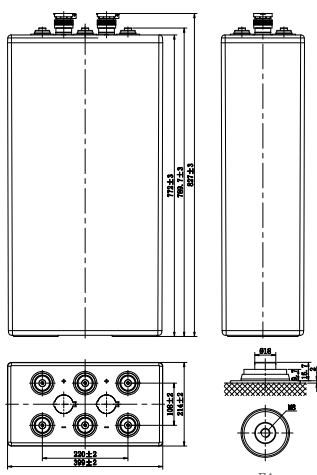


# OPzS SERIES-FLOODED BATTERY

16OPzS2000 (2V2000Ah)



## CHARACTERISTICS

| Item                          | Specifications                 |                    |
|-------------------------------|--------------------------------|--------------------|
| Rated Voltage                 | 2V                             |                    |
| Nominal Capacity (20°C)       | C <sub>10</sub> 1.80V/cell     | 2000Ah             |
| Dimension                     | Length                         | 399mm(15.7inches)  |
|                               | Width                          | 214mm(8.43inches)  |
|                               | Container Height               | 772mm(30.4inches)  |
|                               | Total Height                   | 827mm(32.6inches)  |
| Approx Weight                 | 143.5kg(316.4lbs)              |                    |
| Dry Weight                    | 101kg(222.7lbs)                |                    |
| Terminal                      | T7-A(M8)                       |                    |
| Container Material            | SAN transparent container      |                    |
| Short-circuit current         | 10000A                         |                    |
| Internal Resistance (20°C)    | Approx 0.43 mΩ (Fully charged) |                    |
| Operating Temp. Range         | Discharge                      | -15~55°C (5~131°F) |
|                               | Charge                         | 0~45°C (32~113°F)  |
|                               | Storage                        | -15~45°C (5~113°F) |
| Nominal Operating Temp. Range | 25±5°C (77±9°F)                |                    |
| Max.Charging Current (20°C)   | 0.15C                          |                    |
| Charge voltage (20°C)         | Standby Use                    | Cycle Use          |
|                               | 2.23-2.25V/cell                | 2.40-2.45V/cell    |
| Temp. Coefficient             | -3mV/cell/°C                   | -5mV/cell/°C       |
|                               | 40°C (104°F)                   | 103%               |
| Effect of temp. to Capacity   | 20°C (68°F)                    | 100%               |
|                               | 0°C (32°F)                     | 86%                |
| Self Discharge                | ≤4% per month at 20°C          |                    |

## DISCHARGE TABLE

| Constant Current Discharge (Amperes) at 20°C (68°F)  |        |        |       |       |       |       |       |       |       |       |      |      |      |
|------------------------------------------------------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|
| F.V/Time                                             | 1h     | 2h     | 3h    | 4h    | 5h    | 6h    | 8h    | 10h   | 20h   | 24h   | 72h  | 100h | 120h |
| 1.85V/cell                                           | 674.8  | 510.4  | 419.8 | 358.6 | 309.6 | 276.0 | 221.6 | 189.5 | 106.0 | 89.4  | 32.5 | 24.8 | 21.3 |
| 1.80V/cell                                           | 807.3  | 594.2  | 473.2 | 395.6 | 335.2 | 296.2 | 236.6 | 200.0 | 110.3 | 93.0  | 33.8 | 25.8 | 22.1 |
| 1.75V/cell                                           | 922.3  | 666.4  | 503.6 | 417.4 | 348.0 | 302.8 | 242.0 | 204.4 | 113.0 | 94.9  | 34.5 | 26.4 | 22.6 |
| 1.70V/cell                                           | 998.2  | 681.6  | 520.0 | 426.0 | 357.6 | 311.6 | 246.2 | 208.0 | 114.8 | /     | /    | /    | /    |
| 1.65V/cell                                           | 1032.2 | 697.8  | 535.8 | 436.0 | 365.4 | 316.2 | 250.6 | 211.5 | 116.6 | /     | /    | /    | /    |
| 1.60V/cell                                           | 1062.0 | 714.2  | 544.8 | 442.4 | 370.4 | 320.6 | 253.8 | 214.0 | 117.7 | /     | /    | /    | /    |
| Constant Power Discharge (Watts/cell) at 20°C (68°F) |        |        |       |       |       |       |       |       |       |       |      |      |      |
| F.V/Time                                             | 1h     | 2h     | 3h    | 4h    | 5h    | 6h    | 8h    | 10h   | 20h   | 24h   | 72h  | 100h | 120h |
| 1.85V/cell                                           | 1262.5 | 962.6  | 795.5 | 682.4 | 591.3 | 529.9 | 427.4 | 367.4 | 206.1 | 174.0 | 63.3 | 48.4 | 41.5 |
| 1.80V/cell                                           | 1488.6 | 1108.1 | 887.2 | 744.9 | 634.8 | 564.2 | 452.6 | 384.6 | 212.7 | 179.5 | 65.3 | 50.0 | 42.8 |
| 1.75V/cell                                           | 1679.5 | 1232.1 | 937.2 | 781.3 | 656.3 | 573.5 | 460.7 | 391.0 | 216.8 | 182.3 | 66.3 | 50.7 | 43.5 |
| 1.70V/cell                                           | 1800.7 | 1250.7 | 961.4 | 793.2 | 671.2 | 587.9 | 467.0 | 395.6 | 219.2 | /     | /    | /    | /    |
| 1.65V/cell                                           | 1847.6 | 1275.5 | 985.8 | 809.2 | 682.9 | 594.7 | 473.6 | 401.2 | 221.8 | /     | /    | /    | /    |
| 1.60V/cell                                           | 1885.0 | 1299.1 | 997.5 | 817.1 | 688.9 | 600.1 | 477.1 | 404.0 | 223.0 | /     | /    | /    | /    |

