# DG12-65(12V65Ah)

RITAR®

## Specification

| | |
|---|---|
| **Cells Per Unit** | 6 |
| **Voltage Per Unit** | 12 |
| **Capacity** | 65Ah@20hr-rate to 1.75V per cell @25℃ |
| **Weight** | Approx. 19.5 Kg (Tolerance±3.0%) |
| **Internal Resistance** | Approx. 10.0 mΩ |
| **Terminal** | F5(M8)/F11(M6) |
| **Max. Discharge Current** | 650A (5 sec) |
| **Design Life** | 15 years (floating charge) |
| **Max. Charging Current** | 13.0 A |
| **Reference Capacity** | C3 44.4AH<br>C5 50.0AH<br>C10 57.2AH<br>C20 65.0AH |
| **Float Charging Voltage** | 13.6 V~13.8 V @ 25℃<br>Temperature Compensation: -3mV/℃/Cell |
| **Cycle Use Voltage** | 14.2 V~14.4 V @ 25℃<br>Temperature Compensation: -4mV/℃/Cell |
| **Operating Temperature Range** | Discharge: -40℃~60℃<br>Charge: -20℃~50℃<br>Storage: -40℃~60℃ |
| **Normal Operating Temperature Range** | 25℃±5℃ |
| **Self Discharge** | RITAR Valve Regulated Lead Acid (VRLA) batteries can be stored for up to 6 months at 25℃, and then recharging is recommended. Monthly Self-discharge ratio is less than 2% at 20℃.Please charged batteries before using. |
| **Container Material** | A.B.S. UL94-HB, UL94-V0 Optional. |

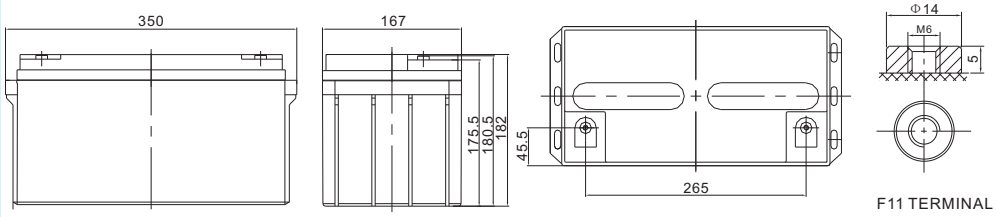


DG (Deep Cycle GEL ) series is pure GEL battery with 15 years floating design life , it is ideal for standby or frequent cyclic discharge applications under extreme environments. By using strong grids, high purity lead and patented GEL electrolyte, the DG series offers excellent recovery capability after deep discharge under frequent cyclic discharge use, and it can offers 2 times cyclic life than the standard series. It is suitable for solar & wind system, marine, deep discharge UPS etc.

ISO 9001 ISO 14001 OHSAS 18001

MH 28539

## Dimensions




| | |
|---|---|
| Length | 350±2mm (13.8 inches) |
| Width | 167±2mm (6.57 inches) |
| Height | 182±2mm (7.17 inches) |
| Total Height | 182±2mm (7.17 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℃)

| F.V/Time | 10MIN | 15MIN | 30MIN | 1HR | 2HR | 3HR | 4HR | 5HR | 8HR | 10HR | 20HR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.60V | 106.4 | 86.3 | 56.6 | 35.3 | 21.6 | 16.2 | 12.9 | 10.8 | 7.32 | 6.03 | 3.38 |
| 1.65V | 100.6 | 82.5 | 54.4 | 34.1 | 20.9 | 15.7 | 12.6 | 10.5 | 7.23 | 5.96 | 3.33 |
| 1.70V | 92.6 | 77.3 | 52.0 | 33.0 | 20.2 | 15.2 | 12.2 | 10.3 | 7.12 | 5.87 | 3.29 |
| 1.75V | 84.7 | 71.9 | 49.7 | 31.8 | 19.5 | 14.8 | 11.9 | 10.0 | 7.02 | 5.79 | 3.25 |
| 1.80V | 76.7 | 66.4 | 47.5 | 30.6 | 18.8 | 14.3 | 11.6 | 9.75 | 6.90 | 5.72 | 3.22 |
| 1.85V | 62.7 | 55.1 | 40.9 | 27.4 | 17.2 | 13.2 | 10.7 | 9.09 | 6.48 | 5.38 | 3.05 |

