



DC2-500 (2V500Ah)

DC (Deep Cycle) series is specially designed for frequent cyclic discharge. By using strong grids and specially designed active material, the DC series battery offers 30% more cyclic life than the standby series. It is suitable for solar energy systems, marine and RV etc.



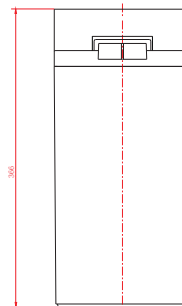
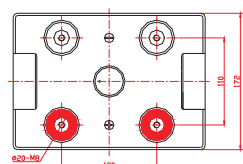
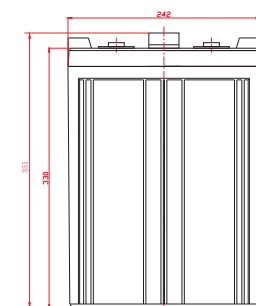
Specification

| | |
|--------------------------------------|---|
| Cells Per Unit | 1 |
| Voltage Per Unit | 2 |
| Capacity | 500Ah@10hr-rate to 1.80V per cell @25°C |
| Weight | Approx. 30.5Kg (Tolerance ±2%) |
| Max. Discharge Current | 2500 A (5 sec) |
| Internal Resistance | Approx. 0.62 mΩ |
| 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 |
| Float charging Voltage | 2.27 to 2.3 VDC/unit Average at 25°C |
| Recommended Maximum Charging Current | 100 A |
| Equalization and Cycle Service | 2.43 to 2.47 VDC/unit Average at 25°C |
| Self Discharge | RITAR Valve Regulated Lead Acid (VRLA) 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, UL94-V0 Optional. |

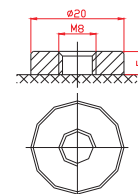


Dimensions

Unit: mm Dimension: 242(L) × 172(W) × 366(H)



Terminal F10



Constant Current Discharge Characteristics : A(25°C)

| F.V/Time | 15MIN | 30MIN | 1HR | 2HR | 3HR | 4HR | 5HR | 6HR | 8HR | 10HR |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1.60V | 678.9 | 500.7 | 312.2 | 191.5 | 142.6 | 102.3 | 89.58 | 80.43 | 64.92 | 52.08 |
| 1.65V | 645.5 | 480.7 | 308.2 | 184.5 | 136.7 | 98.8 | 88.68 | 78.49 | 62.02 | 51.58 |
| 1.70V | 601.9 | 453.2 | 302.2 | 181.5 | 133.7 | 97.9 | 87.41 | 76.55 | 61.05 | 51.09 |
| 1.75V | 534.4 | 407.8 | 278.3 | 171.6 | 126.7 | 92.5 | 86.28 | 72.68 | 59.11 | 50.54 |
| 1.80V | 460.0 | 371.5 | 262.3 | 163.6 | 121.7 | 91.6 | 84.79 | 71.71 | 58.14 | 50.07 |
| 1.85V | 389.0 | 334.4 | 242.4 | 154.6 | 115.7 | 84.39 | 79.80 | 67.83 | 55.23 | 47.01 |

Constant Power Discharge Characteristics : W(25°C)

| F.V/Time | 15MIN | 30MIN | 1HR | 2HR | 3HR | 4HR | 5HR | 6HR | 8HR | 10HR |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1.60V | 1188 | 912.4 | 580.9 | 358.3 | 265.8 | 192.3 | 178.1 | 155.2 | 123.5 | 103.8 |
| 1.65V | 1157 | 907.5 | 577.9 | 353.2 | 260.6 | 189.5 | 176.4 | 153.2 | 122.5 | 102.8 |
| 1.70V | 1093 | 858.9 | 572.2 | 348.0 | 256.6 | 188.7 | 174.3 | 149.6 | 120.6 | 102.2 |
| 1.75V | 973.8 | 774.0 | 536.7 | 329.4 | 247.4 | 179.3 | 171.9 | 142.3 | 116.8 | 101.1 |
| 1.80V | 842.9 | 706.2 | 510.4 | 314.6 | 237.2 | 178.4 | 168.9 | 140.6 | 114.9 | 100.3 |
| 1.85V | 718.8 | 636.7 | 473.4 | 297.8 | 226.0 | 165.3 | 159.4 | 133.2 | 109.2 | 94.50 |

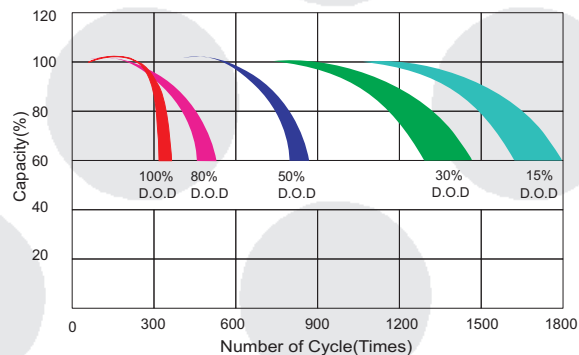
All mentioned values are average values (Tolerance ±2%).

