# FT12-100LD(12V100Ah)

RITAR®

## Specification

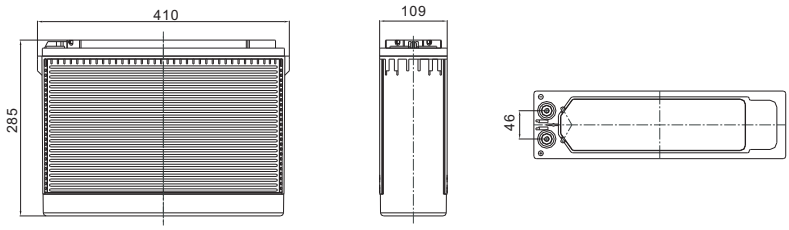
| | |
|---|---|
| **Cells Per Unit** | 6 |
| **Voltage Per Unit** | 12 |
| **Capacity** | 100Ah@20hr-rate to 1.75V per cell @25℃ |
| **Weight** | Approx. 33.0 Kg (Tolerance±3.0%) |
| **Internal Resistance** | Approx. 5.5 mΩ |
| **Terminal** | F9(M8) |
| **Max. Discharge Current** | 1000A (5 sec) |
| **Design Life** | 15 years (floating charge) |
| **Max. Charging Current** | 30.0 A |
| **Reference Capacity** | C3 76.5AH<br>C5 86.0AH<br>C10 95.2AH<br>C20 100.0AH |
| **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: -20℃~60℃<br>Charge: 0℃~50℃<br>Storage: -20℃~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 3% at 25℃.Please charged batteries before using. |
| **Container Material** | A.B.S. UL94-HB, UL94-V0 Optional. |

FTD (Front Terminal Deep Cycle)series batteries provide superior high integrity and reliability.It is specially designed for frequent cyclic charge and discharge. By using strong grids,thick plate and special active material are designed for repeated deep-discharge applications. The FTD series battery offers 30%more cyclic life than the standby series.And the dimensions are designed for 19"and 23"cabinet installation.It is suitable for telecom,solar and wind renewable energy storage,mobility and medical equipment, RV,telecom,broadband and cable TV,UPS systems etc.

ISO 9001 ISO 14001 OHSAS 18001

MH 28539

## Dimensions




| | |
|---|---|
| Length | 410±2mm (16.1 inches) |
| Width | 109±2mm (4.29 inches) |
| Height | 285±2mm (11.2 inches) |
| Total Height | 293±2mm (11.5 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 | 244.9 | 186.3 | 110.0 | 61.3 | 36.2 | 28.2 | 22.1 | 18.8 | 12.1 | 10.0 | 5.18 |
| 1.65V | 225.6 | 174.2 | 104.2 | 59.3 | 35.0 | 27.3 | 21.4 | 18.2 | 12.0 | 9.90 | 5.15 |
| 1.70V | 209.1 | 163.8 | 98.8 | 57.4 | 34.0 | 26.2 | 20.8 | 17.7 | 11.8 | 9.71 | 5.09 |
| 1.75V | 191.9 | 153.5 | 94.9 | 55.6 | 32.7 | 25.5 | 20.2 | 17.2 | 11.6 | 9.62 | 5.00 |
| 1.80V | 174.6 | 140.5 | 91.4 | 53.1 | 31.6 | 25.0 | 19.7 | 17.0 | 11.4 | 9.52 | 4.95 |
| 1.85V | 136.6 | 116.3 | 77.5 | 47.4 | 28.9 | 23.3 | 18.5 | 15.6 | 10.7 | 8.95 | 4.91 |

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

| F.V/Time | 10MIN | 15MIN | 30MIN | 1HR | 2HR | 3HR | 4HR | 5HR | 8HR | 10HR | 20HR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.60V | 417.1 | 325.0 | 199.8 | 115.2 | 68.4 | 53.5 | 42.6 | 35.6 | 23.5 | 19.6 | 10.3 |
| 1.65V | 401.6 | 316.0 | 195.1 | 113.2 | 66.5 | 52.2 | 41.6 | 34.6 | 23.3 | 19.4 | 10.3 |
| 1.70V | 374.8 | 299.1 | 185.7 | 109.9 | 64.9 | 50.2 | 40.2 | 33.8 | 23.0 | 19.0 | 10.2 |
| 1.75V | 348.8 | 282.3 | 179.2 | 106.8 | 62.6 | 48.9 | 39.3 | 33.0 | 22.7 | 18.9 | 10.0 |
| 1.80V | 321.4 | 261.0 | 173.4 | 102.5 | 61.2 | 48.7 | 38.5 | 32.5 | 22.3 | 18.7 | 9.88 |
| 1.85V | 254.9 | 219.2 | 148.8 | 92.0 | 56.3 | 45.4 | 36.3 | 30.1 | 21.1 | 17.6 | 9.79 |

