



MP24 -12I

Nominal Voltage(V) 12V

Nominal Capacity

20 hour rate	(1.20A	to	10.50V)	24.00Ah
10 hour rate	(2.28A	to	10.50V)	22.80Ah
5 hour rate	(4.08A	to	10.20V)	20.40Ah
1 C	(24A	to	9.60V)	12.80Ah
3 C	(72A	to	9.60V)	8.40Ah

Weight Approx. 8.0kg (17.6Lbs.)

Internal Resistance (at 1KHz) Approx. 11 mΩ

Maximum Discharge Current for

5 seconds: 360A

Charging Methods at 25°C (77°F)

Cycle use:	
Charging Voltage	14.7 to 14.8V
Coefficient -5.0mV/°C/cell	
Maximum Charging Current:	7.2A
Standby use:	
Float Charging Voltage	13.5 to 13.8V
Coefficient -3.0mV/°C/cell	

Operating Temperature Range

Charge	-15°C (5°F)	to	40°C (104°F)
Discharge	-15°C (5°F)	to	50°C (122°F)
Storage	-15°C (5°F)	to	40°C (104°F)

Charge Retention (shelf life) at 20°C (68°F)

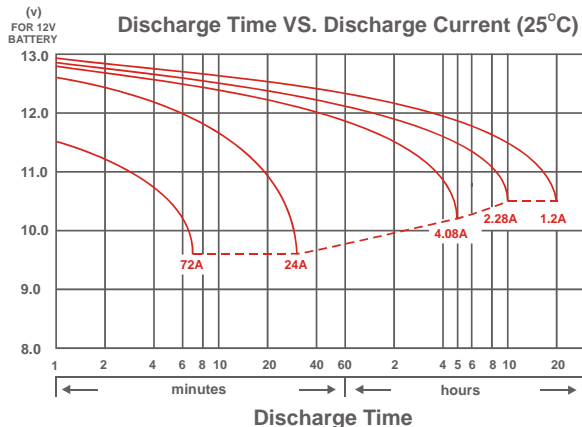
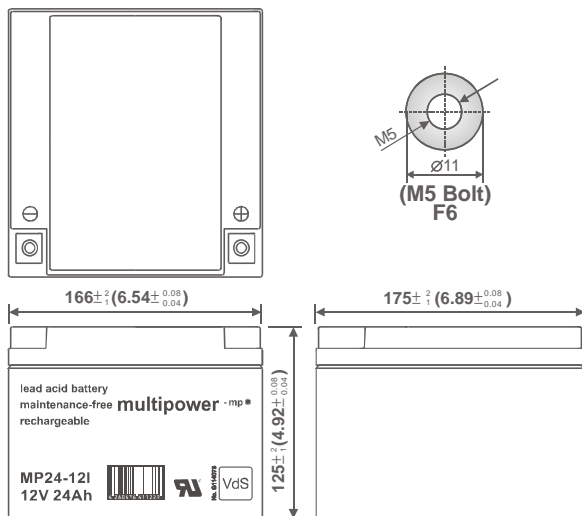
1 month	92%
3 month	90%
6 month	80%

Case Material ABS UL94 HB

Terminal F6

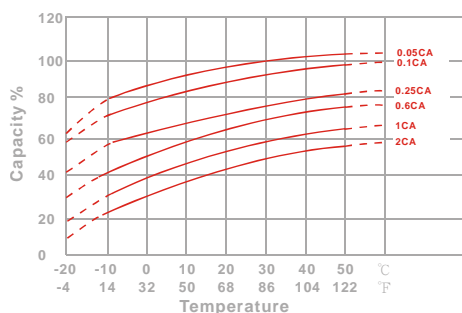
Description of torque value of hard ware for the terminals:

Recommended torque value	M5: 4 N·m (41 kgf·cm)
Maximum allowable torque value	M5: 6 N·m (61 kgf·cm)