DC2-500

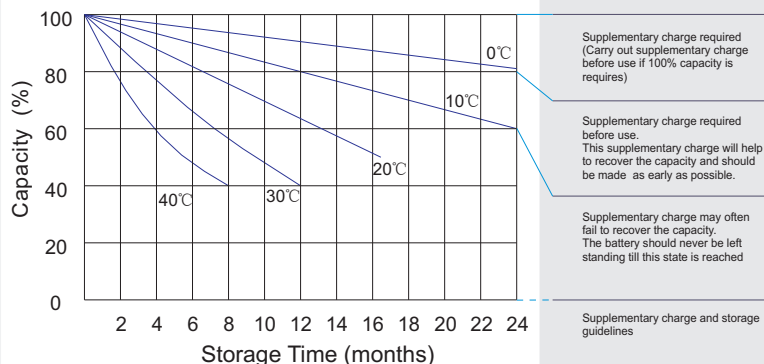
2V500Ah



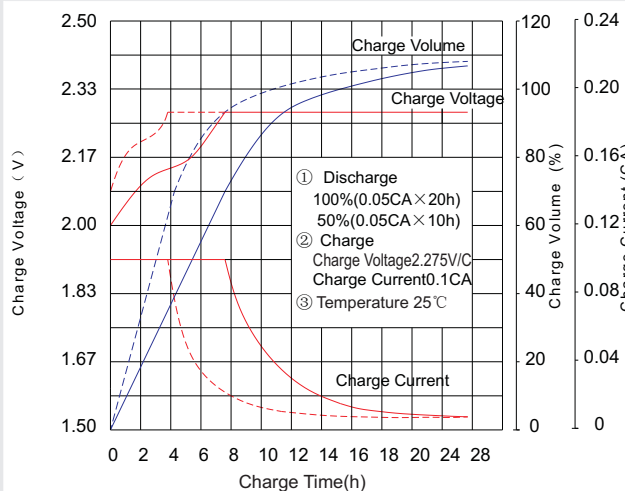
Life characteristics of cyclic use



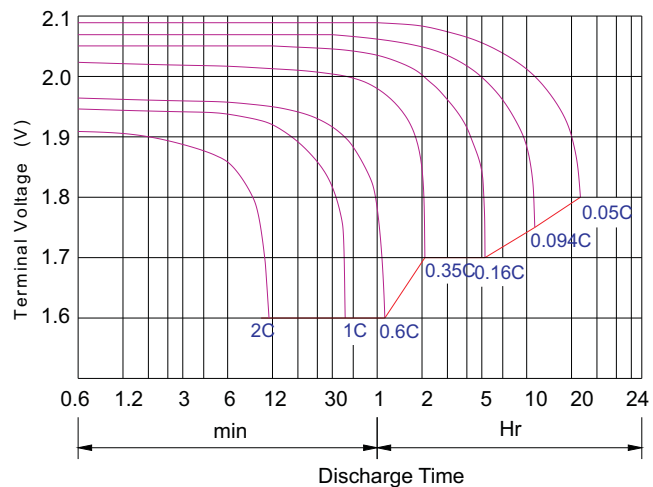
Storage characteristic



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 |

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

Charging Method:

| | |
|------------------|---|
| Constant Voltage | -0.2Cx2h+2.4-2.45Vx24h, Max. Current 0.2C |
| Constant Current | -0.2Cx2h+0.1Cx7h+0.05Cx4h |
| Fast | -0.2Cx2h+0.3Cx3h |

| Bolt | M5 | M6 | M8 |
|----------|-----------------------|------------------|-----------------------|
| Terminal | F3 F4 F13 F18 T25 T26 | F8 F11 F12-1 F15 | F5 F9 F10 F12 F14 F16 |
| Torque | 6~7N·m | 8~10N·m | 10~12N·m |

Maintenance & Cautions

Cycle service

- ※ 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.