



# HR12-650WL

## Specification

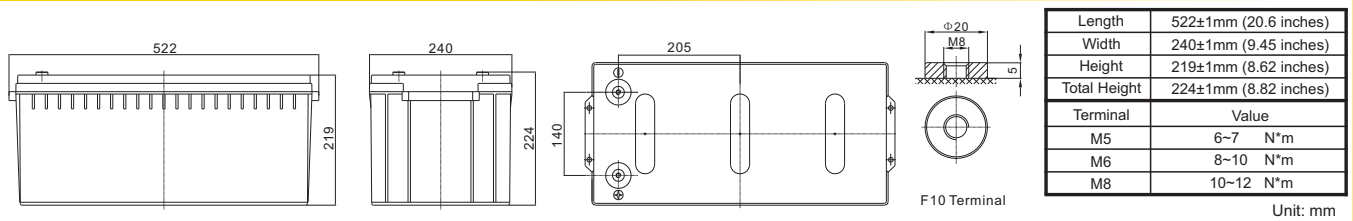
Cells Per Unit	6
Voltage Per Unit	12
Capacity	650W@15min-rate to 1.67V per cell @25°C
Weight	Approx. 63.5 Kg (Tolerance ± 1.5%)
Internal Resistance	Approx. 3.6 mΩ
Terminal	F10(M8)
Max. Discharge Current	2000A (5 sec)
Short Circuit Current	3850A
Design Life	Could Reach 15 years
Recommended Maximum Charging Current	60.0 A
Reference Capacity	C10 190AH C20 200AH
Standby Use Voltage	13.6 V~13.8 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.
Container 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 15 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



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

F.V/Time	5MIN	8MIN	10MIN	15MIN	20MIN	30MIN	60MIN	90MIN
1.60V	707.0	587.8	518.6	400.9	327.8	249.7	152.5	114.2
1.67V	654.2	551.4	486.6	380.0	305.8	238.1	145.4	108.7
1.70V	627.0	532.0	469.0	368.3	294.1	231.3	141.2	105.4
1.75V	592.2	505.4	440.4	351.0	286.1	224.8	138.9	103.1
1.80V	557.0	478.8	411.6	333.5	277.6	217.9	136.1	100.6
1.85V	519.8	450.2	381.6	314.5	267.9	209.9	132.9	97.5

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

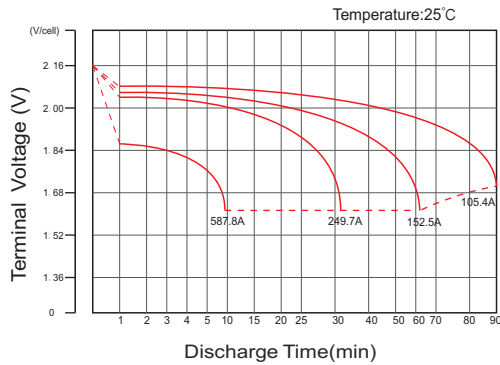
F.V/Time	5MIN	8MIN	10MIN	15MIN	20MIN	30MIN	60MIN	90MIN
1.60V	1261	1064	944	734	603	460	282	212
1.67V	1178	1007	894	703	568	443	271	204
1.70V	1143	984	872	689	552	435	267	200
1.75V	1093	946	829	665	544	428	266	198
1.80V	1043	909	787	641	535	421	264	196
1.85V	993	873	744	617	527	414	263	194

