

USER GUIDE

Front terminal telecom battery

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INTRODUCTION TO PRODUCTS

(Front Terminal) Series is specially designed for telecom use with 10+years design life in float service. By adopting a new AGM separator and centralised venting system, the battery can be installed in any position while maintaining high reliability. The dimensions of the Front Terminal series is designed for 19" and 23" cabinet installation. It is suitable for UPS/EPS applications

FEATURE

- Sealed and maintenance free operation.
- Non-Spillable construction design.
- ABS containers and covers(UL94HB, UL94V-0) optional.
- Safety valve installation for explosion proof.
- High quality and high reliability.
- Exceptional deep discharge recovery performance.
- Low self discharge characteristic.
- Flexibility design for multiple install positions.



SPECIFICATION

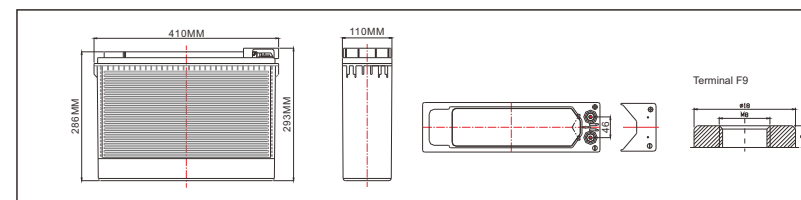
	FL-GE-100Ah 12V	FL-GE-150Ah 12V	FL-GE-200Ah 12V
Cells Per Unit	6		
Voltage Per Unit	12		
Capacity	100Ah@10hr-rate to 1.80V per cell @25°C	150Ah@10hr-rate to 1.80V per cell @25°C	200Ah@10hr-rate to 1.80V per cell @25°C
Max. Discharge Current	1000A(5 sec)	1500A(5 sec)	2000A(5 sec)
Internal Resistance	Approx. 5.5 mΩ	Approx. 5.0 mΩ	Approx. 3.8 mΩ
Recommended Maximum Charging	30A	45A	60A
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 13.8V DC/unit Average at 25°C		
Equalization and Cycle Service	14.4to 14.6V DC/unit Average at 25°C		
Self Discharge	Front terminal 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.		
Size	410x110x293MM	550x110x290MM	561x125x317MM

STRUCTURES

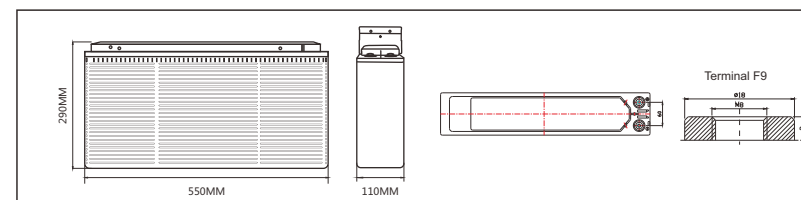
- Special designed shape for better thermal release
- Front access terminals makes the installation, maintenance and supervision easy
- Special alloy grids, corrosion preventive
- Lower electrolyte density and robust grid to slow down the corrosion of plate
- Gelatinized electrolyte to avoid delamination and active material sheeding
- Special gel battery separator with lower internal resistance and high porosity
- Rich electrolytes inside to avoid thermal runaway
- ABS plastic container with good impact and vibrating resistance (flame -retardant ABS is optional)
- Special vent valve design to lower gassing rate and water lose rate for longer service life

Dimensions

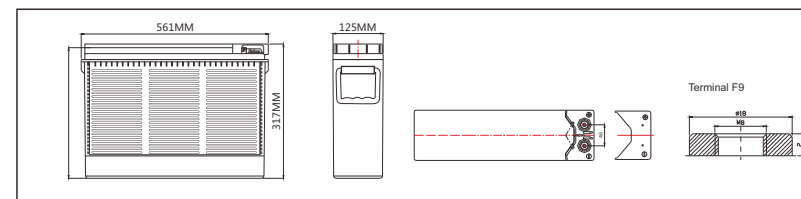
100Ah 12V Dimension: 410(L) x 110(W) x 293(H)



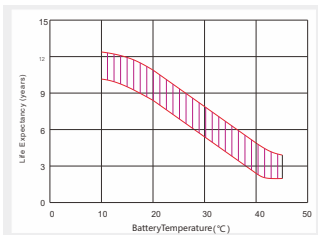
150Ah 12V Dimension: 550(L) x 110(W) x 290(H)



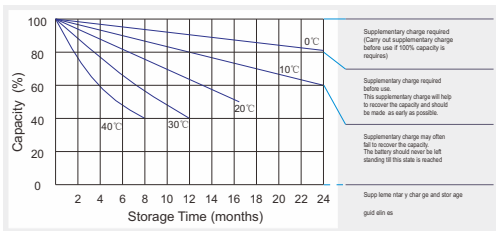
200Ah 12V Dimension: 561(L) x 125(W) x 317(H)



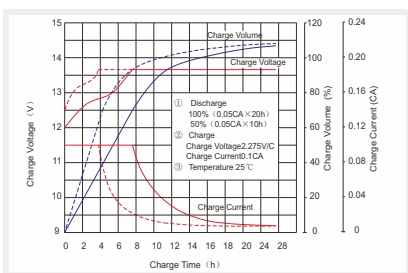
Effect of temperature on long term float life



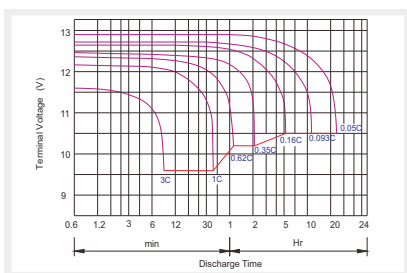
Storage characteristic



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

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+0.1Cx12h
Fast	-0.2Cx2h+0.3Cx4h

APPLICATION

1. UPS system
3. Power station system
5. Emergency lighting system
7. Alarm systems for fire protection ,security
9. Portable instruments
11. Marine Equipment

2. Telecommunication system
4. Railway system
6. Automatic control system
8. Solar,wind powered systems
10. Medical equipment
12. Electric instruments etc.

MAINTENANCE & CAUTIONS

Float Service

✘ 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 14.4-14.7V 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.

SPECIAL NOTES:

The products should be recharged if still not being used after 4 months since the manufacturing date. Or the battery will be deteriorated or spoiled.