

### SPECIFICATIONS

|                                  |                                                                                                                                                                         |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rated Voltage                    | 12V                                                                                                                                                                     |
| Nominal Capacity                 | 20Ah (C <sub>20</sub> , 1.75V/cell)                                                                                                                                     |
| Dimension                        | Length 181.5±2mm (7.15 inches)                                                                                                                                          |
|                                  | Width 76.5±1mm (3.01 inches)                                                                                                                                            |
|                                  | Container Height 167.5±2mm (6.59 inches)                                                                                                                                |
|                                  | Total Height 167.5±2mm (6.59 inches)                                                                                                                                    |
| Approx Weight                    | 6.00 Kg (12.23 lbs)                                                                                                                                                     |
| Terminal                         | T3                                                                                                                                                                      |
| Container Material               | ABS                                                                                                                                                                     |
|                                  | 20.0 Ah (20hr, 1.00A, 1.75V/cell)                                                                                                                                       |
|                                  | 18.9 Ah (10hr, 1.89A, 1.75V/cell)                                                                                                                                       |
| Rated Capacity (25°C)            | 17.3 Ah (5hr, 3.46A, 1.75V/cell)                                                                                                                                        |
|                                  | 15.4 Ah (3hr, 5.13A, 1.75V/cell)                                                                                                                                        |
|                                  | 13.3 Ah (1hr, 13.2A, 1.60V/cell)                                                                                                                                        |
| Max. Discharge Current           | 300A (5s)                                                                                                                                                               |
| Internal Resistance (25°C)       | Approx 14mΩ                                                                                                                                                             |
| Operating Temp. Range            | Discharge -15~50°C (5~122°F)                                                                                                                                            |
|                                  | Charge 0~40°C (32~104°F)                                                                                                                                                |
|                                  | Storage -15~50°C (5~122°F)                                                                                                                                              |
| Nominal Operating Temp. Range    | 25±3°C (77±5°F)                                                                                                                                                         |
| Cycle Use                        | Initial Charging Current less than 6.0A. Voltage 14.4V~15.0V at 25°C (77°F) Temp. Coefficient -30mV/°C                                                                  |
| Standby Use                      | Initial Charging Current less than 6.0A. 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                   | N series 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. |



### APPLICATIONS

- All purpose
- Uninterruptable Power Supply (UPS)
- Electric Power System (EPS)
- Emergency backup power supply
- Alarm and security system
- Communication power supply
- DC power supply
- Auto control system

### STANDARDS

- Compliance with IEC 60896 standards, EU Battery Directive
- UL, CE Certified
- IATF16949, ISO45001, ISO 9001 and ISO 14001 certified production facilities

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

| F.V/Time   | 5min | 10min | 15min | 20min | 30min | 45min | 1h    | 2h   | 3h   | 4h   | 5h   | 6h   | 8h   | 10h   | 20h   |
|------------|------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|-------|-------|
| 1.85V/cell | 65.5 | 44.6  | 34.3  | 27.9  | 20.3  | 14.7  | 12.01 | 6.88 | 4.96 | 3.96 | 3.37 | 2.88 | 2.27 | 1.848 | 0.978 |
| 1.80V/cell | 70.4 | 47.2  | 36.0  | 29.1  | 20.9  | 15.1  | 12.31 | 7.01 | 5.05 | 4.01 | 3.42 | 2.93 | 2.30 | 1.873 | 0.989 |
| 1.75V/cell | 74.2 | 49.1  | 37.2  | 29.9  | 21.4  | 15.4  | 12.56 | 7.13 | 5.13 | 4.07 | 3.46 | 2.96 | 2.33 | 1.892 | 1.000 |
| 1.70V/cell | 77.7 | 51.1  | 38.5  | 30.7  | 22.0  | 15.7  | 12.79 | 7.24 | 5.20 | 4.12 | 3.51 | 3.00 | 2.35 | 1.911 | 1.008 |
| 1.65V/cell | 80.4 | 52.5  | 39.4  | 31.4  | 22.4  | 16.0  | 12.99 | 7.32 | 5.25 | 4.16 | 3.54 | 3.02 | 2.37 | 1.924 | 1.016 |
| 1.60V/cell | 85.3 | 54.8  | 40.8  | 32.3  | 23.0  | 16.4  | 13.28 | 7.47 | 5.35 | 4.24 | 3.59 | 3.07 | 2.41 | 1.949 | 1.027 |

