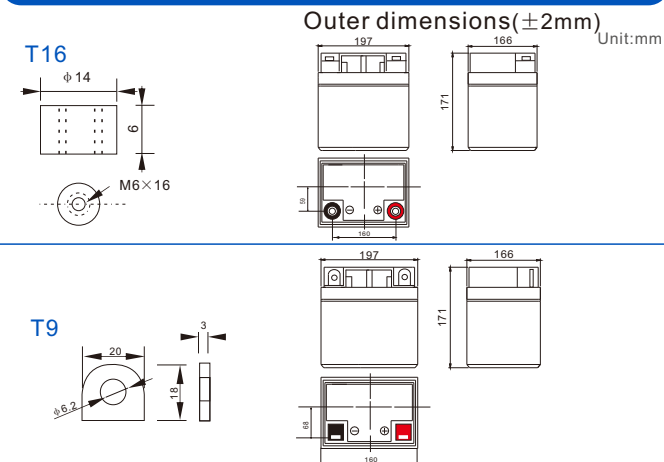
Battery picture and construction



Battery Construction

Component	Positive plate	Negative plate	Container	Cover
Raw material	Lead dioxide	Lead	ABS	ABS
Component	Electrolyte	Separator	Safety valve	Terminal
Raw material	Dilute sulfuric acid	Fiberglass	Rubber	Copper

Outer dimension and terminal



Characteristics

Capacity 25°C(77°F)	30 minutes rate(48.9A, 1.70V/cell) 15 minutes rate(82.7 A, 1.67V/cell) 5 minutes rate(149.3A, 1.60V/cell)	543W 900W 1588W
Internal Resistance	Full charged battery at 25°C(77°F)	Approx 8.5 mΩ
Capacity affected by Temperature (20hour rate)	40°C (104°F) 25°C (77°F) 0°C (32°F) -15°C (5°F)	102% 100% 85% 65%
Remaining capacity Self-Discharge At 25°C(77°F)	Capacity after 3 month storage Capacity after 6 month storage Capacity after 12 month storage	91% 82% 64%
Terminal type	T16 (Option T9)	
Max. Discharge current 25°C/(77°F)	400A (5Seconds)	
Nominal operating temperature	25°C ±5°C(77°F ±9°F)	
Operating Temperature Range	Discharge Charge Storage	-15°C ~50°C (5°F ~122°F) -10°C ~50°C (14°F ~122°F) -20°C ~50°C (-4°F ~122°F)
Charge methods (constant Voltage) At 25°C(77°F)	Cycle use Standby use	Initial Charging Current less than 10.0 A Voltage 14.50-15.00V Temperature compensation:-30mV/°C Voltage 13.50-13.80V Temperature compensation:-18mV/°C

Constant current discharge (25°C , 77 °F)

Unit:A

Time F.V/cell	5min	10min	15min	20min	30min	45min	60min	90min
1.60V	149.3	111.9	86.1	71.0	52.7	38.5	30.1	22.3
1.67V	141.4	106.3	82.7	68.4	50.6	36.6	28.8	21.2
1.70V	131.5	101.6	79.7	66.3	48.9	35.7	27.8	20.3
1.75V	121.6	97.7	74.6	64.1	45.4	32.8	25.4	19.0
1.80V	116.0	85.2	66.0	58.1	41.1	29.7	23.4	17.8
1.85V	101.8	76.2	60.4	53.4	38.3	27.8	21.9	16.9

Note:
the end voltage means Voltage per cell.
(Above characteristics data are average values obtained within three charge/discharge cycles,not the minimum values.)

Constant power discharge (25°C , 77 °F)

Unit:watts

Time F.V/cell	5min	10min	15min	20min	30min	45min	60min	90min
1.60V	1588	1188	921	759	566	417	327	243
1.67V	1520	1149	900	746	553	401	319	235
1.70V	1452	1106	879	728	543	396	311	227
1.75V	1386	1080	856	715	532	383	298	216
1.80V	1318	967	759	663	473	342	270	207
1.85V	1174	864	689	612	440	321	254	197

Note:
the end voltage means Voltage per cell.
(Above characteristics data are average values obtained within three charge/discharge cycles,not the minimum values.)

General features for MPRH12-150W (High rate discharge)

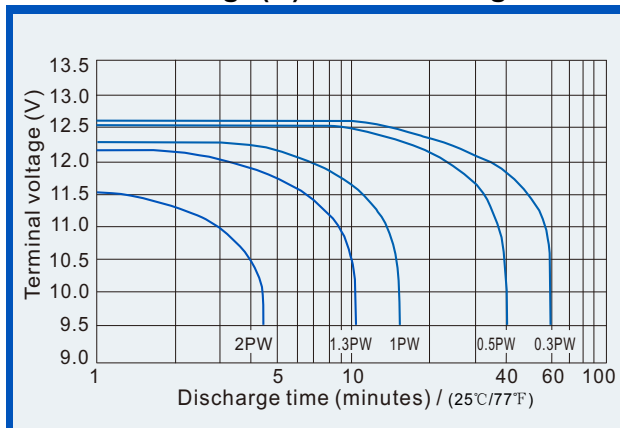
- ★ Positive and negative plates in lead-calcium tin alloy
- ★ Superior energy density
- ★ Operates at a low internal pressure.
- ★ Gas Recombination
- ★ Very high power output
- ★ Application specific designs
- ★ Six months self-life at 25°C(77°F), then a freshening charge is required.
- ★ Design life 10 years @ floating service at 25°C(77°F).



