



# RA12-134DG (12V134Ah)

RA12-134DG is GEL Deep cycle battery, with 12 years floating design life, superiorly designed for frequent cyclic discharge applications under extreme temperature. By using strong grid to insure reliable performance under frequent cyclic discharge use. 400 cycles could be available at 100% DOD. Offering extra-durable cyclic performance, high efficiency of recovery, that is more suitable for solar, mobility, E-toll, marine, deep discharge UPS etc..



## Specification

|  |  |
|--|--|
| Cells Per Unit                             | 6  |
| Voltage Per Unit                           | 12   |
| Capacity                                   | 134Ah@20hr-rate to 1.75V per cell @25°C  |
| Weight                                     | Approx. 41.5 Kg  |
| Max. Discharge Current                     | 1340 A (5 sec)   |
| Internal Resistance                        | Approx. 5.0 mΩ   |
| Operating Temperature Range                | Discharge: -40°C~60°C<br>Charge:-20°C~50°C<br>Storage: -40°C~60°C  |
| Normal Operating Temperature Range         | 25°C±5°C   |
| Float charging Voltage                     | 13.6to 13.8 VDC/unit Average at 25°C   |
| Recommended Maximum Charging Current Limit | 26.8A  |
| Equalization and Cycle Service             | 14.2 to 14.4VDC/unit Average at 25°C   |
| Self Discharge                             | RITAR batteries can be stored for more than 6 months at 25°C. Self-discharge ratio less than 3% per month at 25°C. Please charge batteries before using. |
| Terminal                                   | Terminal F5/F12  |
| Container Material                         | A.B.S. (UL94-HB), Flammability resistance of UL94-V1 can be available upon request.  |



MH28539



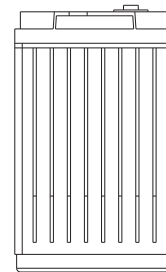
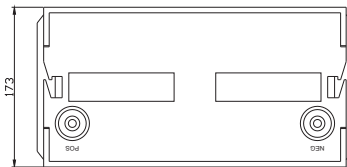
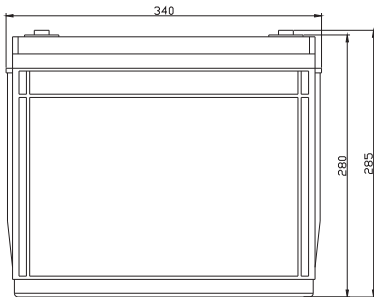
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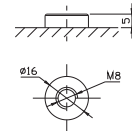
ISO9001:2000 Certificate

## Dimensions

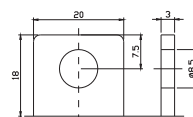
Unit: mm Dimension: 340 (L) × 173 (W) × 280 (H)



Terminal F12



Terminal F5



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

| F.V/Time | 5MIN  | 10MIN | 15MIN | 30MIN | 1HR   | 2HR   | 3HR   | 4HR   | 5HR   | 8HR   | 10HR  | 20HR |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| 9.60V    | 422.6 | 302.8 | 220.3 | 138.3 | 78.18 | 44.63 | 31.39 | 25.98 | 21.88 | 15.10 | 12.77 | 6.75 |
| 10.0V    | 411.3 | 288.1 | 215.8 | 136.0 | 77.82 | 44.30 | 31.27 | 25.86 | 21.75 | 14.98 | 12.65 | 6.63 |
| 10.2V    | 387.6 | 278.0 | 212.4 | 134.8 | 77.10 | 43.96 | 31.03 | 25.74 | 21.62 | 14.85 | 12.52 | 6.51 |
| 10.5V    | 348.0 | 256.5 | 202.3 | 131.5 | 76.38 | 43.62 | 30.91 | 25.50 | 21.36 | 14.73 | 12.40 | 6.38 |
| 10.8V    | 314.1 | 233.9 | 186.4 | 125.7 | 74.57 | 42.84 | 30.07 | 24.90 | 20.98 | 14.49 | 12.28 | 6.26 |
| 11.1V    | 273.5 | 209.0 | 167.2 | 117.8 | 70.84 | 40.94 | 28.75 | 23.69 | 20.08 | 13.87 | 11.91 | 5.89 |

