



# HR12-690WA(12V690W)

## Specification

|                                    |   |
|------------------------------------|---|
| Cells Per Unit                     | 6   |
| Voltage Per Unit                   | 12  |
| Capacity                           | 690W@15min-rate to 1.67V per cell @25°C   |
| Weight                             | Approx. 61.0Kg (Tolerance ±3.0%)  |
| Internal Resistance                | Approx. 3.0 mΩ  |
| Terminal                           | F10(M8)   |
| Max. Discharge Current             | 2250A (5 sec)   |
| Short Circuit Current              | 4050A   |
| Design Life                        | 15 years  |
| Max. Charging Current              | 67.5 A  |
| Reference Capacity                 | C10 210.0AH<br>C20 225.0AH  |
| Standby Use Voltage                | 13.50 V~13.62 V @ 25°C<br>Temperature Compensation: -3mV/°C/Cell  |
| Equalization Voltage               | 14.10 V~14.40 V @ 25°C<br>Temperature Compensation: -4mV/°C/Cell  |
| Operating Temperature Range        | Discharge: -20°C~60°C<br>Charge: 0°C~50°C<br>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



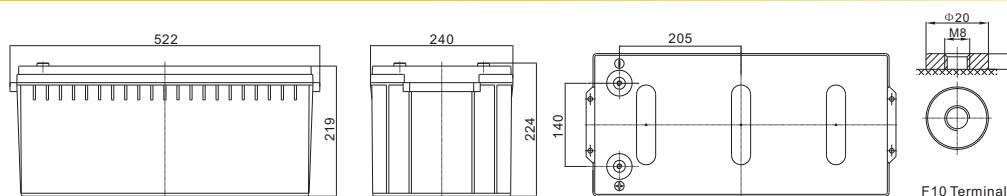
OHSAS 18001



MH 28539



## Dimensions



|              |                       |
|--------------|-----------------------|
| Length       | 522±2mm (20.6 inches) |
| Width        | 240±2mm (9.45 inches) |
| Height       | 219±2mm (8.62 inches) |
| Total Height | 224±2mm (8.82 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 | 5MIN  | 8MIN  | 10MIN | 15MIN | 20MIN | 30MIN | 60MIN | 90MIN |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1.60V    | 668.8 | 559.4 | 495.1 | 381.6 | 310.7 | 229.0 | 132.5 | 95.11 |
| 1.67V    | 606.9 | 513.0 | 457.6 | 355.8 | 292.1 | 216.7 | 126.4 | 91.24 |
| 1.70V    | 581.1 | 493.1 | 441.2 | 345.0 | 283.9 | 211.5 | 123.9 | 89.48 |
| 1.75V    | 536.5 | 459.3 | 413.6 | 326.4 | 269.7 | 202.5 | 119.6 | 86.66 |
| 1.80V    | 491.6 | 425.4 | 386.0 | 308.8 | 257.0 | 194.0 | 115.3 | 83.84 |
| 1.85V    | 421.9 | 362.3 | 327.0 | 265.6 | 223.1 | 171.6 | 104.2 | 76.44 |

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

| F.V/Time | 5MIN   | 8MIN   | 10MIN | 15MIN | 20MIN | 30MIN | 60MIN | 90MIN |
|----------|--------|--------|-------|-------|-------|-------|-------|-------|
| 1.60V    | 1229.0 | 1041.7 | 931.3 | 727.3 | 597.2 | 445.0 | 248.9 | 180.0 |
| 1.67V    | 1143.8 | 977.3  | 878.9 | 690.0 | 569.9 | 426.7 | 239.6 | 174.0 |
| 1.70V    | 1106.3 | 948.0  | 854.3 | 674.0 | 557.6 | 418.1 | 235.6 | 171.6 |
| 1.75V    | 1038.1 | 895.9  | 811.5 | 644.9 | 535.3 | 404.3 | 229.2 | 167.0 |
| 1.80V    | 966.2  | 840.9  | 766.3 | 616.2 | 515.1 | 390.2 | 222.3 | 162.4 |
| 1.85V    | 841.7  | 726.3  | 657.9 | 535.6 | 451.3 | 348.0 | 202.2 | 149.4 |

