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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MPHR12-80W (12V22Ah)

Specifications

Nominal Voltage		12V
Number of cell		6 cells
Rated capacity (25℃)	Rated capacity/cell (15 minutes rate to 1.67V/cell)	80W
	Rated capacity (20 hour rate)	22Ah
Dimensions (±1.5mm)	Total Height	167mm (6.57 inches)
	Height	167mm (6.57 inches)
	Length	181mm (7.13 inches)
	Width	77mm (3.0. inches)
Weight Approx (±3%)		5.80Kg (12.8 lbs)

Battery picture and construction

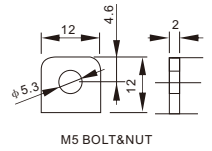
Battery Construction

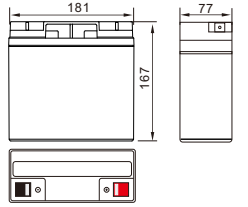
Component	Positive plate	Negative plate	Container	Cover
Raw material	Lead dioxide	Lead	ABS	ABS
Component	Electrolyte	Separator	Safety valve	Terminal
Raw material	Dilute sulfuric acid	Fiberglass	Rubber	Copper

Outer dimension and terminal

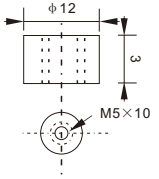
Outer dimensions(±2mm)
Unit:mm

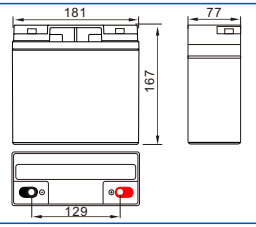
Terminal : T3





Terminal :T13





Characteristics

Capacity 25℃(77℉)	30 minutes rate(24.7A,1.70V/cell) 15 minutes rate(41.9A,1.67V/cell) 5 minutes rate(75.6A,1.60V/cell)	284W 480W 847W
Internal Resistance	Full charged battery at 25℃(77℉)	Appox 11 mΩ
Capacity affected by Temperature (20hour rate)	40℃ (104℉) 25℃ (77℉) 0℃ (32℉) -15℃ (5℉)	102% 100% 85% 65%
Remaining capaicty Self-Discharge At 25℃(77℉)	Capacity after 3 month storage Capacity after 6 month storage Capacity after 12 month storage	91% 82% 64%
Terminal type		T13 (option T3)
Max. Discharge current 25℃/(77℉)		270A (5Seconds)
Nominal operating temperature		25℃ ±5℃(77℉ ±9℉)
Operating Temperature Range	Discharge Charge Storage	-15℃～50℃ (5℉～122℉) -10℃～50℃ (14℉～122℉) -20℃～50℃ (-4℉～122℉)
Charge methods (constant Voltage) At 25℃(77℉)	Cycle use	Initial Charging Current less than 6.6A Voltage 14.50-15.00V Temperature compensation:-30mV/℃
	Standby use	Voltage 13.50-13.80V Temperature compensation:-18mV/℃

Constant current discharge (25℃ , 77 ℉)

Unit:A

Time F.V/cell	5min	15min	30min	45min	60min	90min	5h	10h
1.60V	79.6	45.9	28.1	20.5	16.0	11.9	3.54	2.31
1.67V	75.4	44.1	27.0	19.5	15.3	11.3	3.51	2.26
1.70V	70.1	42.5	26.0	19.0	14.8	10.8	3.48	2.22
1.75V	64.8	39.8	24.2	17.5	13.5	10.14	3.43	2.15
1.80V	61.8	35.2	21.9	15.8	12.4	9.51	3.40	2.09
1.85V	54.3	32.2	20.4	14.8	11.7	9.03	3.32	2.03

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℃ , 77 ℉)

Unit:watts

Time F.V/cell	5min	10min	15min	20min	30min	45min	60min	90min
1.60V	847	634	491	405	302	222	174	130
1.67V	811	613	480	398	295	214	170	125
1.70V	775	590	469	388	289	211	166	121
1.75V	739	576	457	381	284	204	159	115
1.80V	703	516	405	354	252	182	144	110
1.85V	626	461	368	326	234	171	135	105

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 MPHR12-76W (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℃(77℉),then a freshening charge is required.
- Design life 5 years @ floating service at 25℃(77℉).