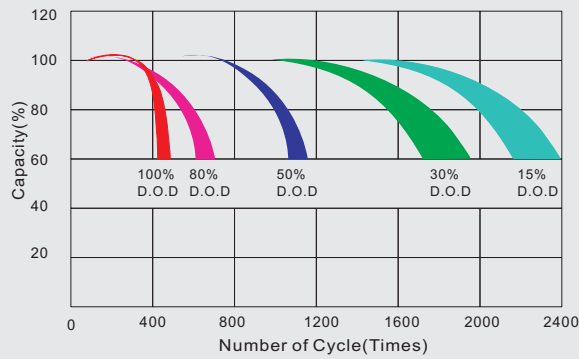
## Constant Power Discharge Characteristics: W (25°C)

| F.V/Time | 5MIN   | 10MIN  | 15MIN  | 30MIN  | 1HR   | 2HR   | 3HR   | 4HR   | 5HR   | 8HR   | 10HR  | 20HR  |
|----------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|
| 9.6V     | 4025.0 | 2943.3 | 2167.1 | 1561.0 | 894.1 | 513.4 | 362.3 | 300.2 | 253.3 | 175.2 | 143.6 | 75.83 |
| 10.0V    | 3942.8 | 2811.2 | 2122.1 | 1541.5 | 889.8 | 511.4 | 361.6 | 299.5 | 251.7 | 174.5 | 142.1 | 75.10 |
| 10.2V    | 3721.9 | 2717.6 | 2093.2 | 1523.4 | 883.3 | 506.7 | 359.4 | 298.0 | 251.0 | 173.0 | 141.4 | 74.36 |
| 10.5V    | 3351.5 | 2511.0 | 1996.0 | 1488.8 | 874.7 | 502.0 | 357.2 | 295.9 | 248.6 | 171.5 | 139.9 | 73.62 |
| 10.8V    | 3014.7 | 2279.9 | 1833.9 | 1421.0 | 853.0 | 494.6 | 348.6 | 287.9 | 244.8 | 167.9 | 138.4 | 72.89 |
| 11.1V    | 2602.3 | 2024.8 | 1637.6 | 1331.5 | 808.3 | 471.8 | 331.2 | 274.2 | 232.4 | 162.0 | 134.0 | 69.94 |

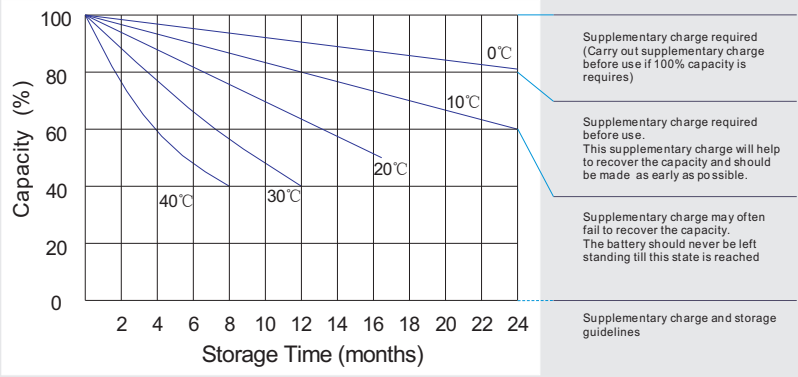
All mentioned values are average values.



