

This series is especially designed for heavy load discharge applications with 5 years design life in float service. By using strong grids and specially designed active material, this series offers stable performance during high current discharge requirements. This series offers 30% more power output than the standard range. Suitable for UPS/EPS where high current loads are required.

Specification

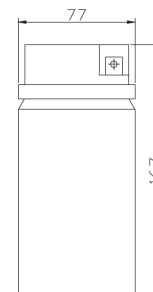
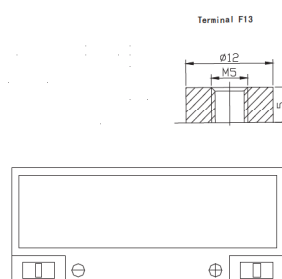
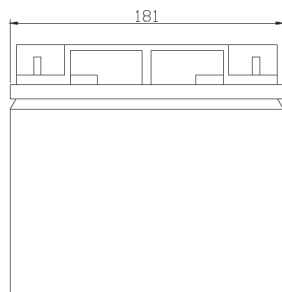
| | |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cells Per Unit | 6 |
| Voltage Per Unit | 12 |
| Capacity | 22Ah@20hr-rate to 1,75V per cell@25°C (88.0W@15min-rate to 1.67V per cell) |
| Weight | Approx. 6.5Kg |
| Max. Discharge Current | 220A (5 sec) |
| Internal Resistance | Approx. 10 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 | 13.7 to 13.9 VDC/unit Average at 25°C |
| Recommended Maximum Charging Current | 6.6 A |
| Equalization and Cycle Service | 14.6 to 14.8 VDC/unit Average at 25°C |
| Self Discharge | SINERGY 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 | Faston tab F13 |
| Container Material | A.B.S. UL94-HB, UL94-V0 Optional. |



Dimensions

Unit: mm

Dimension: 181(L)×77(W)×167(H)



Constant Current Discharge Characteristics : A(25°C)

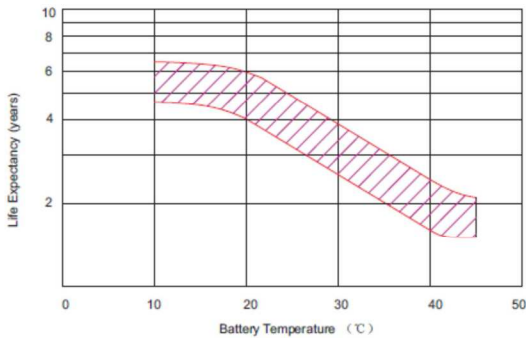
| F.V/Tim e | 5 MIN | 8 MIN | 10 MIN | 15 MIN | 20 MIN | 30 MIN | 60 MIN | 90 MIN |
|-----------|-------|-------|--------|--------|--------|--------|--------|--------|
| 9.60V | 93.92 | 69.44 | 62.42 | 46.26 | 37.92 | 27.94 | 15.74 | 12.42 |
| 10.0V | 92.64 | 68.91 | 61.45 | 45.40 | 36.76 | 27.33 | 15.57 | 12.28 |
| 10.2V | 89.80 | 64.75 | 58.19 | 43.85 | 35.97 | 26.68 | 15.09 | 11.96 |
| 10.5V | 86.72 | 59.91 | 53.16 | 41.20 | 34.49 | 25.79 | 14.54 | 11.82 |
| 10.8V | 80.06 | 55.62 | 47.60 | 39.34 | 33.53 | 22.50 | 13.99 | 11.44 |
| 11.1V | 73.40 | 51.33 | 43.80 | 37.49 | 32.58 | 20.53 | 13.43 | 11.07 |

Constant Power Discharge Characteristics : W(25°C)

