



FT12-180D (12V180Ah)

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 | 6 |
| Voltage Per Unit | 12 |
| Capacity | 180Ah@10hr-rate to 1.80V per cell @25°C |
| Weight | Approx. 52.0 Kg (Tolerance ± 1.5%) |
| Max. Discharge Current | 1800 A (5 sec) |
| Internal Resistance | Approx. 4 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 | 13.6 to 13.8 VDC/unit Average at 25°C |
| Recommended Maximum Charging Current | 54 A |
| Equalization and Cycle Service | 14.6 to 14.8 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 | Terminal F9 |
| Container Material | A.B.S. UL94-HB, UL94-V0 Optional. |



MH28539



G4M20206-0910-E-16



CERTIFICATE

Postcode: 421001

is in conformity with

ISO 14001:2004 Standard



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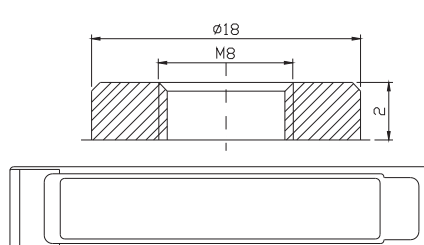
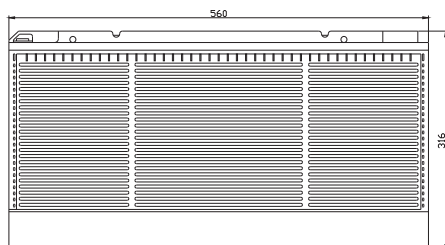
is in conformity with

OHSAS 18001:1999 Standard

Dimensions

Unit: mm Dimension: 560(L)×125(W)×316(H)

Terminal F9



Constant Current Discharge Characteristics: A (25°C)

| F.V/Time | 15MIN | 30MIN | 1HR | 2HR | 3HR | 4HR | 5HR | 8HR | 10HR | 20HR |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| 9.60V | 294.9 | 180.8 | 112.4 | 69.37 | 47.14 | 38.01 | 31.55 | 20.78 | 18.73 | 9.92 |
| 10.0V | 288.8 | 178.5 | 110.9 | 67.97 | 46.27 | 37.47 | 31.27 | 20.70 | 18.55 | 9.73 |
| 10.2V | 282.7 | 175.8 | 109.8 | 67.25 | 45.86 | 37.10 | 31.07 | 20.51 | 18.36 | 9.55 |
| 10.5V | 269.2 | 171.0 | 108.5 | 66.37 | 45.45 | 36.55 | 30.81 | 20.33 | 18.18 | 9.36 |
| 10.8V | 248.1 | 165.3 | 106.9 | 65.83 | 44.92 | 35.30 | 30.66 | 20.25 | 18.01 | 9.27 |
| 11.1V | 222.6 | 159.0 | 104.4 | 63.18 | 44.04 | 34.79 | 30.43 | 20.09 | 17.81 | 8.89 |

Constant Power Discharge Characteristics: W (25°C)

| F.V/Time | 15MIN | 30MIN | 1HR | 2HR | 3HR | 4HR | 5HR | 8HR | 10HR | 20HR |
|----------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| 9.60V | 3203 | 2070 | 1302 | 812.9 | 555.0 | 455.0 | 378.0 | 248.9 | 224.6 | 119.4 |
| 10.0V | 3158 | 2049 | 1290 | 803.0 | 546.7 | 448.6 | 374.6 | 247.9 | 222.8 | 117.4 |
| 10.2V | 3122 | 2031 | 1282 | 797.2 | 544.3 | 444.4 | 372.3 | 246.0 | 220.9 | 115.2 |
| 10.5V | 2982 | 1989 | 1274 | 787.1 | 539.9 | 438.4 | 369.4 | 244.0 | 218.7 | 113.0 |
| 10.8V | 2783 | 1942 | 1258 | 781.3 | 533.8 | 423.6 | 367.7 | 242.9 | 216.5 | 111.9 |
| 11.1V | 2534 | 1889 | 1239 | 752.0 | 524.9 | 417.5 | 366.3 | 241.2 | 214.2 | 107.9 |

