

Gel Battery

NPG220-12 [12V220AH@C10HR/12V235AH@C20HR]

Specifications

| | |
|----------------------------------|--|
| Nominal Voltage | 12V |
| Nominal Capacity (20HR) | 235AH |
| Dimensions | Length 522±2mm (20.55 inches) |
| | Width 240±2mm (9.45 inches) |
| | Container Height 218±2mm (8.58 inches) |
| | Total Height (with Terminal) 224±2mm (8.81 inches) |
| Standard | International Electrical Standard (IEC Standard) |
| Terminal | T5 (M8X16) / Torque: 9.6 ~ 10.7Nm |
| Container Material | ABS |
| Rated Capacity | 235.0 AH/11.25A (20hr, 1.80V/cell, 25°C/77°F) |
| | 205.0 AH/20.5A (10hr, 1.80V/cell, 25°C/77°F) |
| | 172.0 AH/34.4A (5hr, 1.75V/cell, 25°C/77°F) |
| | 156.0 AH/52.0A (3hr, 1.75V/cell, 25°C/77°F) |
| | 122.0 AH/122.0A (1hr, 1.60V/cell, 25°C/77°F) |
| Max. Discharge Current | 2000A (5s) |
| Internal Resistance | Approx 2.7mΩ |
| Operating Temp. Range | Discharge : -15 ~ 50°C (5 ~ 122°F) |
| | Charge : 0 ~ 40°C (32 ~ 104°F) |
| | Storage : -15 ~ 40°C (5 ~ 104°F) |
| Nominal Operating Temp. Range | 25±3°C (77±5°F) |
| Cycle Use | Initial Charging Current less than 60.0A. Voltage 14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C |
| | No limit on Initial Charging Current Voltage 13.5V~13.8V at 25°C(77°F)Temp. Coefficient -20mV/°C |
| Capacity affected by Temperature | 40°C (104°F) 103% |
| | 25°C (77°F) 100% |
| | 0°C (32°F) 86% |
| Self Discharge | NPG series of batteries may be stored for up to 6 months at 25°C (77°F) and then a freshening charge is required. For higher temperatures the time interval will be shorter. |

Koyosonic
for **POWERTEK**



Applications

- ◆ All purpose
- ◆ Uninterruptable Power Supply
- ◆ Electric Power System (EPS)
- ◆ Emergency backup power supply
- ◆ Emergency light
- ◆ Railway signal
- ◆ Aircraft signal
- ◆ Alarm and security system
- ◆ Electronic equipments
- ◆ Communication power supply
- ◆ DC power supply
- ◆ Auto control system



ISO9001 ISO14001

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

| F.V/Time | 10min | 15min | 20min | 30min | 45min | 1h | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 20h |
|------------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|
| 1.85V/cell | 278.4 | 240.0 | 204.6 | 154.8 | 115.1 | 94.3 | 60.1 | 46.2 | 37.6 | 31.3 | 27.2 | 22.1 | 18.9 | 10.3 |
| 1.80V/cell | 343.9 | 282.4 | 235.8 | 179.5 | 133.9 | 105.6 | 65.5 | 50.6 | 40.6 | 33.6 | 29.2 | 23.4 | 20.0 | 10.4 |
| 1.75V/cell | 377.8 | 302.0 | 250.2 | 189.2 | 139.0 | 110.5 | 68.0 | 52.0 | 41.7 | 34.5 | 30.0 | 23.8 | 20.2 | 10.5 |
| 1.70V/cell | 411.8 | 322.5 | 264.0 | 196.4 | 144.5 | 114.0 | 70.7 | 53.5 | 42.7 | 35.3 | 30.6 | 24.2 | 20.4 | 10.7 |
| 1.65V/cell | 444.4 | 342.9 | 281.4 | 204.6 | 148.1 | 117.8 | 72.7 | 55.8 | 44.2 | 36.3 | 31.3 | 24.7 | 20.8 | 10.8 |
| 1.60V/cell | 476.4 | 366.7 | 297.6 | 216.0 | 154.4 | 122.0 | 75.1 | 57.5 | 45.5 | 37.3 | 32.0 | 25.1 | 21.0 | 10.9 |