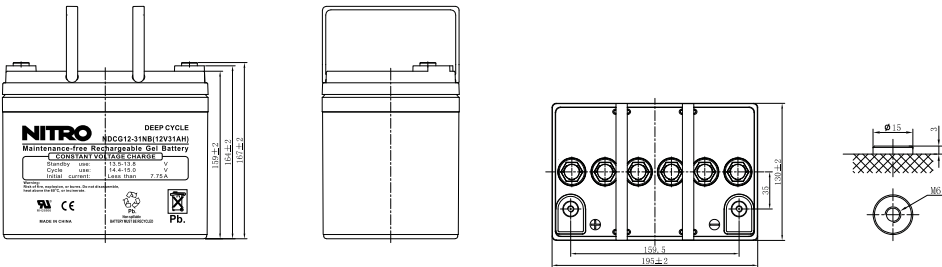
### Constant Power Discharge (Watts/cell) at 25°C (77°F)

| F.V/Time   | 5min  | 10min | 15min | 20min | 30min | 45min | 1h    | 2h    | 3h    | 4h   | 5h   | 6h   | 8h   | 10h   | 20h   |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|-------|-------|
| 1.85V/cell | 123.8 | 84.8  | 65.8  | 53.8  | 39.2  | 28.5  | 23.36 | 13.47 | 9.76  | 7.80 | 6.65 | 5.70 | 4.50 | 3.672 | 1.959 |
| 1.80V/cell | 131.9 | 89.3  | 68.6  | 55.7  | 40.2  | 29.1  | 23.86 | 13.69 | 9.90  | 7.89 | 6.74 | 5.79 | 4.56 | 3.720 | 1.978 |
| 1.75V/cell | 137.5 | 92.2  | 70.4  | 56.9  | 41.1  | 29.6  | 24.26 | 13.90 | 10.03 | 7.99 | 6.81 | 5.84 | 4.61 | 3.753 | 2.000 |
| 1.70V/cell | 142.5 | 95.2  | 72.3  | 58.2  | 41.9  | 30.2  | 24.63 | 14.07 | 10.16 | 8.09 | 6.90 | 5.91 | 4.65 | 3.789 | 2.016 |
| 1.65V/cell | 146.3 | 97.4  | 73.9  | 59.3  | 42.6  | 30.6  | 24.96 | 14.20 | 10.25 | 8.15 | 6.95 | 5.96 | 4.69 | 3.814 | 2.032 |
| 1.60V/cell | 152.2 | 100.2 | 75.9  | 60.8  | 43.5  | 31.2  | 25.40 | 14.43 | 10.41 | 8.27 | 7.04 | 6.03 | 4.75 | 3.860 | 2.054 |

GENERAL FEATURES

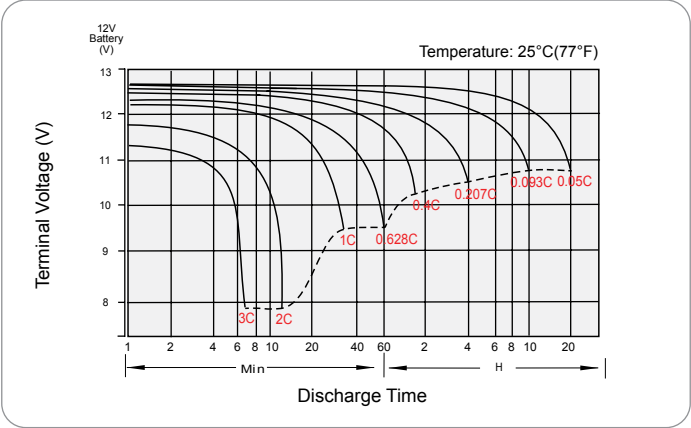
- 5 years design life (25°C)
  - Special exhaust structure and sealing technology, safe and reliable, flexible installation, convenient maintenance
  - PbCaSn alloy for plate grids: less gassing, less self-discharging
- High quality AGM separator: extend cycle life and prevent micro short circuit
  - High purity raw material: ensure low self discharge rate

