

USG12-120(12V120AH)

Applications

- ◆ Telecom application (indoor or outdoor BTS)
- ◆ Solar System
- ◆ Wind system
- ◆ Hybrid solution



Design

- ◆ Positive plate: flat plate and grid-plate in PbCaSn-alloy
- ◆ Negative plate: flat plate and grid-plate in PbCaSn-alloy with long life expander material
- ◆ Electrolyte: sulphuric acid with a density of 1.29 kg/l(25 °C), fixed as GEL by fumed silica
- ◆ Separator: high quality microporous separator
- ◆ Safety valve: valve with flame arrestor

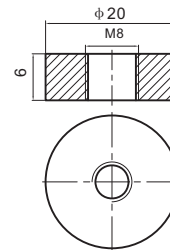
Features

- ◆ Long life: 12 years design life
- ◆ Good deep discharge resilience performance
- ◆ Special plate design, long cycle lifetime
- ◆ High thermal capacity, reduce the risk of thermal out of control and drying hard, can be used in bad environment
- ◆ Flame retardant container UL94-V0

Terminal

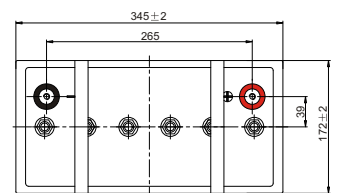
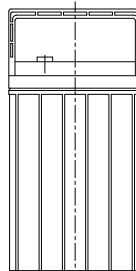
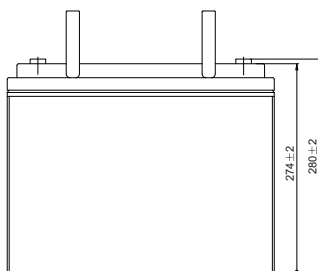
Terminal Model: T11

Unit: mm



Layout

Unit: mm



General Purpose GEL Battery-USG Series

Specification

| | | |
|----------------------------------|---|----------------------------|
| Nominal Voltage | 12V | |
| Rated Capacity (Ah) | 120 AH/12.0A | (10hr, 1.80V/cell, 25°C) |
| | 90.6 AH/30.2A | (3hr, 1.75V/cell, 25°C) |
| | 75.9 AH/75.9A | (1hr, 1.60V/cell, 25°C) |
| Dimension | Length | 345.0 ± 2mm |
| | Width | 172 ± 2mm |
| | Container Height | 274.0 ± 2mm |
| | Total Height | 280.0 ± 2mm |
| Approx. Weight | Approx 47.3 kg | |
| Terminal | T11 | |
| Container Material | ABS | |
| Max. Discharge Current | 1170A (5s) | |
| Internal Resistance | Approx 4.8mΩ | |
| Operating Temp. Range | Discharge: -20~55°C Charge: 0~40°C Storage: -20~50°C | |
| Capacity Affected by Temperature | 40°C | 103% |
| | 25°C | 100% |
| | 0°C | 86% |
| Cycle Use | Initial Charging Current less than 30.0A. | |
| | Voltage: 14.4V at 25°C | Temp. coefficient -30mV/°C |
| Standby Use | Equalization voltage: 14.1V at 25°C Temp. coefficient -18mV/°C | |
| | Float voltage: 13.5V at 25°C | Temp. coefficient -18mV/°C |
| Self Discharge | USG series batteries may be stored for up to 9 months at 25°C and then a freshening charge is required. For higher temperatures the time interval will be shorter. | |



ISO9001



ISO14001

Performance

Constant Current Discharge (Amperes) at 25 °C (77°F)

| F.V/Time | 20min | 30min | 45min | 1h | 2h | 3h | 4h | 5h | 6h | 7h | 8h | 9h | 10h | 20h |
|------------|-------|-------|-------|------|------|------|------|------|------|------|------|------|------|------|
| 1.85V/cell | 110.0 | 86.3 | 65.9 | 55.1 | 35.0 | 26.7 | 22.1 | 19.1 | 16.4 | 14.6 | 13.1 | 12.0 | 11.3 | 6.24 |
| 1.80V/cell | 126.0 | 96.5 | 72.6 | 60.8 | 37.8 | 28.6 | 23.4 | 20.0 | 17.3 | 15.2 | 13.8 | 12.6 | 12.0 | 6.50 |
| 1.75V/cell | 141.6 | 106.1 | 78.5 | 65.1 | 40.1 | 30.2 | 24.5 | 20.8 | 17.9 | 15.8 | 14.2 | 13.0 | 12.1 | 6.63 |
| 1.70V/cell | 152.5 | 113.6 | 83.4 | 68.9 | 42.5 | 31.4 | 25.3 | 21.5 | 18.5 | 16.3 | 14.6 | 13.3 | 12.4 | 6.71 |
| 1.67V/cell | 158.7 | 118.0 | 86.3 | 71.5 | 43.6 | 32.4 | 25.9 | 21.9 | 18.8 | 16.5 | 14.9 | 13.5 | 12.5 | 6.78 |
| 1.60V/cell | 172.0 | 126.4 | 92.7 | 75.9 | 45.4 | 33.7 | 26.9 | 22.6 | 19.3 | 16.9 | 15.1 | 13.8 | 12.8 | 6.88 |

