



# HR12-104W(12V104W)

## Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	104W@15min-rate to 1.67V per cell @25°C
Weight	Approx. 8.6 Kg (Tolerance ±5.0%)
Internal Resistance	Approx. 9 mΩ
Terminal	F13-BP(M5)
Max. Discharge Current	260A (5 sec)
Short Circuit Current	980A
Design Life	Could Reach 8 years
Max. Charging Current	7.8 A
Reference Capacity	C10 24.5AH C20 26.0AH
Standby Use Voltage	13.7 V~13.9 V @ 25°C Temperature Compensation: -3mV/°C/Cell
Equalization Voltage	14.6 V~14.8 V @ 25°C Temperature Compensation: -4mV/°C/Cell
Operating Temperature Range	Discharge: -20°C~60°C Charge: 0°C~50°C Storage: -20°C~60°C
Normal Operating Temperature Range	25°C ±5°C
Self Discharge	RITAR Valve Regulated Lead Acid (VRLA) batteries can be stored for up to 6 months at 25°C and then recharging is recommended. Monthly Self-discharge ratio is less than 3% at 25°C. Please charge batteries before using.
Container Material	A.B.S. UL94-HB, UL94-V0 Optional.



HR ( High Rate ) series Valve Regulated Lead Acid (VRLA) battery is designed for heavy load discharge applications with 8 years design life in float service. By using strong grids, thick plate and specially designed active material. It is with lower I.R, lower self discharge rate, high power, and longer service life. The HR series battery offers 30% more power output than the standard series. It is suitable for high power standby used, such as datacenter, UPS, EPS etc.



ISO 9001



ISO 14001



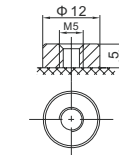
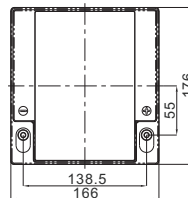
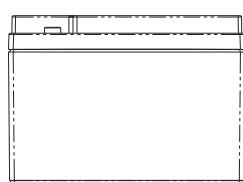
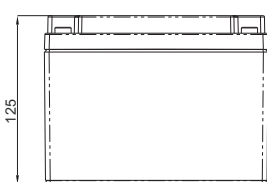
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MH 28539



## Dimensions



F13-BP TERMINAL

Length	166±1.5mm (6.54 inches)
Width	176±1.5mm (6.93 inches)
Height	125±1.5mm (4.92 inches)
Total Height	125±1.5mm (4.92 inches)
Terminal	Value
M5	6~7 N*m
M6	8~10 N*m
M8	10~12 N*m

Unit: mm

### Constant Current Discharge Characteristics : A (25°C)

F.V/Time	3MIN	5MIN	8MIN	10MIN	15MIN	20MIN	30MIN	60MIN	90MIN
1.60V	122.0	107.3	87.63	76.75	60.23	47.34	33.73	18.92	13.41
1.67V	110.8	97.36	80.13	70.75	56.33	44.69	31.96	18.03	12.84
1.70V	106.0	93.16	76.94	68.17	54.60	43.49	31.17	17.64	12.60
1.75V	98.16	86.28	71.68	63.89	51.57	41.33	29.87	17.05	12.21
1.80V	89.91	79.03	66.26	59.60	48.97	39.38	28.57	16.40	11.78
1.85V	76.88	67.58	56.45	50.60	41.99	34.20	25.26	14.83	10.78

### Constant Power Discharge Characteristics : WPC (25°C)

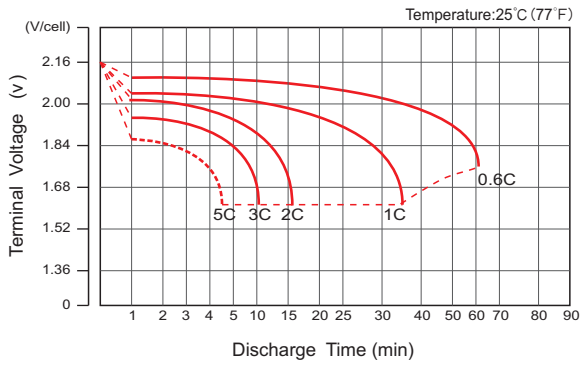
F.V/Time	3MIN	5MIN	8MIN	10MIN	15MIN	20MIN	30MIN	60MIN	90MIN
1.60V	219.3	192.8	158.0	138.9	110.1	87.16	62.35	35.47	25.38
1.67V	201.5	177.2	146.5	129.9	104.0	83.18	60.02	34.14	24.52
1.70V	194.6	171.0	141.8	126.1	101.8	81.41	58.62	33.60	24.14
1.75V	182.0	160.0	133.6	119.6	97.07	78.31	56.76	32.66	23.52
1.80V	169.0	148.5	124.9	112.8	92.73	75.22	54.90	31.73	22.89
1.85V	146.8	129.0	108.0	96.90	80.60	65.93	48.85	28.87	21.03

(Note) The above characteristics data are average values obtained within three charge/discharge cycle not the minimum values.

