

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.



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MPHR12-360W (12V95Ah)

Specifications

Nominal Voltage			12V
Number of cell			6 cells
Rated capacity (25°C)	Rated capacity/cell (15 minutes rate to 1.67V/cell)		360W
	Rated capacity (10 hour rate)		95Ah
Dimensions (±2mm)	Total Height	T16	216mm (8.50 inches)
		T10	234mm (9.21 inches)
	Height		211mm (8.30 inches)
	Length		307mm (12.1 inches)
	Width		169mm (6.65 inches)
Weight Approx (±3%)			30.2Kg (66.44 lbs)

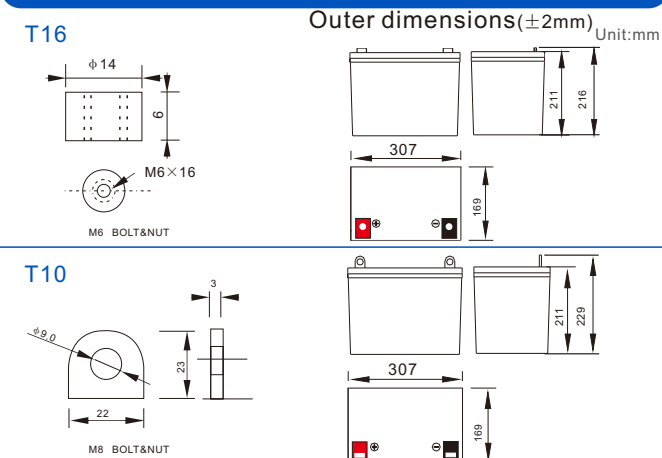
Battery picture and construction



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 (114.9A, 1.70V/cell) 15 minutes rate (194.5A, 1.67V/cell) 5 minutes rate (351.1A, 1.60V/cell)	1302W 2160W 3812W
Internal Resistance	Full charged battery at 25°C (77°F)	Approx 4.0mΩ
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 T10)	
Max. Discharge current 25°C/(77°F)	800A (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 23.8 A Voltage 14.50-14.90V Temperature compensation:-30mV/°C Voltage 13.60-13.80V Temperature compensation:-18mV/°C

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

Unit:A

Time F.V/cell	5min	15min	30min	45min	60min	90min	5hours	10hours
1.60V	351.1	202.5	123.9	90.6	70.7	52.5	15.6	10.2
1.67V	332.5	194.5	118.9	85.9	67.6	49.8	15.5	10.0
1.70V	309.2	187.4	114.9	84.0	65.4	47.7	15.3	9.7
1.75V	286.0	175.3	106.8	77.2	59.6	44.7	15.1	9.5
1.80V	272.7	155.2	96.5	69.7	54.9	41.9	15.0	9.2
1.85V	239.4	142.1	90.1	65.4	51.5	39.8	14.6	9.0

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	3812	2851	2209	1821	1358	1000	784	583
1.67V	3649	2759	2160	1790	1327	963	765	563
1.70V	3486	2654	2111	1747	1302	950	747	544
1.75V	3326	2592	2055	1716	1277	920	716	518
1.80V	3163	2320	1821	1592	1136	821	648	497
1.85V	2817	2074	1654	1469	1055	771	609	473

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 MPRH12-360W (High rate discharge)

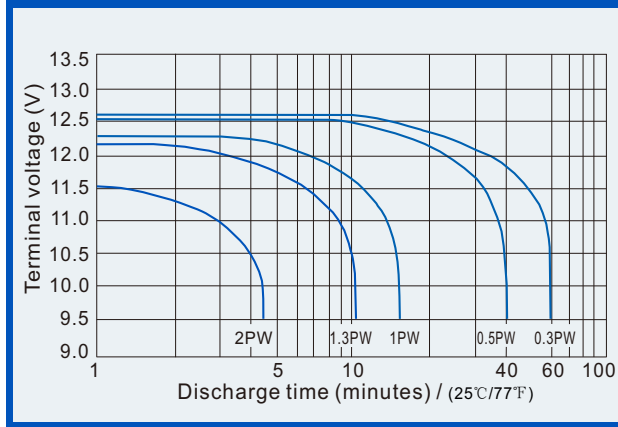
- ★ Positive and negative plates in lead-calcium tin alloy
- ★ Superior energy density
- ★ Operates at a low internal pressure.
- ★ Gas Recombination
- ★ Very high power output
- ★ Application specific designs
- ★ Six months self-life at 25°C(77°F), then a freshening charge is required.
- ★ Design life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



