



HR12-60W

Specification

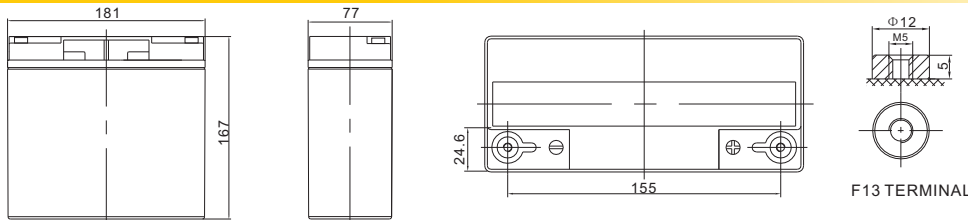
Cells Per Unit	6
Voltage Per Unit	12
Capacity	60W@15min-rate to 1.67V per cell @25°C
Weight	Approx. 4.65 Kg (Tolerance ±4.0%)
Internal Resistance	Approx. 14 mΩ
Terminal	F3(M5)/F13(M5)
Max. Discharge Current	170A (5 sec)
Short Circuit Current	780A
Design Life	Could Reach 8 years
Recommended Maximum Charging Current	5.1 A
Reference Capacity	C10 16.0AH C20 17.0AH
Standby Use Voltage	13.7 V~13.9 V @ 25°C
Cycle Use Voltage	14.6 V~14.8 V @ 25°C
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.
Constainer Material	A.B.S. UL94-HB, UL94-V0 Optional.



The 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 and specially designed active material the HR series is with lower I.R, lower self discharge rate, high power, and longer service life performance. Generally the HR series offers 30% more power output than the standard range. Suitable for high power standby and cycling situation, such as UPS, datacenter, electric tools et al.



Dimensions



Length	181±1mm (7.13 inches)
Width	77±1mm (3.03 inches)
Height	167±1mm (6.57 inches)
Total Height	167±1mm (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	69.86	60.75	50.51	44.56	34.45	27.88	20.42	11.90	8.68
1.67V	64.65	56.21	47.38	41.81	32.65	26.01	19.46	11.35	8.26
1.70V	61.96	53.88	45.71	40.30	31.65	25.02	18.91	11.02	8.01
1.75V	58.52	50.89	43.43	37.84	30.16	24.33	18.38	10.84	7.83
1.80V	55.04	47.86	41.14	35.37	28.65	23.61	17.82	10.62	7.64
1.85V	51.37	44.67	38.69	32.79	27.02	22.79	17.16	10.37	7.41

Constant Power Discharge Characteristics : WPC (25°C)

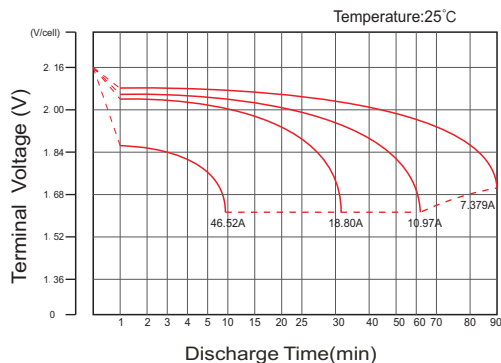
F.V/Time	3MIN	5MIN	8MIN	10MIN	15MIN	20MIN	30MIN	60MIN	90MIN
1.60V	127	110	93	82	64.1	51.3	37.6	22.0	16.1
1.67V	118	103	88	78	61.3	48.3	36.2	21.2	15.5
1.70V	115	100	86	76	60.1	47.0	35.6	20.8	15.2
1.75V	110	95	83	72.4	58.0	46.3	35.0	20.7	15.0
1.80V	105	91	79	68.6	55.9	45.6	34.4	20.6	14.9
1.85V	100	87	76	64.9	53.8	44.9	33.8	20.5	14.7