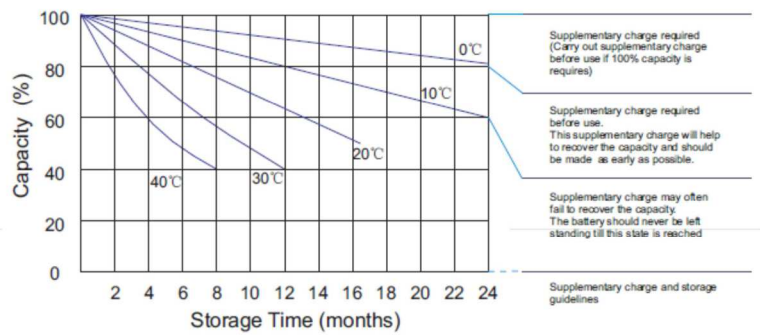
| F.V/Tim e | 5 MIN | 8 MIN | 10 MIN | 15 MIN | 20 MIN | 30 MIN | 60 MIN | 90 MIN |
|-----------|--------|-------|--------|--------|--------|--------|--------|--------|
| 9.60V | 1046.0 | 778.5 | 701.8 | 537.2 | 445.3 | 337.6 | 192.5 | 153.7 |
| 10.0V | 1041.6 | 785.7 | 703.9 | 529.6 | 433.1 | 331.1 | 191.3 | 153.1 |
| 10.2V | 1028.6 | 746.4 | 672.7 | 513.8 | 426.3 | 325.4 | 186.1 | 149.6 |
| 10.5V | 1007.1 | 697.7 | 620.2 | 483.6 | 410.7 | 316.8 | 180.3 | 148.0 |
| 10.8V | 938.2 | 654.7 | 561.3 | 467.4 | 403.5 | 279.1 | 173.7 | 143.4 |
| 11.1V | 872.6 | 611.2 | 522.5 | 450.9 | 396.7 | 256.2 | 168.3 | 139.1 |

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

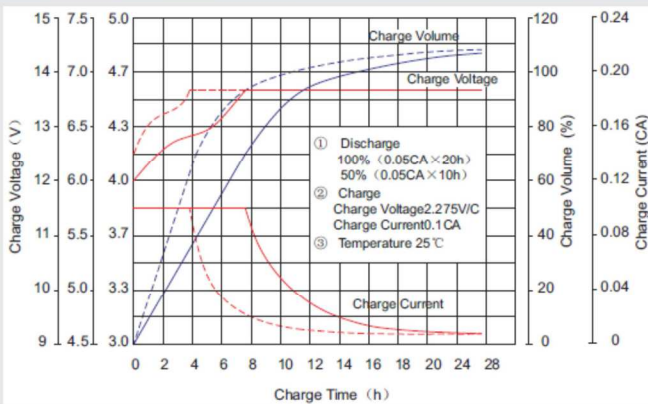
Effect of temperature on long term float life



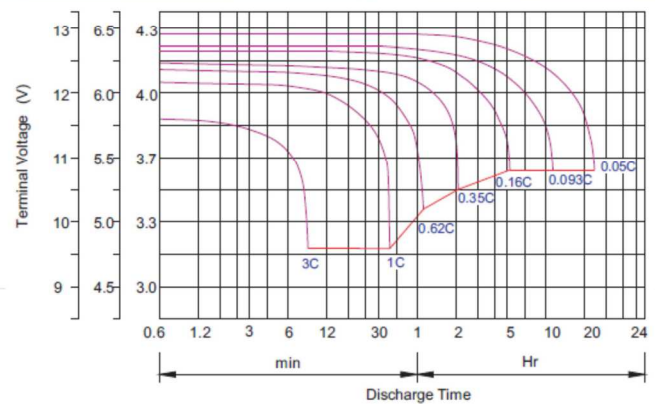
Storage characteristic



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+2.4-2.45V/cellx24h, Max. Current 0.3C |
| Constant Current | -0.2Cx2h+0.1Cx12h |
| Fast | -0.2Cx2h+0.3Cx4h |

| 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

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 0.3C, constant voltage 2.4-2.45V/Cell 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.