# OPzS SERIES-FLOODED BATTERY

16OPzS2000 (2V2000Ah)



## APPLICATIONS

- Telecommunications
- Buoy lighting
- Standby power
- Railway signalling
- Emergency lighting systems
- Alternative power (solar, wind)
- Maritime standby power on ships and ashore

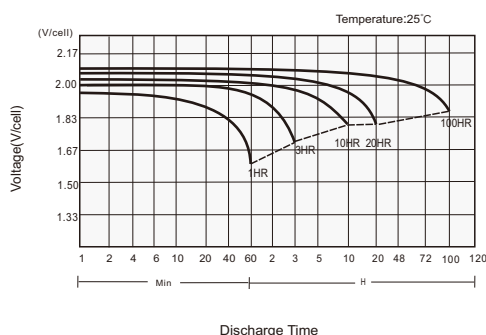
## GENERAL FEATURES

- 20 years design life (20°C)
- Positive electrodes-die-cast tubular plates with low antimony lead alloy for longer life
- Transparent SAN Containers to allow electrolyte level and cell condition to be monitored visually
- Excellent standby and cycling behaviour - long life

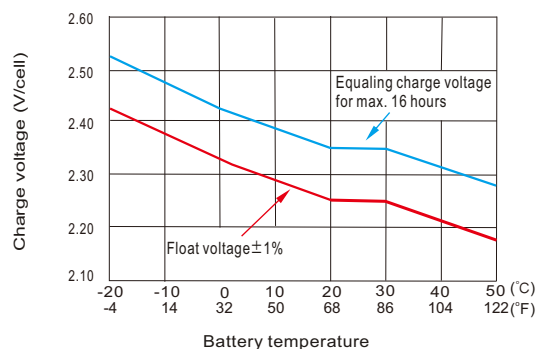
## STANDARDS

- Acc.to IEC60896, DIN 40736 standards
- Manufactured in Leoch®IATF 16949, ISO 45001, ISO 9001 and ISO 14001 certified production facilities

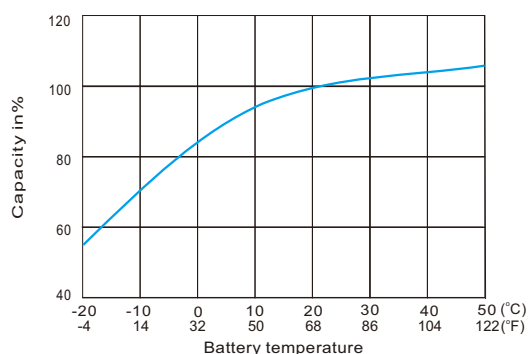
### Discharge Characteristics



### Charge Voltage vs Ambient Temperature Curve



### Discharge Capacity vs Ambient Temperature Curve (I<sub>10</sub> A)



### Self Discharge Characteristics

