

GFM

Series VRLA Battery

GFM-1000



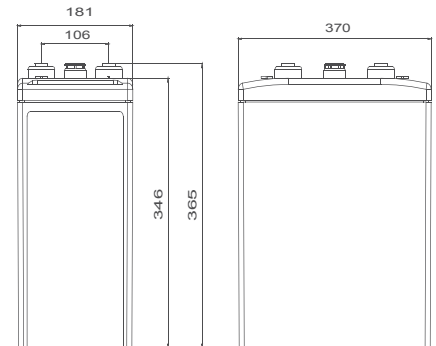
Main Applications

- ▶ Backup power for telecom and signal system
- ▶ Backup power for electric system and nuclear plants
- ▶ Storage for solar, wind and hydroelectricity energy
- ▶ Backup power for military and maritime equipment
- ▶ Backup power for UPS, emergency lighting

Benefits

- ▶ Reduce operational cost
- ▶ Excellent deep cycling performance
- ▶ Reduce CO₂ emission
- ▶ Long life

Dimensions



Technical Parameters

| | |
|--|--|
| Nominal Voltage | 2 V |
| Capacity | 1000 Ah @ 10hr to 1.80 V @ 25°C(77°F) |
| Weight | 56.5 kg (124.56 lbs) |
| Dimensions | Length: 181 mm (7.13 in) Width: 370 mm (14.57 in) Height: 346 mm (13.62 in) Total height: 365 mm (14.37 in) |
| Internal Resistance (full charged) | 0.36 mΩ |
| Short- circuit Current | 10010 A |
| Self Discharge @25°C(77°F) | Less than 3% after 30 days storage |
| Operating Temperature Range | Discharge: -40°C ~ 50°C(-40°F ~ 122°F) Charge: -20°C ~ 45°C(-4°F ~ 113°F) Storage: -20°C ~ 40°C(-4°F ~ 104°F) |
| Recommended Operating Temperature | 15°C ~ 25°C (59°F ~ 77°F) |
| Recommended Charging Current | 150 A |
| Charging Voltage @25°C(77°F) | Float: 2.23 V/cell Equalize: 2.35 V/cell |
| Terminal | M8 |
| Container Materials | ABS/ABS V0 (Optional) |
| Capacity Affected by Temperature(C ₁₀) | 106% @ 40°C(104°F) 85% @ 0°C(32°F) 60% @ -20°C(-4°F) |
| Design life @25°C(77°F) | 15 years |

Certification

- ISO 9001: 2008
- ISO 14001: 2004
- GB/T 28001- 2011
- UL
- CE

Technical Features

- ▶ Best performance for charge acceptability
- ▶ Excellent capacity retention rate
- ▶ Excellent capacity recovery performance
- ▶ Long life design for cyclic or float application