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

| F.V/Time | 10min | 15min | 20min | 30min | 45min | 1h | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 20h |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|
| 1.85V/cell | 514.3 | 447.8 | 385.7 | 295.0 | 221.3 | 181.9 | 116.6 | 90.1 | 73.4 | 61.3 | 53.5 | 43.6 | 37.4 | 20.4 |
| 1.80V/cell | 627.7 | 519.9 | 438.0 | 336.9 | 255.4 | 202.6 | 126.4 | 98.1 | 78.9 | 65.5 | 57.2 | 46.1 | 39.5 | 20.6 |
| 1.75V/cell | 678.7 | 549.2 | 460.2 | 352.2 | 262.5 | 211.0 | 130.6 | 100.5 | 80.7 | 67.2 | 58.6 | 46.8 | 39.9 | 20.7 |
| 1.70V/cell | 723.0 | 578.2 | 482.0 | 363.5 | 272.0 | 217.0 | 135.6 | 103.1 | 82.6 | 68.6 | 59.7 | 47.4 | 40.2 | 21.1 |
| 1.65V/cell | 773.1 | 610.1 | 509.9 | 375.7 | 276.3 | 222.7 | 138.5 | 107.0 | 85.1 | 70.2 | 60.8 | 48.4 | 41.0 | 21.4 |
| 1.60V/cell | 809.8 | 641.7 | 533.4 | 393.8 | 286.4 | 229.4 | 142.5 | 109.8 | 87.3 | 72.0 | 61.9 | 49.0 | 41.4 | 21.5 |

Specifications subject to change without prior notice.

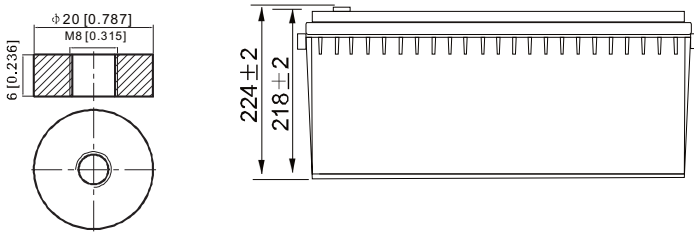
Gel Battery

NPG220-12 [12V220AH@C10HR/12V230AH@C20HR]

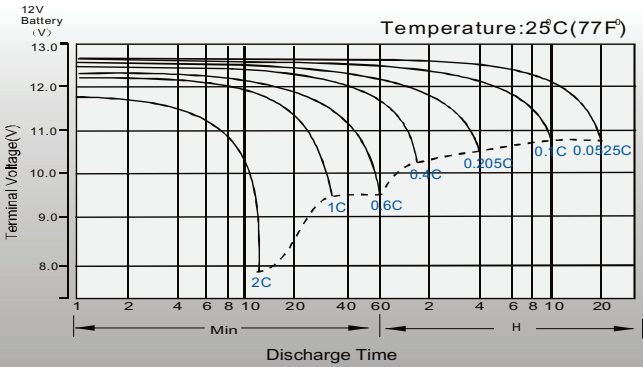
Dimensions

T5 Terminal

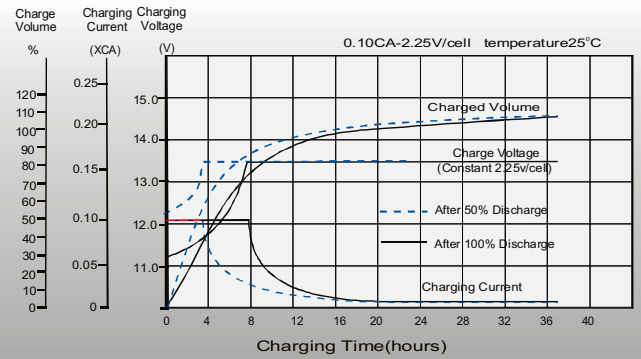
Unit: mm [inches]