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

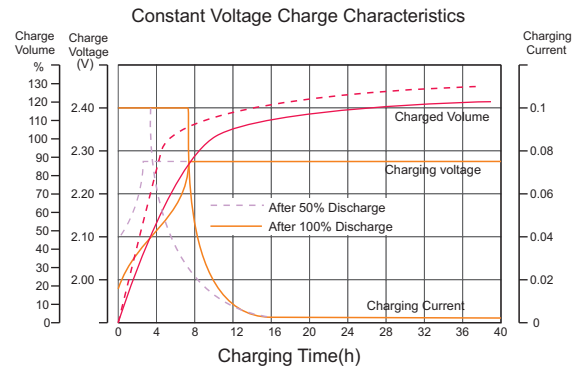
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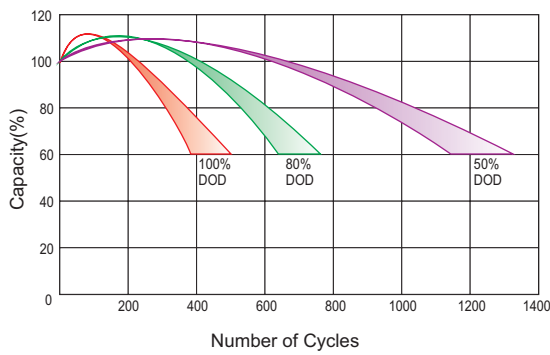
## Discharge Characteristics Curve



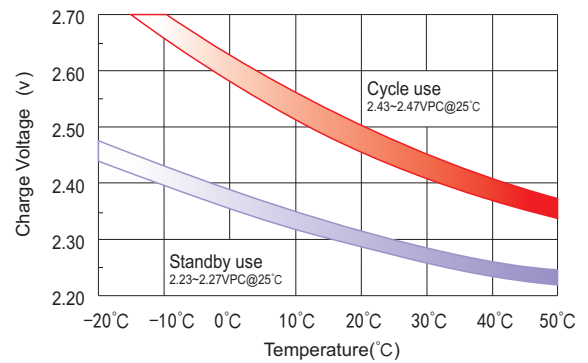
## Charge Characteristic Curve For Standby Use



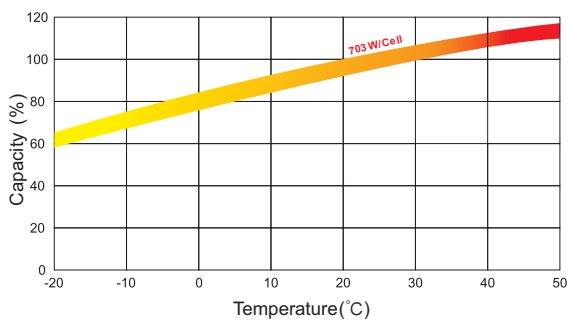
## Cycle Life In Relation To Depth Of Discharge



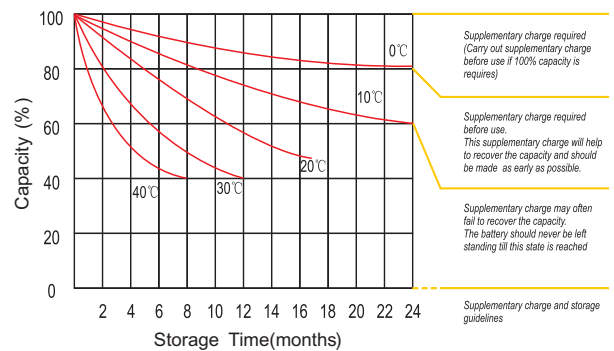
## Relationship Between Charging Voltage And Temperature



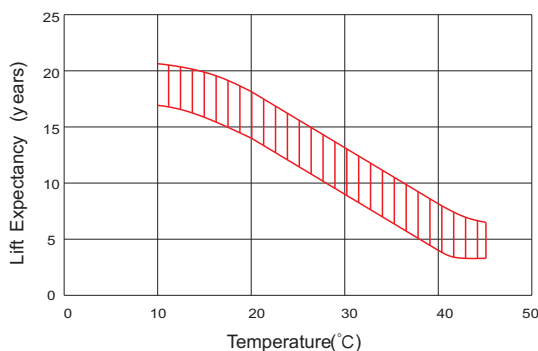
## Temperature Effects On Capacity



## Storage Characteristics



## Effect Of Temperature On Long Term Life



## Life Characteristics Of Standby Use