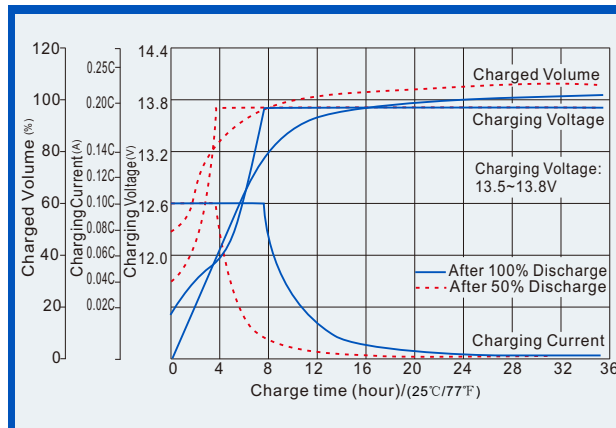
Maxton Power Tech Co., Ltd
www.maxtonpower.com
info@maxtonpower.com

MPRH12-150W (12V40Ah)

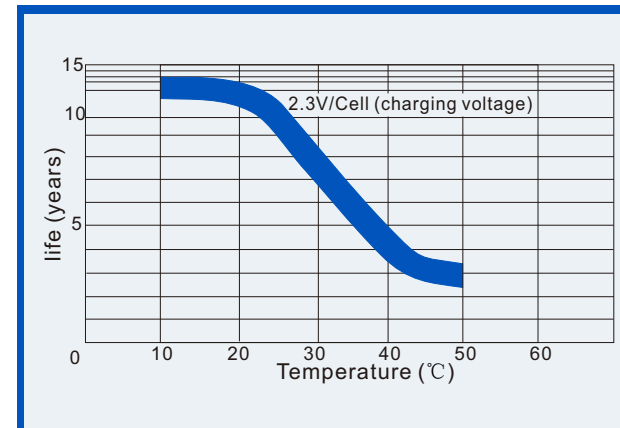
Terminal voltage(V) and discharge time



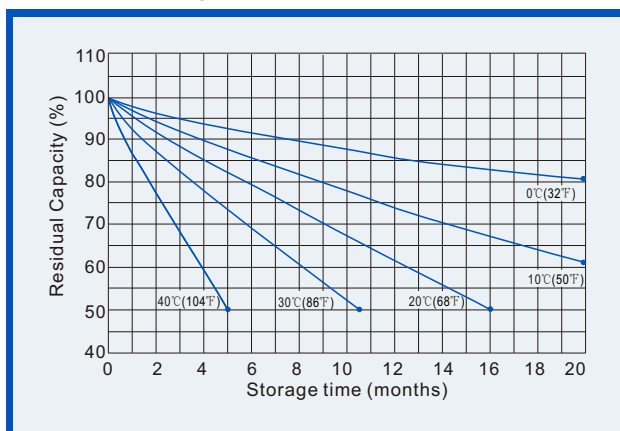
Battery voltage and charge time for standby use



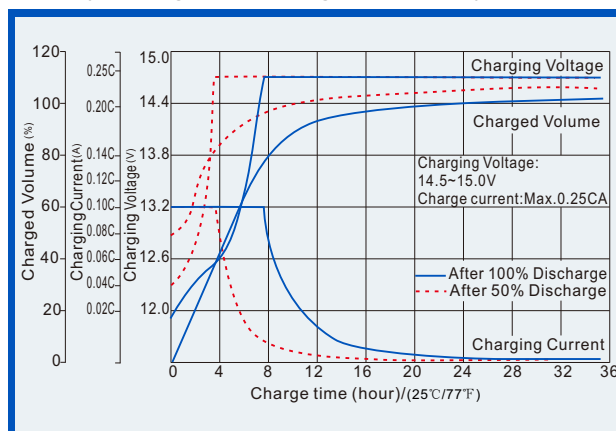
Life Characteristics of float service



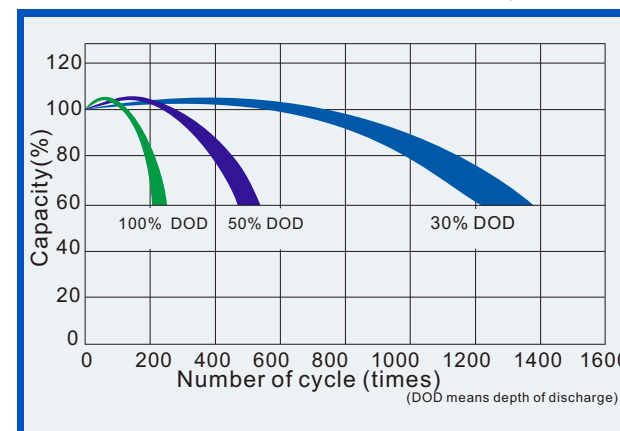
Self-discharge characteristics



Battery voltage and charge time for cycle use



Life characteristics of Cyclic Use



Charging procedures

Application	Charging voltage(V)			Max Charging current
	Temperature	Set Point	Allowable range	
Cycle Use	25°C(77°F)	14.70	14.50~15.00	10.0A
Standby Use		13.70	13.50~13.80	

Discharging current & discharging voltage

Final Discharging Voltage (V)	10.50	10.20	9.60	7.80
Discharging Power (W)	0.1P>(W)	0.1P≥(W)<0.25P	0.25P≤(W)<1.0P	W≥1.0P