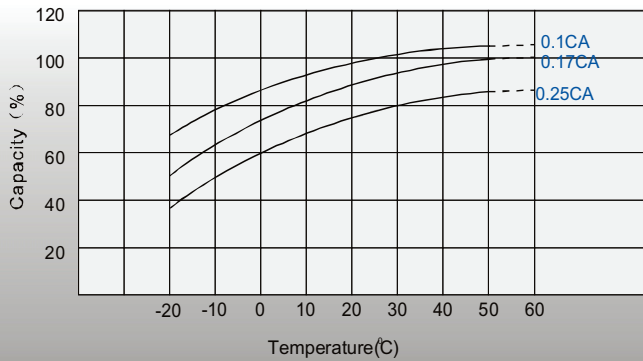
Discharge Characteristics



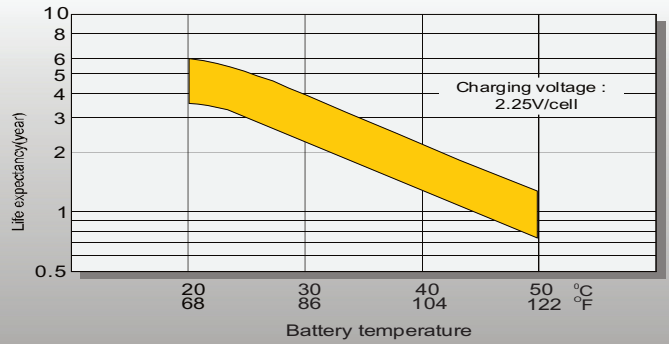
Float Charging Characteristics



Temperature Effects in Relation to Battery Capacity

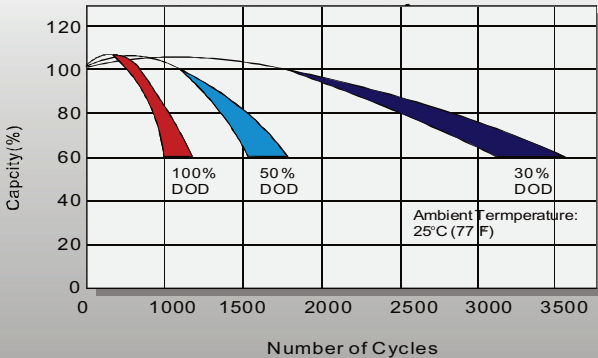


Effect of Temperature on Long Term Float Life

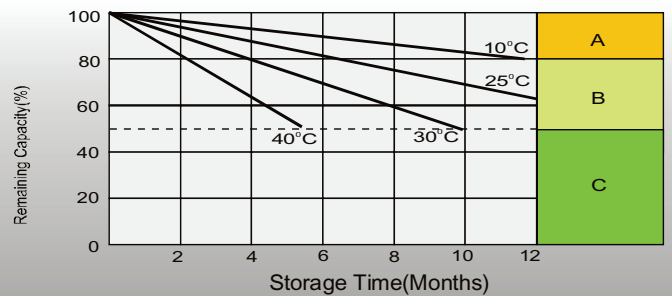


Cycle Life in Relation to Depth of Discharge

Testing condition
Discharging: current 0.17C (FV 1.7V/cell);
Charging: current 0.25C max, voltage 2.45V/cell;
Charging volume: 125% of discharged capacity.



Self Discharge Characteristics



- A** No supplementary charge required.
(Carry out supplementary charge before use if 100% capacity is required.)
- B** Supplementary charge required before use. Optional charging way as below:
1. Charged for above 3 days at limited current 0.25CA and constant voltage 2.25V/cell.
2. Charged for above 20 hours at limited current 0.25CA and constant voltage 2.45V/cell.
3. Charged for 8-10 hours at limited current 0.05CA.
- C** Supplementary charge may often fail to recover the capacity.
The battery should never be left standing till this is reached.

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