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

# HR12-690WA (12V690W)



## Discharge Characteristics Curve



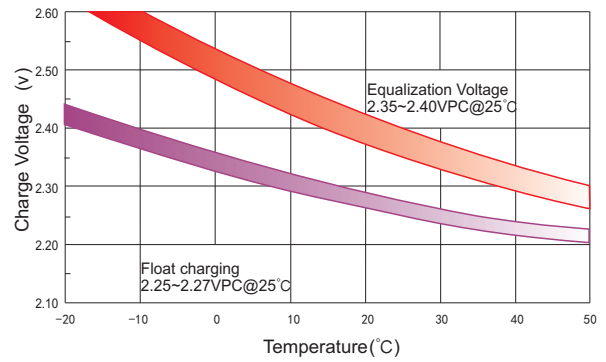
## Charge Characteristic Curve For Standby Use



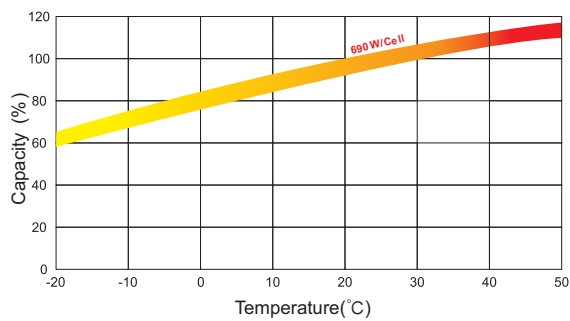
## Storage Characteristics



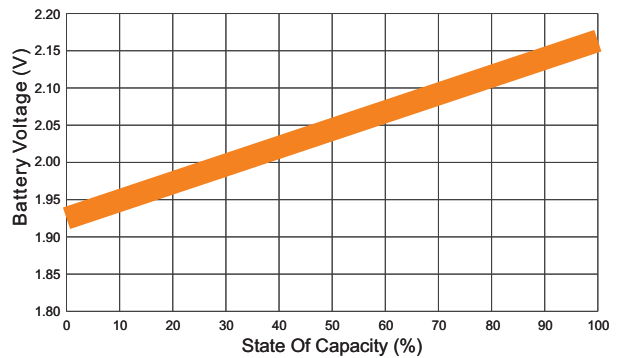
## Relationship Between Charging Voltage And Temperature



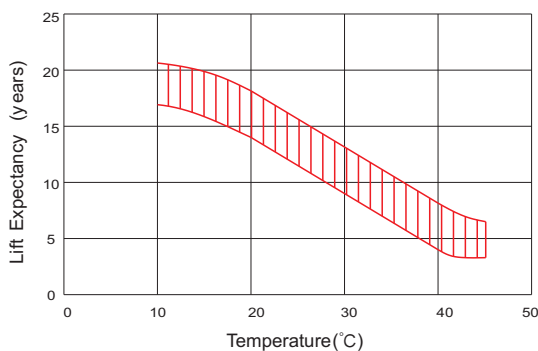
## Temperature Effects On Capacity



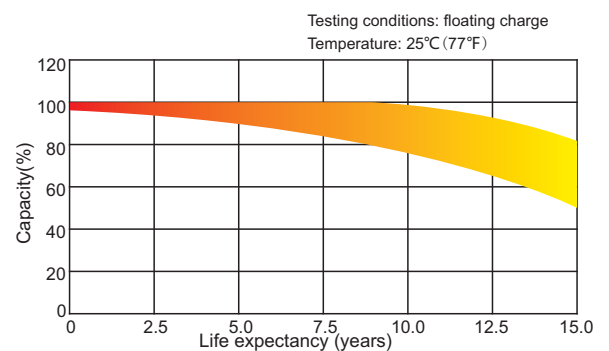
## Relationship of OCV And State of Charge (20°C)



## 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.