### Constant Power Discharge Characteristics : WPC(25℃)

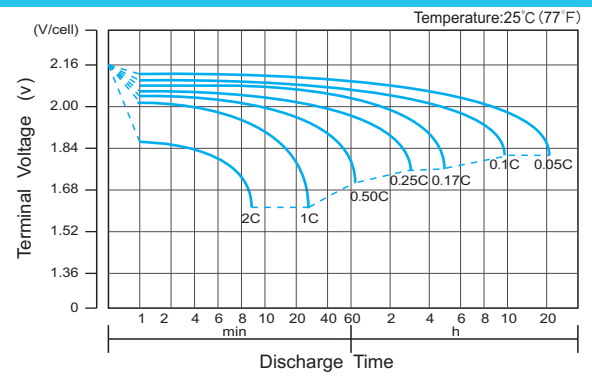
| F.V/Time | 10MIN | 15MIN | 30MIN | 1HR | 2HR | 3HR | 4HR | 5HR | 8HR | 10HR | 20HR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.60V | 205.6 | 171.4 | 116.9 | 75.4 | 46.5 | 35.1 | 28.1 | 23.7 | 16.2 | 13.5 | 7.57 |
| 1.65V | 195.6 | 164.8 | 113.2 | 73.3 | 45.2 | 34.2 | 27.5 | 23.2 | 16.1 | 13.3 | 7.47 |
| 1.70V | 185.6 | 158.1 | 109.5 | 71.3 | 43.9 | 33.4 | 26.8 | 22.7 | 15.9 | 13.2 | 7.38 |
| 1.75V | 173.0 | 149.3 | 105.7 | 69.1 | 42.6 | 32.5 | 26.3 | 22.2 | 15.7 | 13.0 | 7.30 |
| 1.80V | 159.3 | 139.8 | 102.0 | 66.8 | 41.3 | 31.6 | 25.6 | 21.7 | 15.5 | 12.8 | 7.23 |
| 1.85V | 132.5 | 117.7 | 88.8 | 60.3 | 38.0 | 29.4 | 23.9 | 20.3 | 14.5 | 12.1 | 6.88 |

(Note) The above characteristics data are average values obtained within three charge/discharge cycle not the minimum values.
The battery must be fully charged before the capacity test. The $C_{20}$ should reach 95% after the first cycle and 100% after the third cycle.

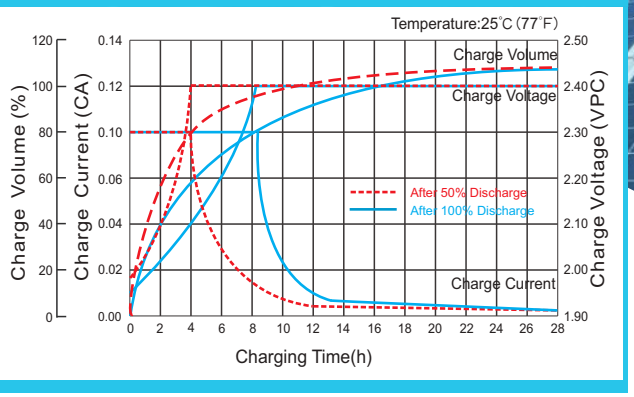
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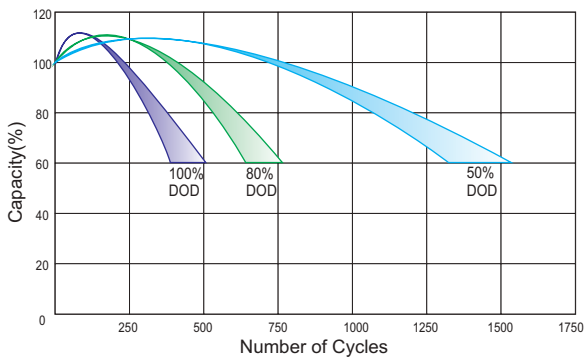
## Discharge Characteristics Curve