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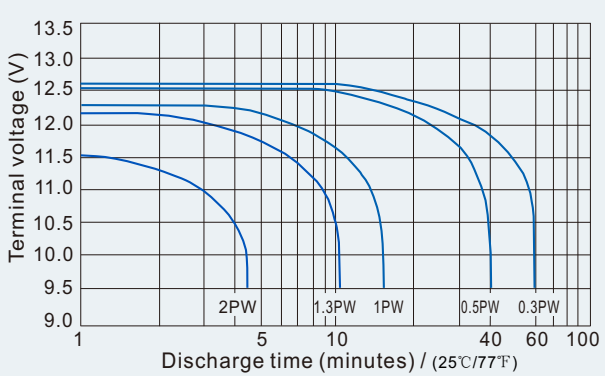
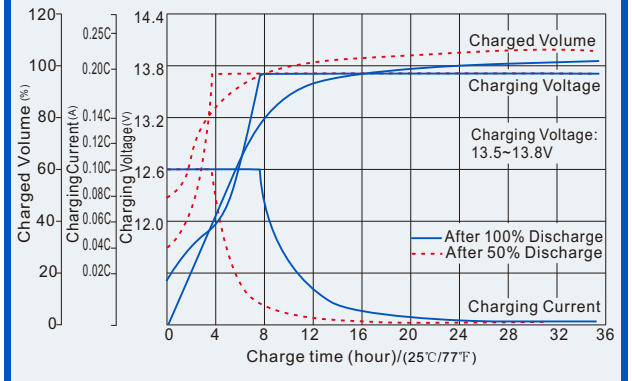
MPHR12-80W (12V22Ah)

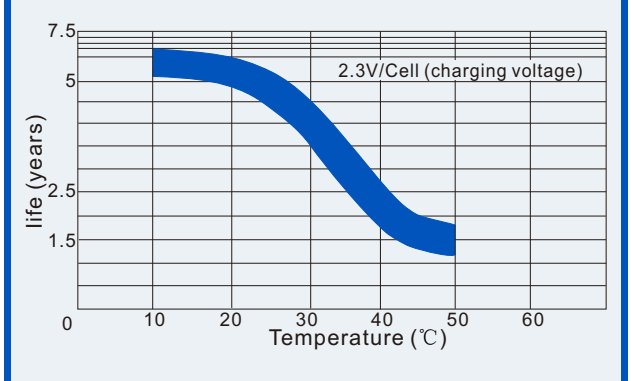
Terminal voltage(V) and discharge time



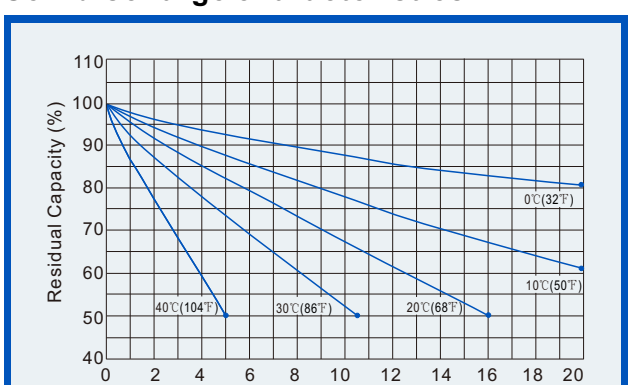
Battery voltage and charge time for standby use



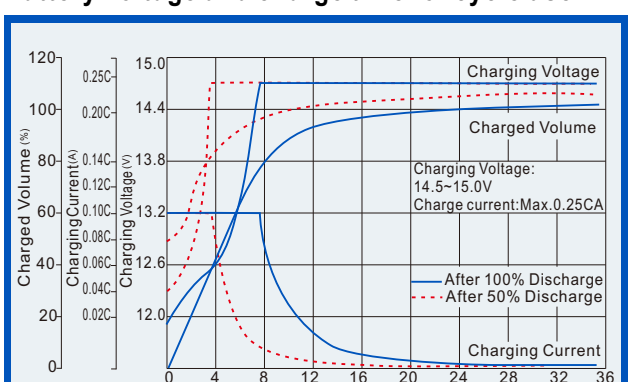
Life Characteristics of float service



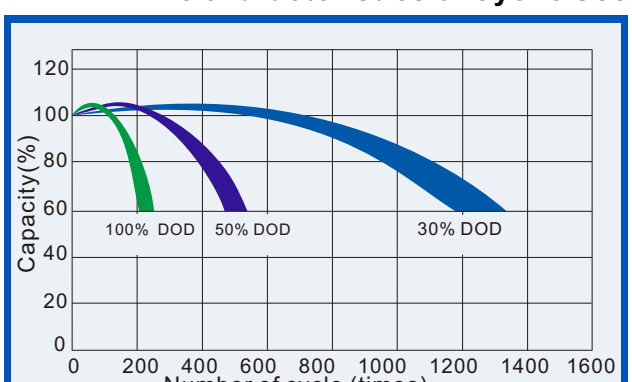
Self-discharge characteristics



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℃(77℉)	14.70	14.50~15.00	6.6A
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)	W＜0.1P	0.1P≥(W)＜0.25P	0.25P≤(W)＜1.0P	W≥1.0P