



# RL2800X (2V800Ah)

RL 2800X is a general purpose battery with 18 years floating design life. With heavy duty grid, thick plates, special additives, RL series battery maintain very long life time and stable performance.



## Specification

|  |  |
|--|--|
| Cells Per Unit                             | 1  |
| Voltage Per Unit                           | 2  |
| Capacity                                   | 800Ah@10hr-rate to 1.80V per cell @25°C  |
| Weight                                     | Approx.50.0Kg  |
| Max. Discharge Current                     | 3200 A (5 sec)   |
| Internal Resistance                        | Approx. 0.6 mΩ   |
| 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   |
| Float charging Voltage                     | 2.27 to 2.3 VDC/unit Average at 25°C   |
| Recommended Maximum Charging Current Limit | 160 A  |
| Equalization and Cycle Service             | 2.43 to 2.47 VDC/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                                   | Thread insert & Bolt (F10)   |
| Container Material                         | A.B.S. (UL94-HB), Flammability resistance of UL94-V1 can be available upon request.  |



MH28539



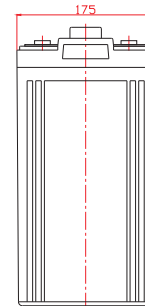
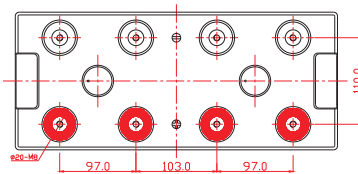
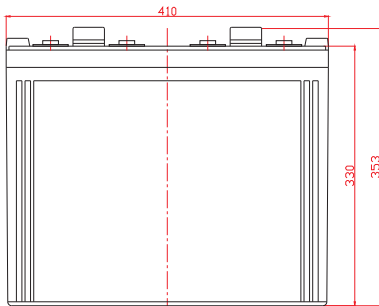
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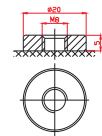
ISO9001:2000 Certificate

## Dimensions

Unit: mm Dimension: 410(L)×175(W)×353(H)



F10 Terminal



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

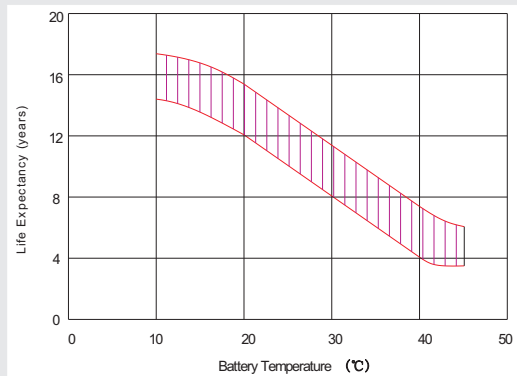
| F.V/Time | 15 MIN | 30 MIN | 1 HR  | 2 HR  | 3 HR  | 4 HR  | 5 HR  | 6 HR  | 8 HR  | 10 HR |
|----------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1.60V    | 1086   | 801.0  | 515.5 | 306.4 | 228.2 | 181.9 | 153.2 | 128.7 | 103.9 | 86.82 |
| 1.65V    | 1033   | 769.1  | 493.2 | 295.3 | 218.7 | 175.6 | 146.8 | 125.6 | 99.23 | 85.32 |
| 1.70V    | 963.1  | 725.0  | 483.6 | 290.5 | 213.9 | 174.0 | 145.2 | 122.5 | 97.68 | 83.77 |
| 1.75V    | 855.0  | 652.5  | 445.3 | 274.5 | 202.7 | 164.4 | 138.9 | 116.3 | 94.57 | 82.22 |
| 1.80V    | 736.0  | 594.3  | 419.7 | 261.7 | 194.7 | 162.8 | 134.1 | 114.7 | 93.02 | 80.67 |
| 1.85V    | 622.4  | 535.0  | 387.8 | 247.4 | 185.1 | 150.0 | 127.7 | 108.5 | 88.37 | 75.22 |

