



# OPzS Series-Flooded Battery

## 7 OPzS490(2V490Ah)

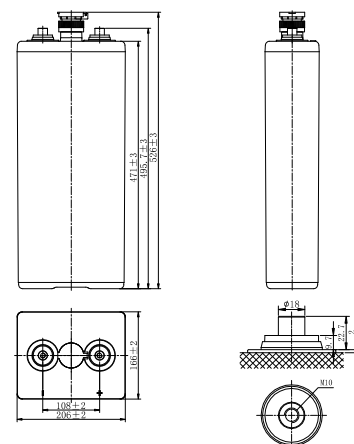


### Specifications

|                               |  |                           |
|-------------------------------|--|---------------------------|
| Rated Voltage                 | 2V   |                           |
| Nominal Capacity              | $C_{10}, 1.80V/cell$   | 490.0Ah                   |
| Dimension                     | Length   | 166±2mm (6.53 inches)     |
|                               | Width  | 206±3mm (8.11 inches)     |
|                               | Container Height   | 471±3mm (18.54 inches)    |
|                               | Total Height   | 526±3mm (20.71 inches)    |
| Approx Weight                 | Without Electrolyte  | 28.2kg (62.0lbs)          |
|                               | With Electrolyte   | 38.0 kg (83.8lbs)         |
| Terminal                      | M10  |                           |
| Container Material            | SAN transparent container  |                           |
| Rated Capacity (25°C)         | 490.0 Ah   | (10hr, 49.0A, 1.80V/cell) |
|                               | 435.0 Ah   | (5hr, 87.0A, 1.75V/cell)  |
|                               | 377.7 Ah   | (3hr, 125.9A, 1.75V/cell) |
|                               | 279.8 Ah   | (1hr, 279.8A, 1.60V/cell) |
| Max. Discharge Current        | 3920A (5s)   |                           |
| Internal Resistance (25°C)    | Approx 0.75mΩ  |                           |
| 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±3°C (77±5°F)  |                           |
| Cycle Use                     | Initial Charging Current less than 0.1CA. Voltage 2.35V~2.40V at 20°C(68°F)Temp. Coefficient -3mV/°C |                           |
|                               | Standby Use  |                           |
| Effect of temp. to Capacity   | 40°C (104°F)   | 103%                      |
|                               | 25°C (77°F)  | 100%                      |
|                               | 0°C (32°F)   | 86%                       |
| Self Discharge                | ≤4% per month at 25°C  |                           |



### Layout



### Constant Current Discharge (Amperes) at 20 °C (68°F)

| F.V/Time   | 30 min | 45min | 1h    | 1.5h  | 2h    | 3h    | 4h    | 5h   | 6h   | 8h   | 10h  | 20h  |
|------------|--------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|
| 1.60V/cell | 371.4  | 322.7 | 279.8 | 220.5 | 182.3 | 136.2 | 109.5 | 92.6 | 80.2 | 63.4 | 52.4 | 28.4 |
| 1.65V/cell | 348.9  | 310.3 | 270.5 | 214.9 | 178.1 | 133.9 | 107.9 | 91.4 | 79.1 | 62.7 | 51.8 | 28.2 |
| 1.70V/cell | 331.2  | 292.7 | 260.2 | 208.1 | 174.0 | 130.0 | 105.5 | 89.4 | 77.6 | 61.6 | 50.9 | 27.8 |
| 1.75V/cell | 310.7  | 279.0 | 247.0 | 198.3 | 166.6 | 125.9 | 102.3 | 87.0 | 75.7 | 60.5 | 50.1 | 27.3 |
| 1.80V/cell | 276.4  | 251.5 | 227.4 | 185.9 | 156.6 | 119.6 | 97.9  | 83.4 | 72.9 | 58.9 | 49.0 | 26.8 |
| 1.85V/cell | 220.5  | 208.4 | 194.5 | 165.3 | 142.1 | 109.4 | 90.6  | 78.2 | 68.7 | 56.0 | 46.9 | 25.8 |