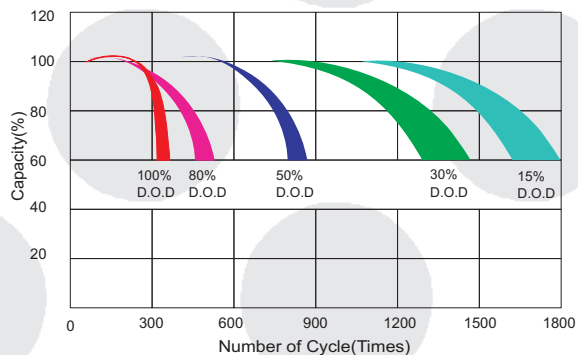
All mentioned values are average values (Tolerance ±2%).

FT12-180D

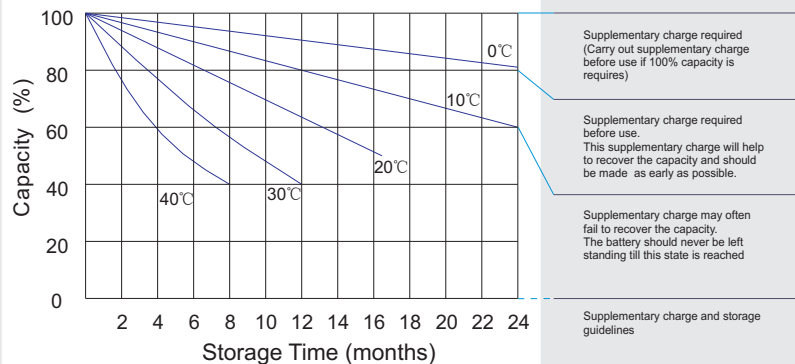
12V180Ah



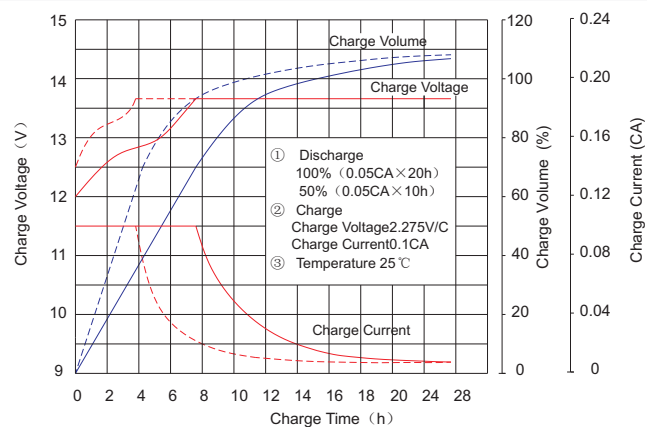
Life characteristics of cyclic use



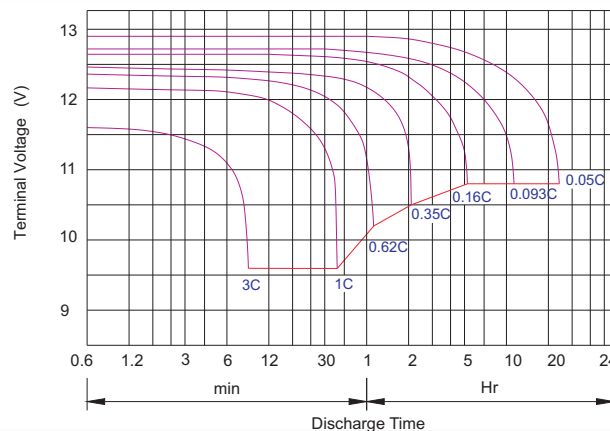
Storage characteristic



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+14.4-14.7Vx24h, Max. Current 0.3C |
| 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.