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

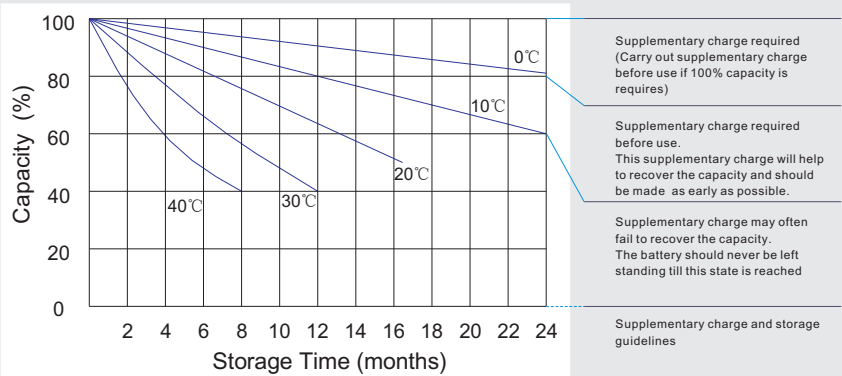
| F.V/Time | 15 MIN | 30 MIN | 1 HR  | 2 HR  | 3 HR  | 4 HR  | 5 HR  | 6 HR  | 8 HR  | 10 HR |
|----------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1.60V    | 1902   | 1460   | 943.9 | 567.7 | 425.3 | 341.9 | 289.6 | 248.3 | 197.7 | 167.6 |
| 1.65V    | 1852   | 1452   | 940.6 | 559.5 | 417.0 | 336.8 | 286.3 | 245.1 | 196.0 | 166.0 |
| 1.70V    | 1749   | 1374   | 923.5 | 551.3 | 410.6 | 335.5 | 283.8 | 239.4 | 193.0 | 163.5 |
| 1.75V    | 1558   | 1238   | 850.7 | 521.9 | 395.9 | 318.7 | 271.8 | 227.6 | 186.9 | 160.8 |
| 1.80V    | 1349   | 1130   | 802.2 | 498.4 | 379.5 | 317.2 | 263.0 | 224.9 | 183.9 | 155.1 |
| 1.85V    | 1150   | 1019   | 741.5 | 471.8 | 361.5 | 293.8 | 251.0 | 213.1 | 174.7 | 149.4 |

All mentioned values are average values.

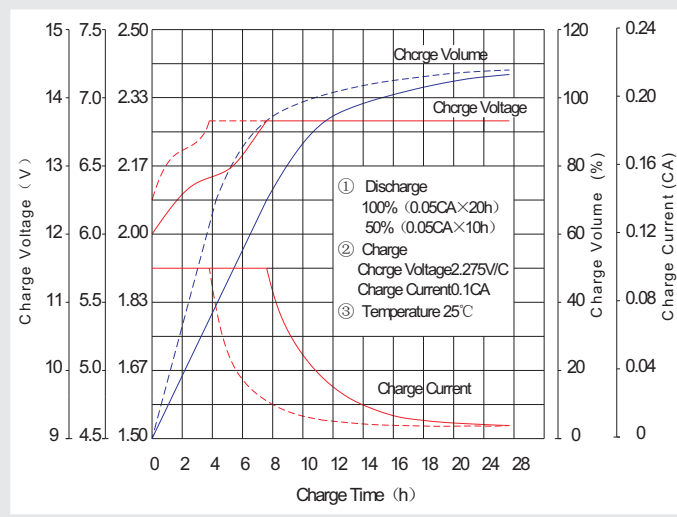
### Effect of temperature on long term float life



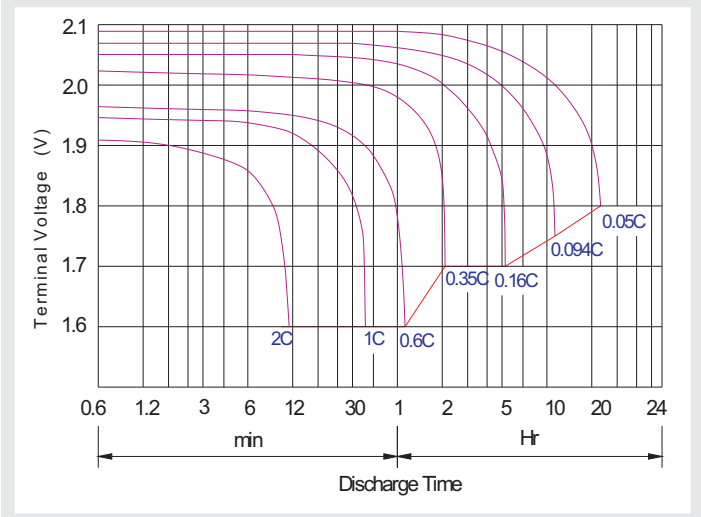
### Storage characteristic



### 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>Float Service:</b>   |
| ※ Every month, recommend inspection every battery voltage.  |
| ※ Every three months, recommend equalization charge for one time.   |
| Equalization charge method:   |
| Discharge: 100% rate capacity discharge.  |
| Charge: Max. current 0.3CA, constant voltage 2.4-2.45V/Cell charge 24h.   |
| ※ Effect of temperature on float charge voltage: -3mV/°C/Cell.  |
| ※ Length of service life will be directly affected by the number of discharge cycles, depth of discharge, ambient temperature and charging voltage. |

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

### Charging Method:

|                  |  |
|------------------|--|
| Constant Voltage | -0.2Cx2h+2.40~2.45V,24h,Max. Current 0.2CA |
| Constant Current | -0.2Cx2h+0.1CAx12h                         |
| Fast             | -0.2Cx2h+0.3CAx4.0h                        |