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

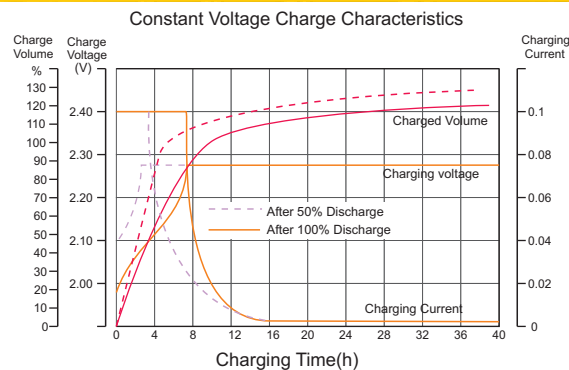
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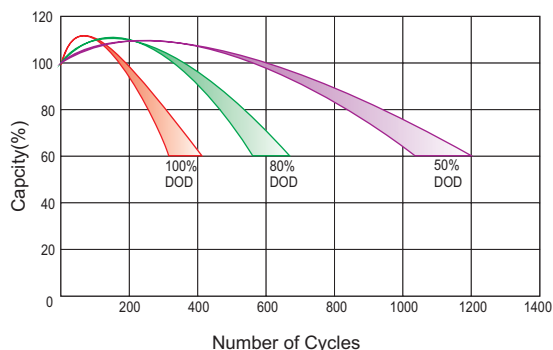
Discharge Characteristics Curve



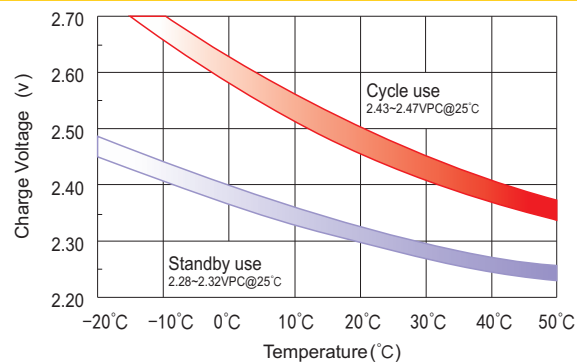
Charge Characteristic Curve For Standby Use



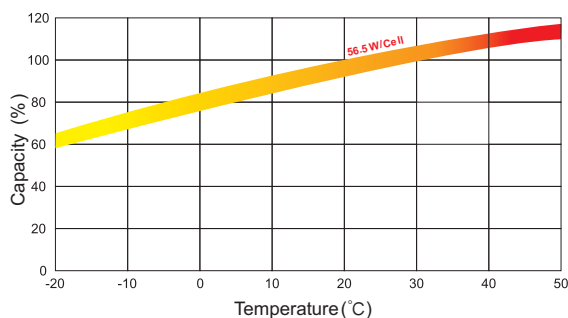
Cycle Life In Relation To Depth Of Discharge



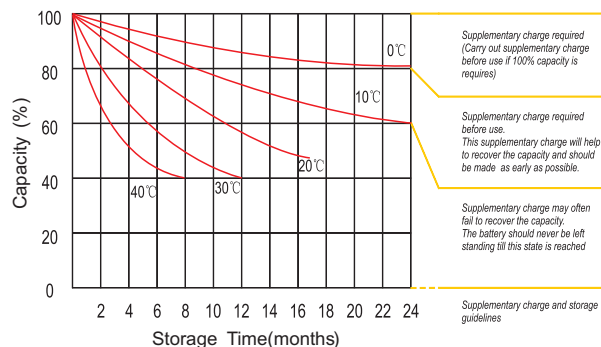
Relationship Between Charging Voltage And Temperature



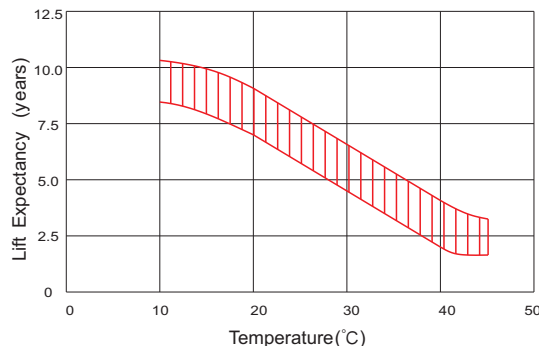
Temperature Effects On Capacity



Storage Characteristics



Effect Of Temperature On Long Term Life



Life Characteristics Of Standby Use