DIMENSIONS

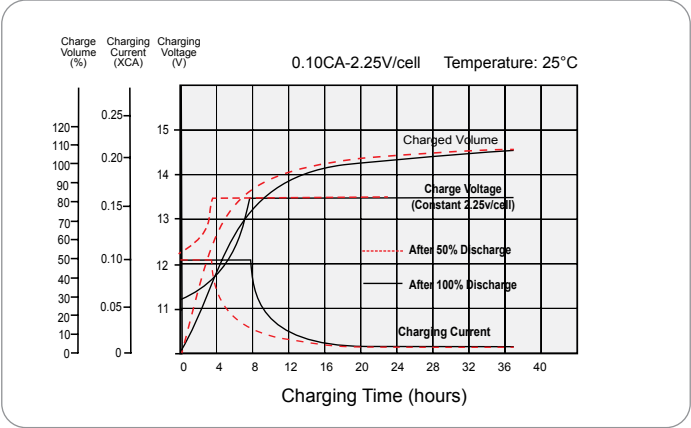


PERFORMANCE CHARACTERISTICS

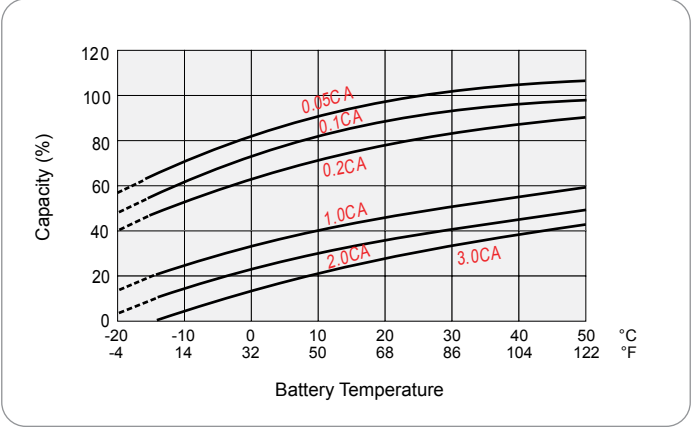
Discharge Characteristics



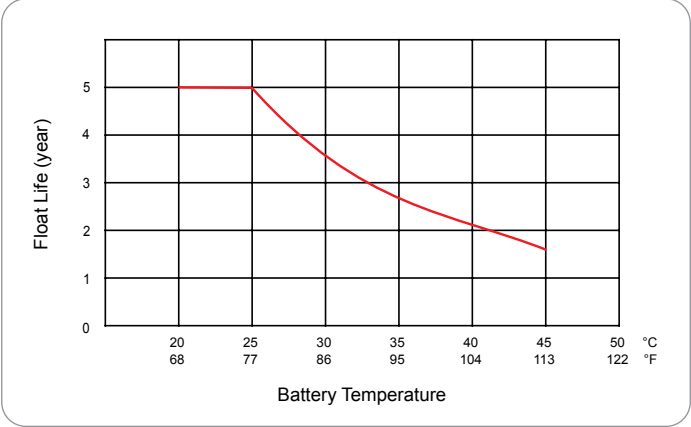
Float Charging Characteristics



Temperature Effects in Relation to Battery Capacity



Float Service Life



NITRO

VALVE REGULATED LEAD-ACID BATTERY  
N12-20NB