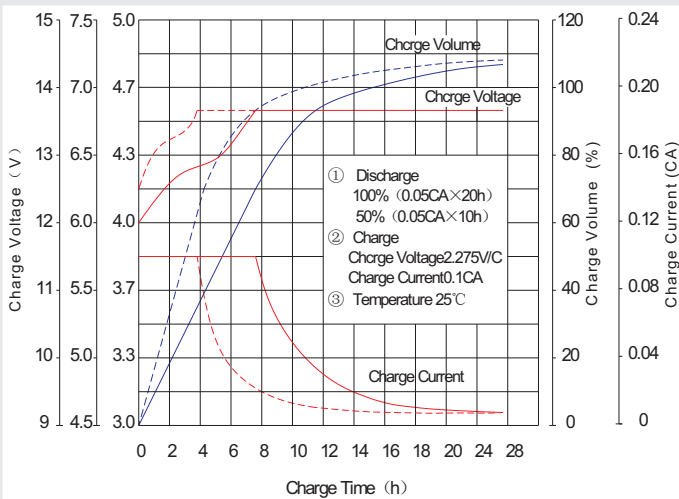
### Life characteristics of cyclic use



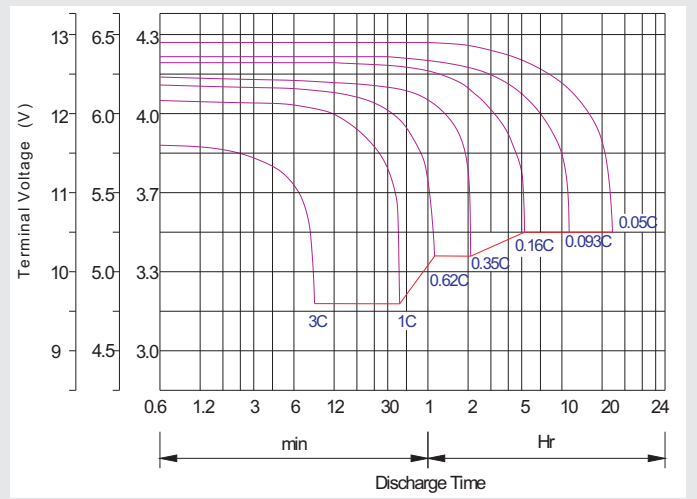
### Storage characteristic



### Charge characteristic Curve for standby use



### Discharge characteristic Curve



### Capacity Factors With Different Temperature

| Battery Type |        | -20°C | -10°C | 0°C | 5°C | 10°C | 20°C | 25°C | 30°C | 40°C | 45°C |
|--------------|--------|-------|-------|-----|-----|------|------|------|------|------|------|
| GEL Battery  | 6V&12V | 50%   | 70%   | 83% | 85% | 90%  | 98%  | 100% | 102% | 104% | 105% |
|              | 2V     | 60%   | 75%   | 85% | 88% | 92%  | 99%  | 100% | 103% | 105% | 106% |
| AGM Battery  | 6V&12V | 46%   | 66%   | 76% | 83% | 90%  | 98%  | 100% | 103% | 107% | 109% |
|              | 2V     | 55%   | 70%   | 80% | 85% | 92%  | 99%  | 100% | 104% | 108% | 110% |

### Discharge Current VS. Discharge Voltage

|                                |            |                   |            |
|--------------------------------|------------|-------------------|------------|
| Final Discharge Voltage V/cell | 1.75V      | 1.70V             | 1.60V      |
| Discharge Current (A)          | (A) ≤ 0.2C | 0.2C < (A) < 1.0C | (A) ≥ 1.0C |

### Maintenance & Cautions

|   |
|---|
| <b>Cycle service</b>  |
| ※ Avoid battery over discharge, especially battery series connection use.   |
| ※ Charged with recommend voltage, ensure battery can be full recharged.   |
| In general, recharge capacity should be 1.1-1.15 times discharge capacity.  |
| ※ Effect of temperature on cycle charge voltage: -4mV/°C/Cell.  |
| ※ There are a number of factors that will affect the length of cyclic service.  |
| The most significant are depth of discharge, ambient temperature, discharge rate, and the manner in which the battery is recharged. |
| Generally speaking, the most important factors is depth of discharge.   |

**Charge the batteries at least once every six months, if they are stored at 25°C.**

#### Charging Method:

|                  |   |
|------------------|---|
| Constant Voltage | -0.2Cx2h+2.4~2.45V/Cellx24h, Max. Current 0.3CA |
| Constant Current | -0.2Cx2h+0.1CAx12h                              |
| Fast             | -0.2Cx2h+0.3CAx4.0h                             |