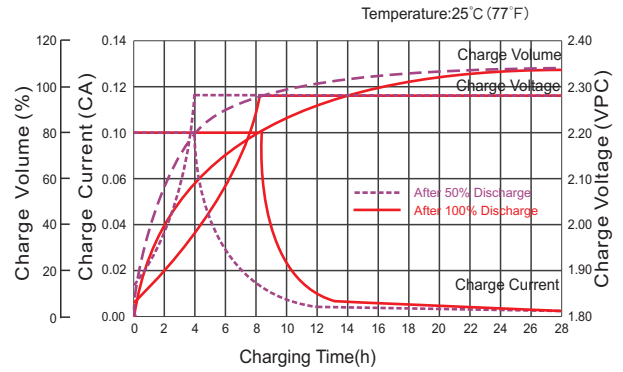
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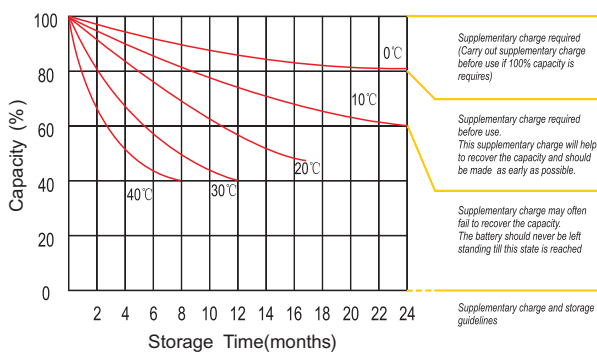
## Discharge Characteristics Curve



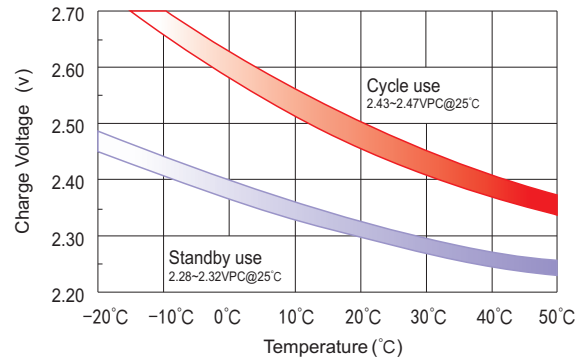
## Charge Characteristic Curve For Standby Use



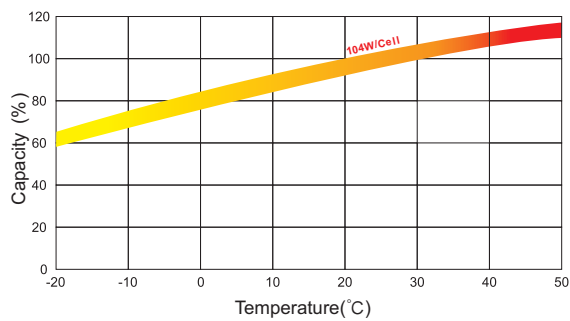
## Storage Characteristics



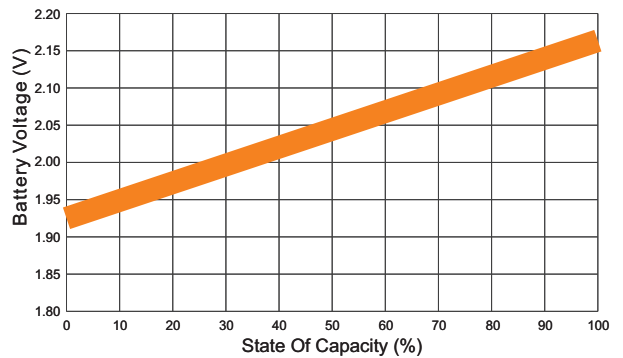
## Relationship Between Charging Voltage And Temperature



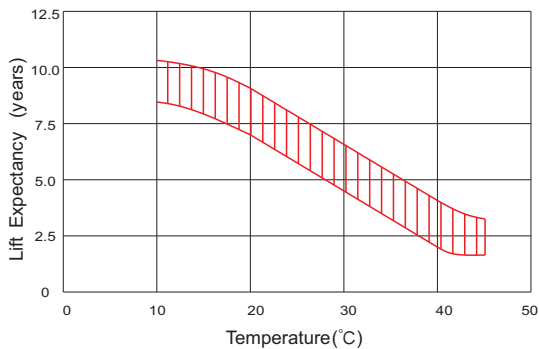
## Temperature Effects On Capacity



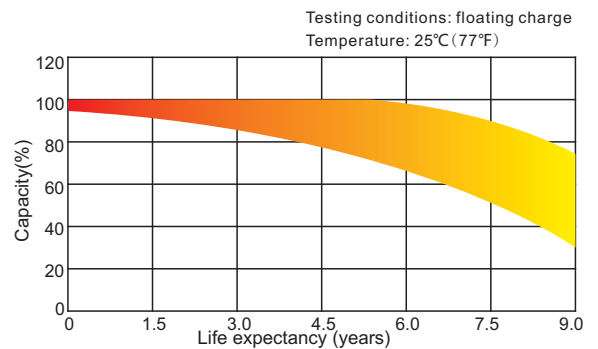
## Relationship of OCV And State of Charge(20°C)



## Effect Of Temperature On Long Term Life



## Life Characteristics Of Standby Use



(Note) All above information shall be changed without prior notice, Ritar reserves the right to explain and update the latest information.