



# HR12-88W(12V88W)

## Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	88W@15min-rate to 1.67V per cell @25°C
Weight	Approx. 6.2 Kg (Tolerance ±5.0%)
Internal Resistance	Approx. 11 mΩ
Terminal	F13-BP(M5)/F18(M5)
Max. Discharge Current	220A (5 sec)
Short Circuit Current	920A
Design Life	Could Reach 8 years
Max. Charging Current	6.6 A
Reference Capacity	C10 20.8AH C20 22.0AH
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



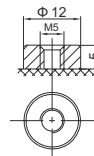
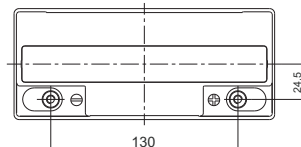
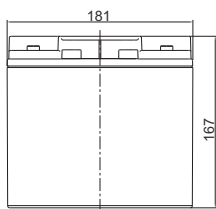
OHSAS 18001



MH 28539



## Dimensions



F13-BP TERMINAL

Length	181±2mm (7.13 inches)	
Width	77±2mm (3.03 inches)	
Height	167±2mm (6.57 inches)	
Total Height	167±2mm (6.57 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	103.3	90.78	74.15	64.94	50.97	40.06	28.54	16.01	11.35
1.67V	93.72	82.38	67.80	59.86	47.67	37.81	27.05	15.26	10.86
1.70V	89.67	78.82	65.11	57.69	46.20	36.80	26.38	14.92	10.66
1.75V	83.06	73.01	60.65	54.06	43.63	34.97	25.27	14.42	10.33
1.80V	76.08	66.87	56.06	50.43	41.43	33.32	24.17	13.88	9.969
1.85V	65.05	57.18	47.77	42.81	35.53	28.94	21.38	12.55	9.118

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

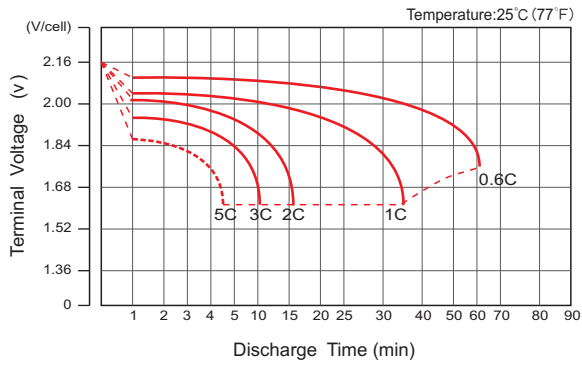
F.V/Time	3MIN	5MIN	8MIN	10MIN	15MIN	20MIN	30MIN	60MIN	90MIN
1.60V	185.6	163.1	133.7	117.5	93.13	73.75	52.75	30.01	21.48
1.67V	170.5	149.9	123.9	109.9	88.00	70.38	50.79	28.89	20.75
1.70V	164.6	144.7	120.0	106.7	86.17	68.89	49.60	28.43	20.43
1.75V	154.0	135.4	113.0	101.2	82.13	66.27	48.03	27.64	19.90
1.80V	143.0	125.7	105.7	95.42	78.47	63.65	46.45	26.84	19.37
1.85V	124.2	109.2	91.35	81.99	68.20	55.78	41.34	24.43	17.79

(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



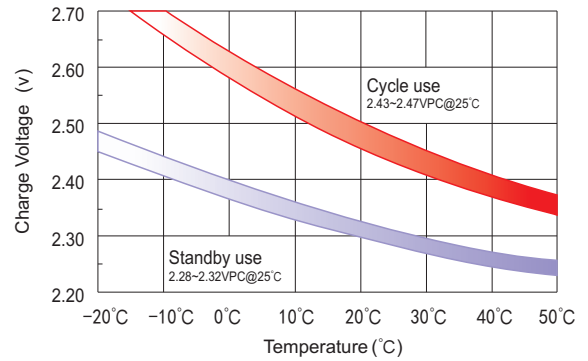
## Charge Characteristic Curve For Standby Use



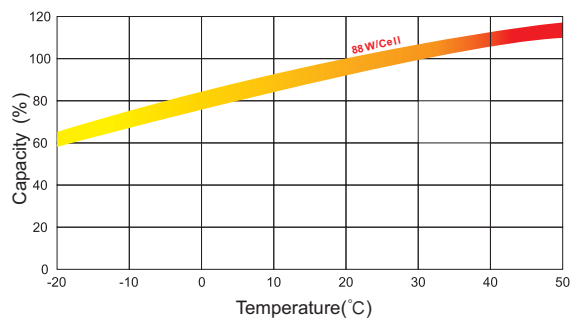
## Storage Characteristics



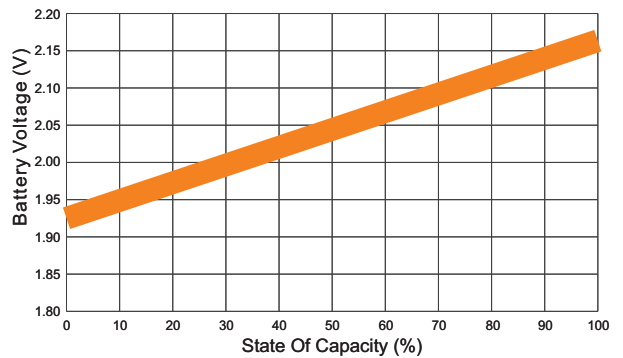
## Relationship Between Charging Voltage And Temperature



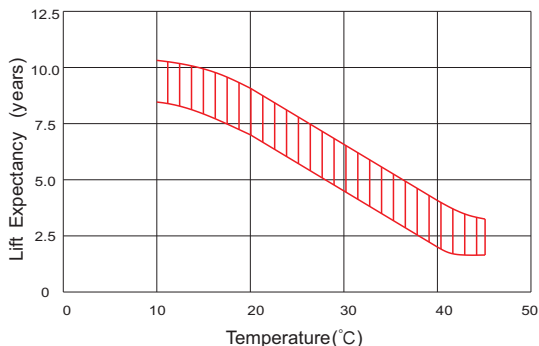
## Temperature Effects On Capacity



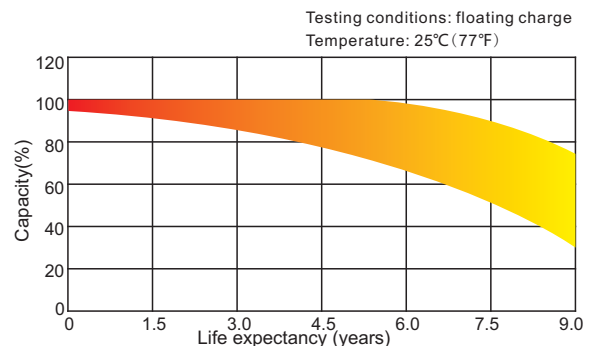
## Relationship of OCV And State of Charge(20°C)



## 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.