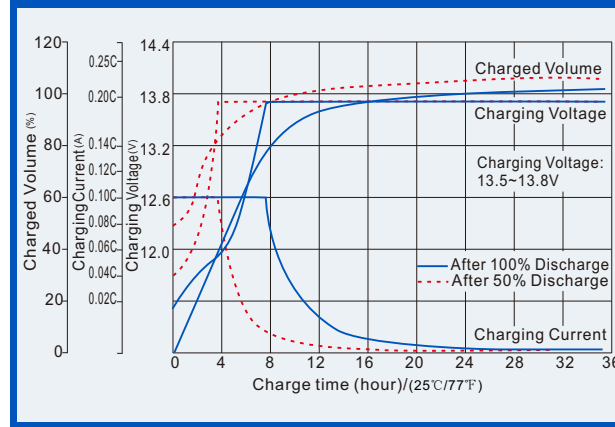
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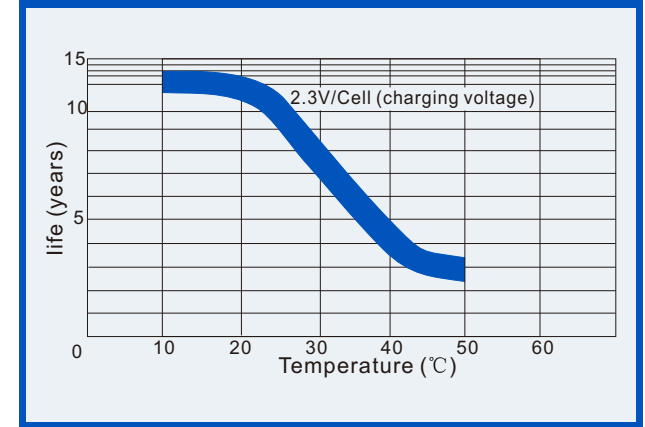
Terminal voltage(V) and discharge time



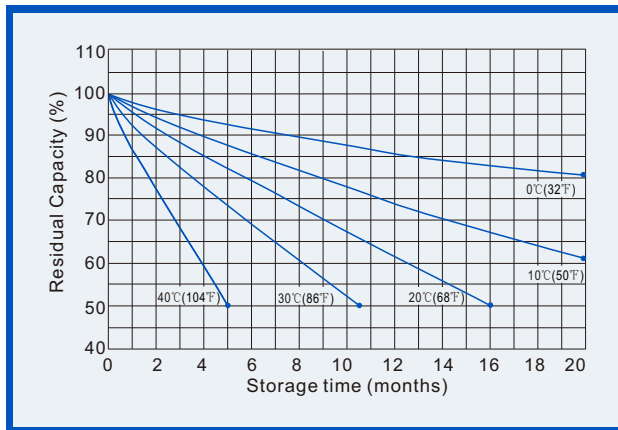
Battery voltage and charge time for standby use



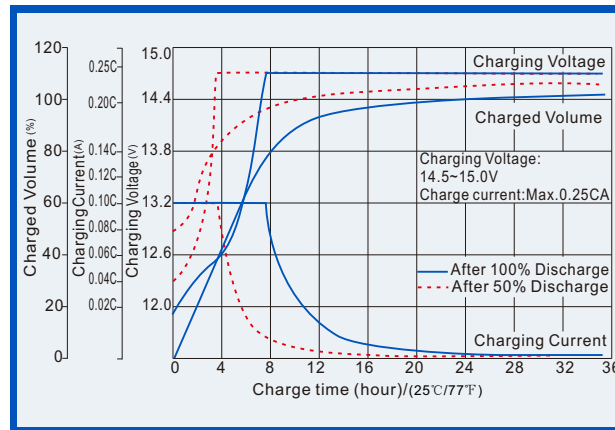
Life Characteristics of float service



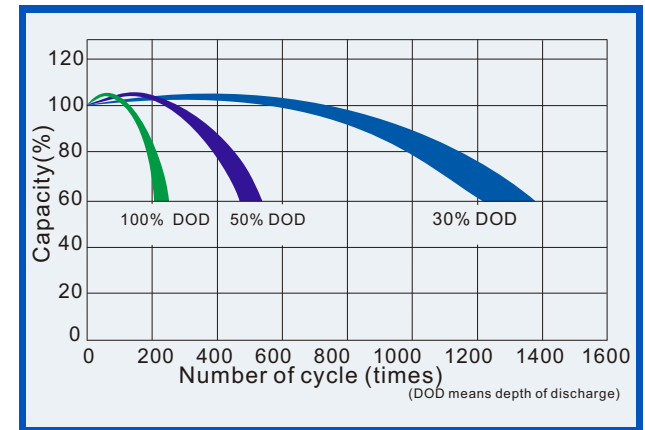
Self-discharge characteristics



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	23.8A
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