

ZS12-18 (12V18AH)

The rechargeable batteries are lead-lead dioxide systems. The dilute sulfuric acid electrolyte is absorbed by separators and plates and thus immobilized. Should the battery be accidentally overcharged producing hydrogen and oxygen, special one-way valves allow the gases to escape thus avoiding excessive pressure build-up. Otherwise, the battery is completely sealed and is, therefore, maintenance-free, leak proof and usable in any position.

Battery Construction

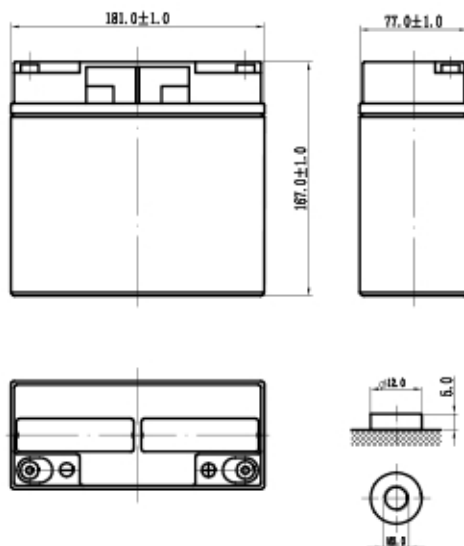
| Component | Positive plate | Negative plate | Container | Cover | Safety valve | Terminal | Separator | Electrolyte |
|--------------|----------------|----------------|-----------|-------|--------------|----------|------------|---------------|
| Raw material | Lead dioxide | Lead | ABS | ABS | Rubber | Copper | Fiberglass | Sulfuric acid |

General Features

- Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance or water adding.
- Not restricted for air transport-complies with IATA/ICAO Special Provision A67.
- UL-recognized component.
- Can be mounted in any orientation.
- Computer designed lead, calcium tin alloy grid for high power density.
- Long service life, float or cyclic applications.
- Maintenance-free operation.
- Low self discharge.

Dimensions and Weight

| | |
|--------------------------|------------|
| Length(mm / inch) | 181 / 7.13 |
| Width(mm / inch) | 77 / 3.03 |
| Height(mm / inch) | 167 / 6.57 |
| Total Height(mm / inch) | 167 / 6.57 |
| Approx. Weight(Kg / lbs) | 5.5 / 12.1 |



Performance Characteristics

| | |
|--|--------------|
| Nominal Voltage | 12V |
| Number of cell | 6 |
| Design Life | 5 years |
| Nominal Capacity 77°F(25°C) | |
| 20 hour rate (0.85A, 10.5V) | 17Ah |
| 10 hour rate (1.68A, 10.5V) | 16.8Ah |
| 5 hour rate (3.01A, 10.5V) | 15.05Ah |
| 1 hour rate (12A, 9.6V) | 12Ah |
| Internal Resistance | |
| Fully Charged battery 77°F(25°C) | 14mOhms |
| Self-Discharge | |
| 3% of capacity declined per month at 20°C(average) | |
| Operating Temperature Range | |
| Discharge | -20~60°C |
| Charge | -10~60°C |
| Storage | -20~60°C |
| Max. Discharge Current 77°F(25°C) | 225A(5s) |
| Short Circuit Current | 850A |
| Charge Methods: Constant Voltage Charge 77°F(25°C) | |
| Cycle use | 2.30-2.35VPC |
| Maximum charging current | 6.8A |
| Temperature compensation | -30mV/°C |
| Standby use | 2.23-2.27VPC |
| Temperature compensation | -20mV/°C |

Discharge Constant Current (Amperes at 77°F25°C)

| End Point Volts/Cell | 5min | 10min | 15min | 30min | 1h | 3h | 5h | 10h | 20h |
|----------------------|------|-------|-------|-------|------|------|------|------|------|
| 1.60V | 67.0 | 45.1 | 34.3 | 20.2 | 12.0 | 4.65 | 3.10 | 1.70 | 0.89 |
| 1.65V | 64.6 | 44.0 | 33.5 | 19.8 | 11.8 | 4.57 | 3.05 | 1.68 | 0.88 |
| 1.70V | 62.2 | 42.9 | 32.6 | 19.3 | 11.6 | 4.49 | 3.00 | 1.65 | 0.87 |
| 1.75V | 59.8 | 41.7 | 31.8 | 18.9 | 11.3 | 4.40 | 2.94 | 1.63 | 0.85 |
| 1.80V | 57.4 | 40.6 | 30.9 | 18.4 | 11.1 | 4.32 | 2.89 | 1.60 | 0.84 |

| End Point Volts/Cell | 5min | 10min | 15min | 30min | 45min | 1h | 2h | 3h | 5h |
|----------------------|------|-------|-------|-------|-------|------|------|------|------|
| 1.60V | 117 | 79.0 | 61.0 | 36.0 | 27.4 | 22.0 | 13.1 | 9.10 | 6.16 |
| 1.65V | 113 | 77.4 | 59.8 | 35.5 | 27.1 | 21.8 | 13.0 | 9.01 | 6.10 |
| 1.70V | 110 | 75.8 | 58.5 | 35.0 | 26.7 | 21.5 | 12.8 | 8.92 | 6.04 |
| 1.75V | 106 | 74.1 | 57.3 | 34.5 | 26.4 | 21.3 | 12.7 | 8.83 | 5.98 |
| 1.80V | 102 | 72.5 | 56.0 | 34.0 | 26.0 | 21.0 | 12.5 | 8.74 | 5.92 |

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the minimum values.