(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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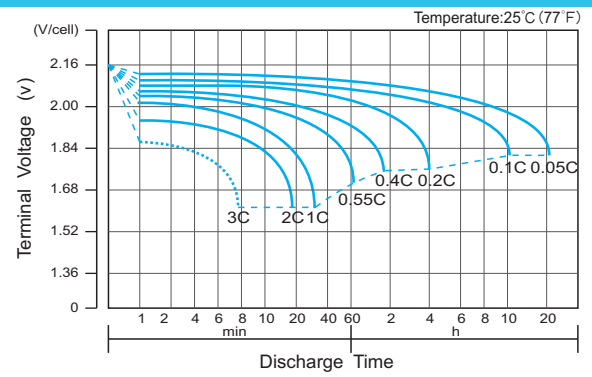
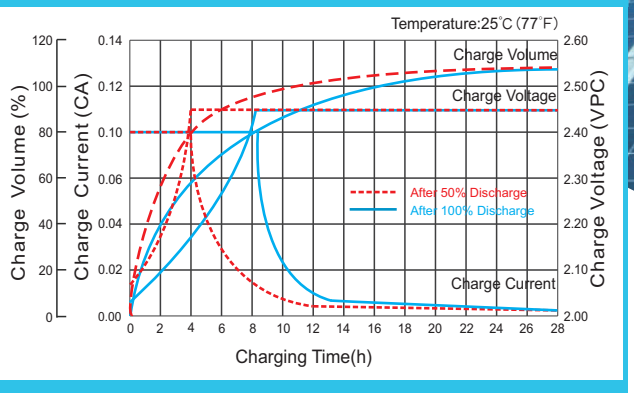
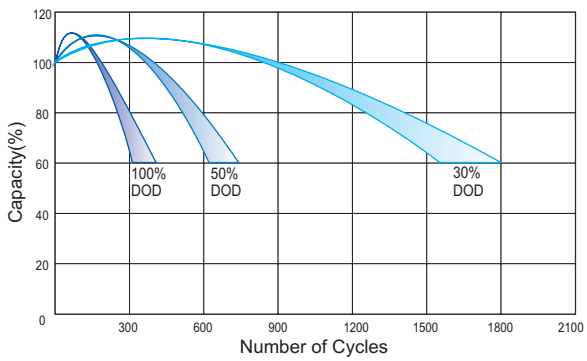
## Discharge Characteristics Curve



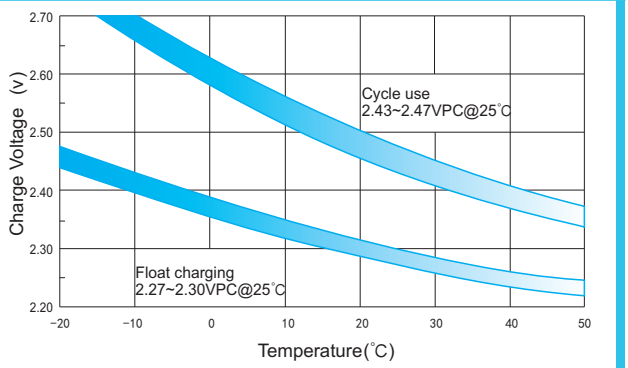

## Charge Characteristic Curve for Cycle Use(IU)



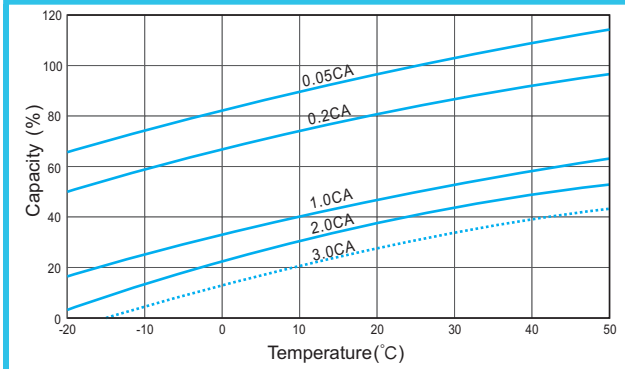

## Cycle Life in Relation to Depth of Discharge



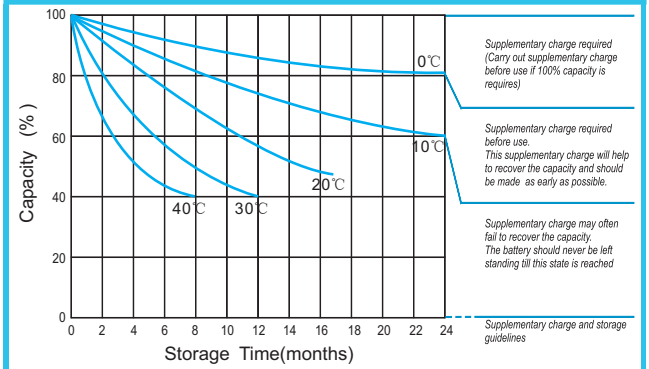

## Relationship Between Charging Voltage and Temperature



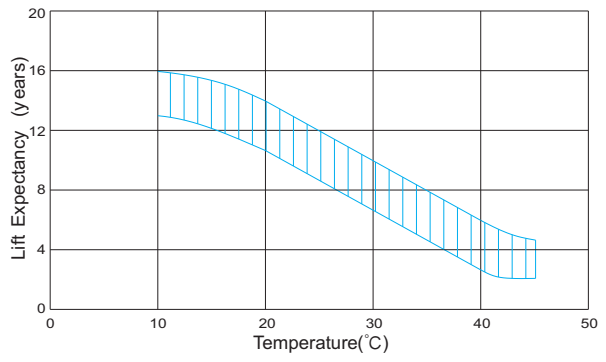

## Temperature Effects on Capacity



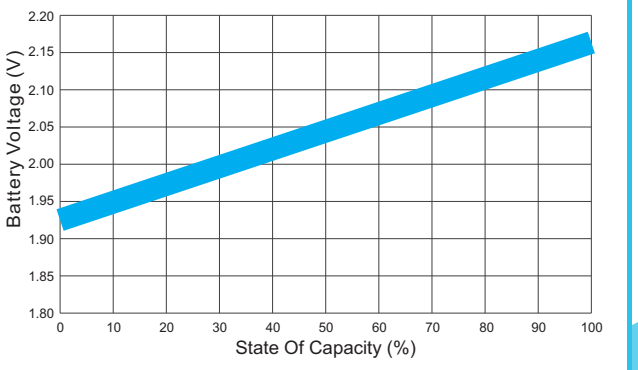

## Storage Characteristics




## 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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