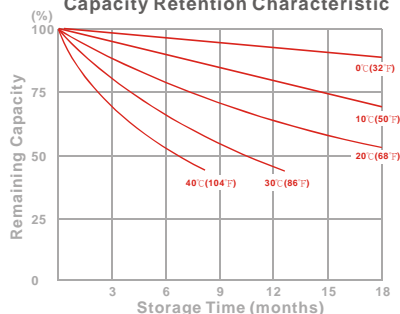


CHARACTERISTIC & PERFORMANCE DATA

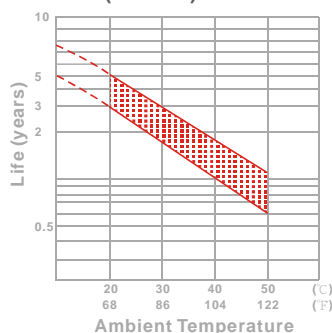
Effect of Temperature on Capacity 25°C (77°F)



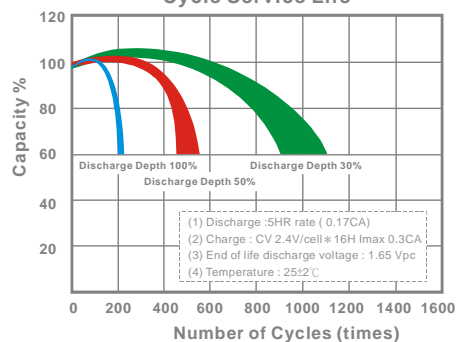
Capacity Retention Characteristic



Trickle (or float) Service Life



Cycle Service Life



- PERFORMANCE DATA

Discharge Rates in Watts per Cell to Various End Voltages at 25°C (77°F)

End Voltage		1.85V	1.80V	1.75V	1.70V	1.67V	1.65V	1.60V
Time								
5	min	114	129	142	155	159	165	177
10	min	88.2	99.7	106	111	114	117	122
15	min	70.2	76.5	80.8	84.3	86.7	88.2	91.3
30	min	41.0	44.5	46.5	48.0	48.8	49.5	50.3
60	min	27.0	28.5	29.3	30.0	30.2	30.5	30.8
120	min	14.6	15.4	15.9	16.2	16.4	16.5	16.7
180	min	12.2	12.7	12.9	13.1	13.1	13.2	13.3
240	min	9.82	10.2	10.4	10.5	10.6	10.6	10.7
300	min	8.47	8.70	8.82	8.93	8.97	9.02	9.05
600	min	4.93	5.12	5.22	5.30	5.32	5.35	5.38
1200	min	2.53	2.62	2.68	2.73	2.75	2.77	2.78

- Discharge Rates in Amperes per Battery to Various End Voltages at 25°C (77°F)

End Voltage		1.85V	1.80V	1.75V	1.70V	1.67V	1.65V	1.60V
Time								
5	min	70.2	82.3	90.7	96.1	98.3	101	105
10	min	45.8	50.4	54.6	58.8	60.5	62.4	65.6
15	min	37.9	41.1	43.7	46.2	47.3	48.2	49.8
30	min	20.8	23.2	24.7	25.6	26.2	26.9	27.7
60	min	14.5	15.0	15.3	15.5	15.6	15.7	15.8
120	min	7.65	7.96	8.08	8.19	8.22	8.26	8.31
180	min	6.21	6.41	6.50	6.53	6.55	6.58	6.62
240	min	4.97	5.07	5.14	5.20	5.22	5.25	5.28
300	min	4.22	4.35	4.40	4.44	4.45	4.47	4.49
600	min	2.48	2.56	2.60	2.61	2.62	2.63	2.64
1200	min	1.29	1.33	1.35	1.36	1.37	1.38	1.39

All data on the spec. sheet is an average value:

The tolerance range : $X < 6\text{min}$ (+15%~-15%), $6\text{min} \leq X < 10\text{min}$ (+12%~-12%), $10\text{min} \leq X < 60\text{min}$ (+8%~-8%), $X \geq 60\text{min}$ (+5%~-5%)