GFM

Series VRLA Battery

GFM-1000



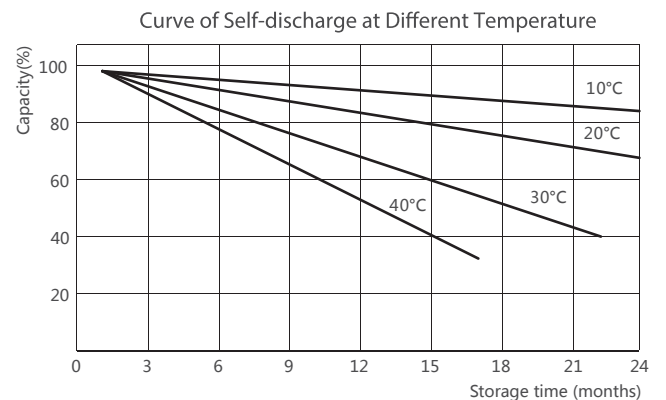
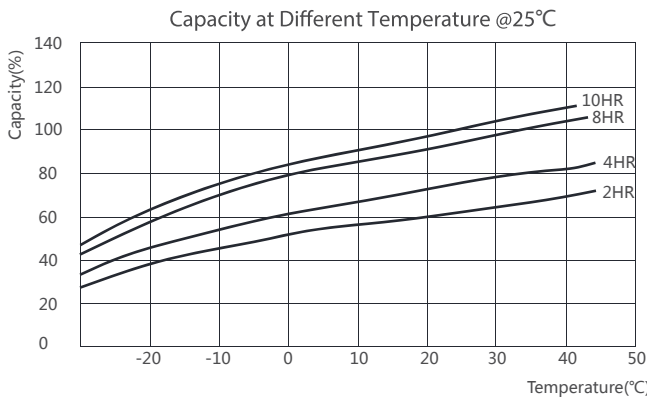
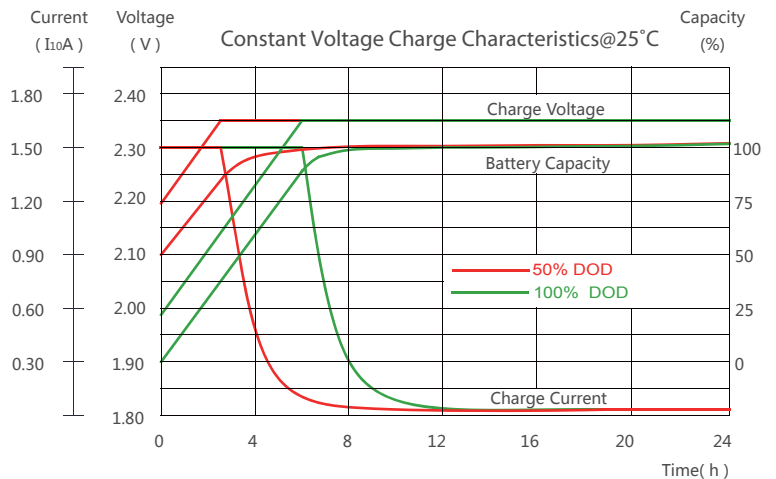
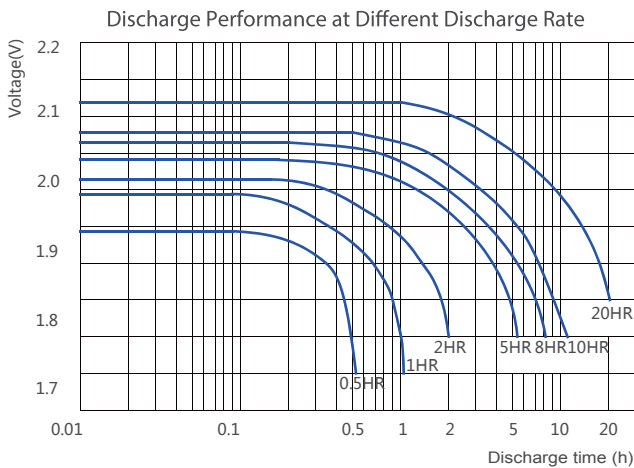
Constant Current Discharge Characteristics Unit: A (25°C,77°F)

| F.V/Time | 1h | 1.5h | 2h | 3h | 4h | 5h | 6h | 8h | 10h |
|----------|-----|------|-----|-------|-------|-------|-------|-------|-------|
| 1.90V | 398 | 358 | 288 | 215.1 | 181.7 | 149.0 | 127.5 | 109.9 | 89.3 |
| 1.85V | 431 | 406 | 309 | 236.8 | 194.2 | 161.5 | 138.2 | 115.8 | 97.1 |
| 1.80V | 516 | 419 | 327 | 251.9 | 201.0 | 171.2 | 151.0 | 119.8 | 101.0 |
| 1.75V | 553 | 439 | 342 | 258.5 | 205.8 | 174.0 | 152.9 | 121.8 | 101.9 |
| 1.70V | 583 | 458 | 353 | 263.2 | 208.7 | 176.0 | 154.9 | 122.8 | 102.4 |
| 1.65V | 608 | 468 | 361 | 266.0 | 210.6 | 176.9 | 155.9 | 123.8 | 102.9 |

Constant Power Discharge Characteristics Unit: W/cell (25°C,77°F)

| F.V/Time | 1h | 1.5h | 2h | 3h | 4h | 5h | 6h | 8h | 10h |
|----------|------|------|-----|-------|-------|-------|-------|-------|-------|
| 1.90V | 780 | 706 | 571 | 432.1 | 366.3 | 300.0 | 258.8 | 221.9 | 181.7 |
| 1.85V | 847 | 792 | 604 | 470.8 | 387.5 | 324.0 | 277.5 | 234.0 | 195.0 |
| 1.80V | 995 | 809 | 635 | 495.3 | 401.0 | 341.3 | 302.0 | 239.8 | 201.7 |
| 1.75V | 1045 | 842 | 660 | 505.7 | 407.7 | 346.2 | 306.9 | 244.1 | 203.9 |
| 1.70V | 1099 | 870 | 677 | 513.2 | 412.5 | 350.0 | 309.8 | 245.6 | 205.6 |
| 1.65V | 1130 | 880 | 687 | 517.0 | 415.4 | 351.9 | 310.8 | 246.2 | 206.2 |

Performance Curve



Declaration : This information is generally descriptive only and is not intended to make or imply any representation, guarantee or warranty with respect to any cells and batteries. Cell and battery designs/specifications are subject to modification without notice. Contact HELIOS for the latest information.