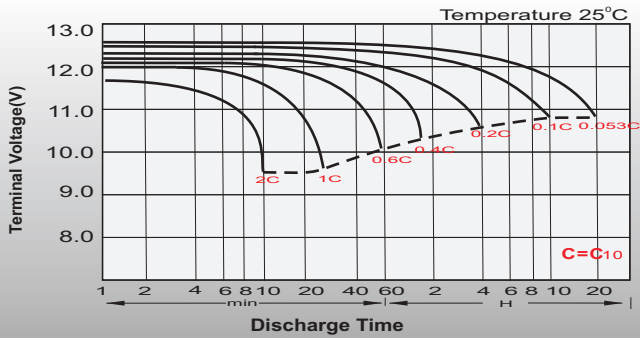
Constant Power Discharge (Watts/cell) at 25 °C (77°F)

| F.V/Time | 20min | 30min | 45min | 1h | 2h | 3h | 4h | 5h | 6h | 7h | 8h | 9h | 10h | 20h |
|------------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|------|
| 1.85V/cell | 210.5 | 166.3 | 127.7 | 107.3 | 68.3 | 52.2 | 43.4 | 37.6 | 32.6 | 28.9 | 26.1 | 23.9 | 22.6 | 12.5 |
| 1.80V/cell | 238.0 | 184.1 | 139.8 | 117.8 | 73.6 | 55.7 | 45.8 | 39.4 | 34.1 | 30.2 | 27.3 | 25.1 | 23.6 | 13.0 |
| 1.75V/cell | 264.5 | 200.7 | 150.1 | 125.5 | 77.8 | 58.8 | 47.9 | 40.8 | 35.2 | 31.2 | 28.1 | 25.8 | 24.0 | 13.2 |
| 1.70V/cell | 281.8 | 213.0 | 158.2 | 132.0 | 82.0 | 61.0 | 49.3 | 41.9 | 36.3 | 32.1 | 28.9 | 26.5 | 24.6 | 13.4 |
| 1.67V/cell | 290.0 | 219.0 | 162.7 | 136.2 | 83.7 | 62.7 | 50.4 | 42.7 | 36.8 | 32.5 | 29.3 | 26.7 | 24.8 | 13.5 |
| 1.60V/cell | 310.8 | 232.2 | 173.4 | 143.9 | 86.7 | 64.9 | 52.1 | 43.9 | 37.6 | 33.1 | 29.7 | 27.3 | 25.3 | 13.6 |

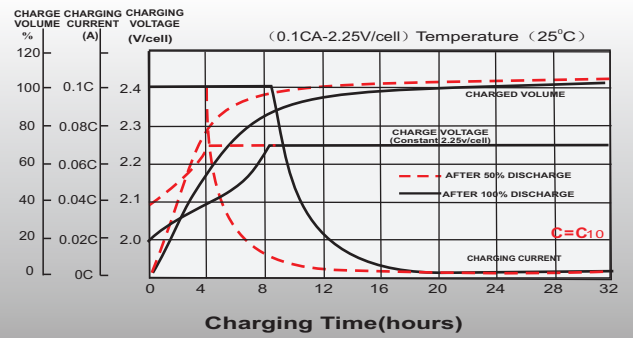
General Purpose GEL Battery-USG Series

Characteristic Curve

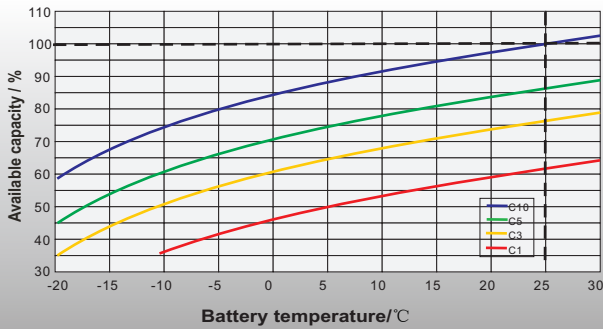
Discharge Characteristics



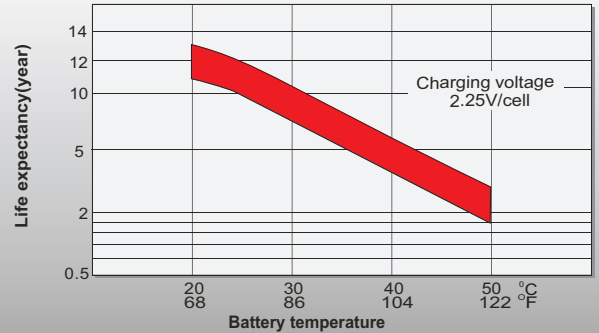
Float Charging Characteristics



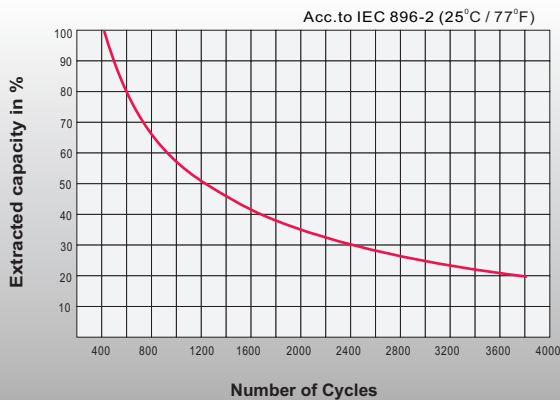
Temperature Effects in Relation to Battery Capacity



Effect of Temperature on Long Term Float Life



Cycle Life in Relation to Depth of Discharge



General Relation of Capacity VS. Storage Time

