



HR12-450WA(12V450W)

Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	450W@15min-rate to 1.67V per cell @25°C
Weight	Approx. 34.5 Kg (Tolerance ±3.0%)
Internal Resistance	Approx. 4.5 mΩ
Terminal	F12(M8)
Max. Discharge Current	1200A (5 sec)
Short Circuit Current	3000A
Design Life	15 years
Max. Charging Current	36.0 A
Reference Capacity	C10 113.2AH C20 120.0AH
Standby Use Voltage	13.50 V~13.62 V @ 25°C Temperature Compensation: -3mV/°C/Cell
Equalization Voltage	14.10 V~14.40 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 15 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



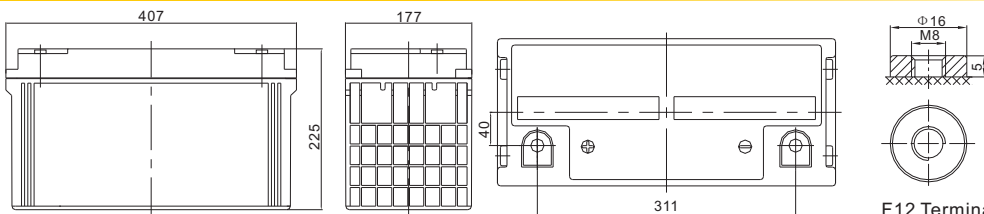
OHSAS 18001



MH 28539



Dimensions



Length	407±2mm (16.0 inches)
Width	177±2mm (6.97 inches)
Height	225±2mm (8.86 inches)
Total Height	225±2mm (8.86 inches)
Terminal	Value
M5	6~7 N*m
M6	8~10 N*m
M8	10~12 N*m

F12 Terminal

Unit: mm

Constant Current Discharge Characteristics : A (25°C)

F.V/Time	5MIN	8MIN	10MIN	15MIN	20MIN	30MIN	60MIN	90MIN
1.60V	392.6	335.6	316.5	248.9	202.6	149.4	86.44	62.03
1.67V	356.2	307.8	292.5	232.1	190.5	141.3	82.46	59.50
1.70V	341.1	295.8	282.0	225.0	185.1	137.9	80.82	58.36
1.75V	314.9	275.6	264.3	212.9	175.9	132.1	78.01	56.52
1.80V	288.5	255.2	246.7	201.4	167.6	126.5	75.19	54.68
1.85V	247.7	217.4	209.0	173.2	145.5	111.9	67.93	49.85

Constant Power Discharge Characteristics : WPC (25°C)

F.V/Time	5MIN	8MIN	10MIN	15MIN	20MIN	30MIN	60MIN	90MIN
1.60V	721.4	625.0	595.2	474.4	389.5	290.2	162.3	117.4
1.67V	671.4	586.4	561.7	450.0	371.7	278.3	156.2	113.5
1.70V	649.3	568.8	546.0	439.6	363.7	272.7	153.7	111.9
1.75V	609.3	537.5	518.6	420.6	349.1	263.7	149.5	108.9
1.80V	567.1	504.6	489.7	401.9	335.9	254.4	145.0	105.9
1.85V	494.0	435.8	420.5	349.3	294.3	227.0	131.9	97.4

(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



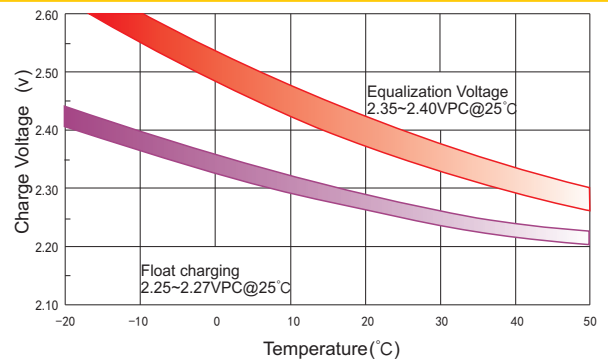
Charge Characteristic Curve For Standby Use



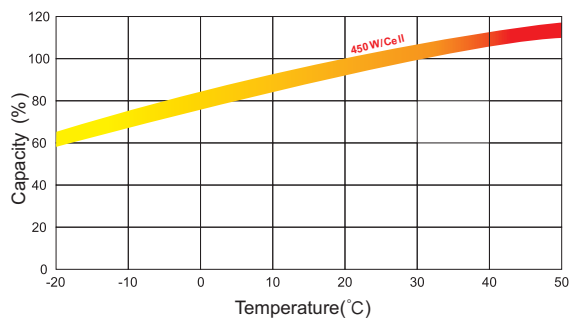
Storage Characteristics



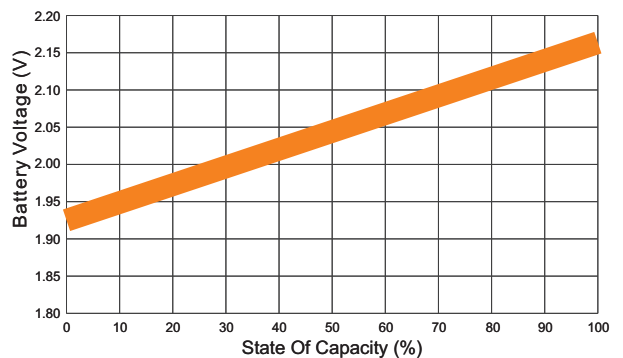
Relationship Between Charging Voltage And Temperature



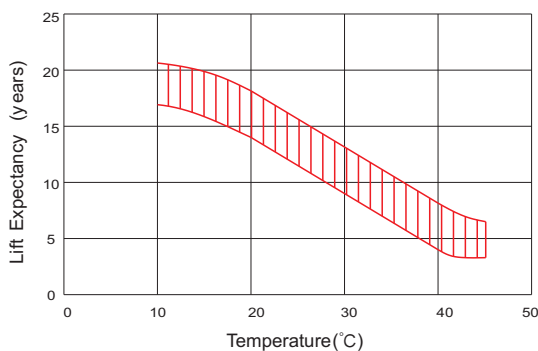
Temperature Effects On Capacity



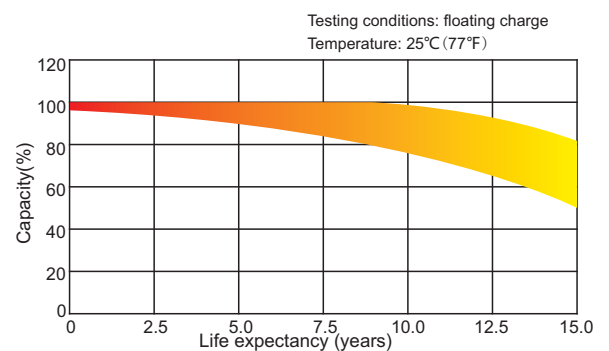
Relationship of OCV And State of Charge(20°C)



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.