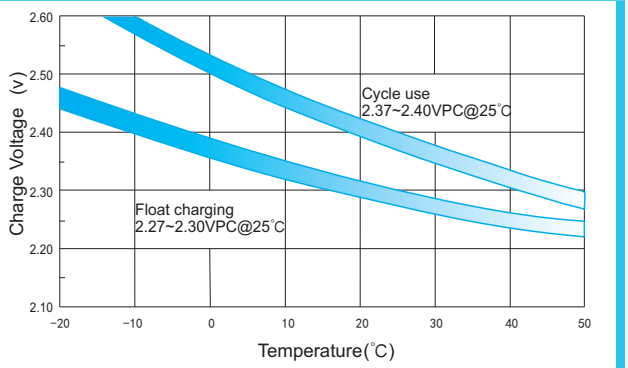

## Charge Characteristic Curve for Cycle Use(IU)



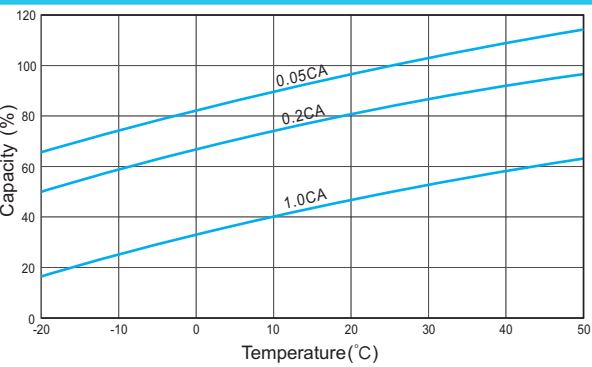

## Cycle Life in Relation to Depth of Discharge



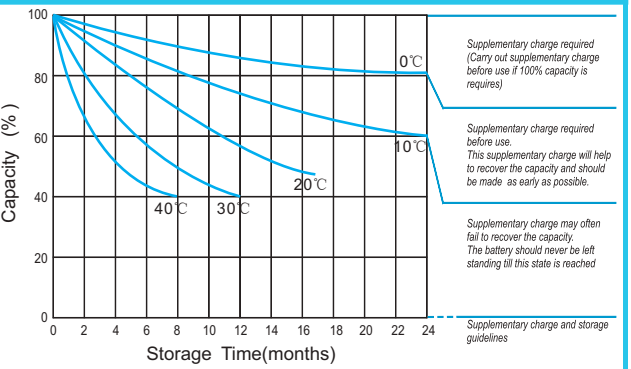

## Relationship Between Charging Voltage and Temperature



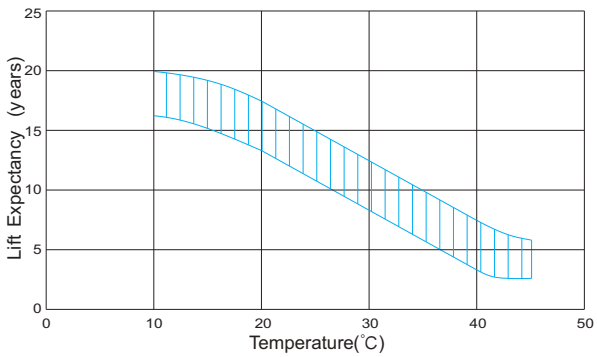

## Temperature Effects on Capacity



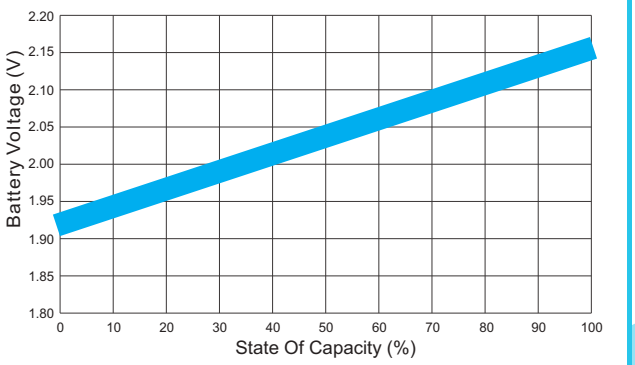

## Storage Characteristics




## Effect of Temperature on Long Term Life




## Relationship of OCV And State of Charge(20℃)




(Note) All above information shall be changed without prior notice, Ritar reserves the right to explain and update the latest information.


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