### Constant Power Discharge (Watts/cell) at 20 °C (68°F)

| F.V/Time   | 30 min | 45min | 1h    | 1.5h  | 2h    | 3h    | 4h    | 5h    | 6h    | 8h    | 10h  | 20h  |
|------------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|
| 1.60V/cell | 634.0  | 564.8 | 496.8 | 396.4 | 331.5 | 249.5 | 202.3 | 172.3 | 150.1 | 119.3 | 98.9 | 53.9 |
| 1.65V/cell | 608.5  | 549.5 | 484.2 | 388.4 | 325.5 | 246.5 | 200.4 | 170.9 | 148.8 | 118.4 | 98.3 | 53.6 |
| 1.70V/cell | 585.6  | 523.7 | 469.3 | 378.4 | 319.3 | 240.5 | 196.5 | 167.8 | 146.5 | 116.8 | 97.0 | 53.1 |
| 1.75V/cell | 558.5  | 504.5 | 449.7 | 363.2 | 308.0 | 234.4 | 191.5 | 164.1 | 143.4 | 115.3 | 95.8 | 52.4 |
| 1.80V/cell | 503.6  | 461.8 | 419.3 | 344.4 | 292.0 | 224.2 | 184.5 | 158.1 | 139.0 | 112.7 | 94.2 | 51.7 |
| 1.85V/cell | 408.6  | 388.2 | 364.0 | 310.5 | 268.0 | 207.4 | 172.4 | 149.5 | 131.9 | 108.0 | 90.9 | 50.1 |



# OPzS Series-Flooded Battery

## 7 OPzS490(2V490Ah)



### Applications

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

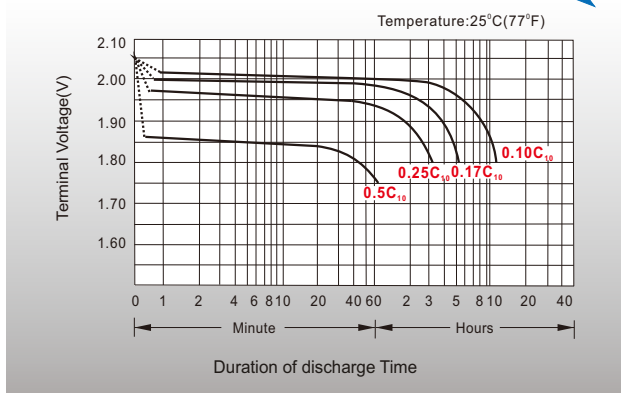
### General Features

- 20 years design life(25°C)
- Lower self discharge
- Higher thermal capacity, no thermal runaway will occur
- Superior deep cycle performance
- Wide operation temperature range

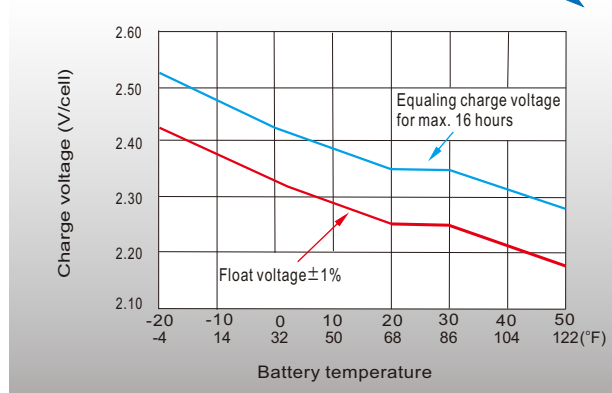
### Standards

- Compliance with IEC60896, DIN 40736 standards
- Manufactured in Leoch@IATF 16949, ISO 45001,ISO 9001 and ISO 14001 certified production facilities

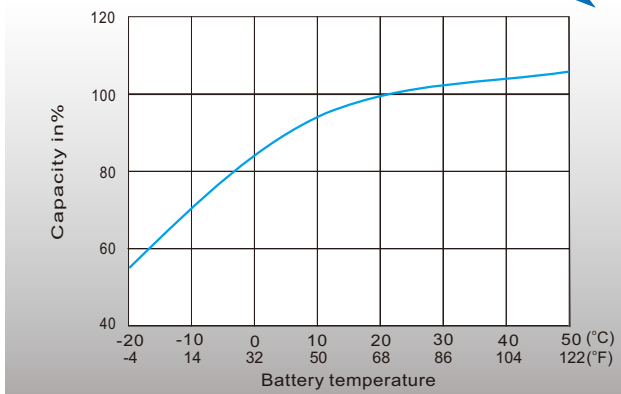
### Discharge Characteristics



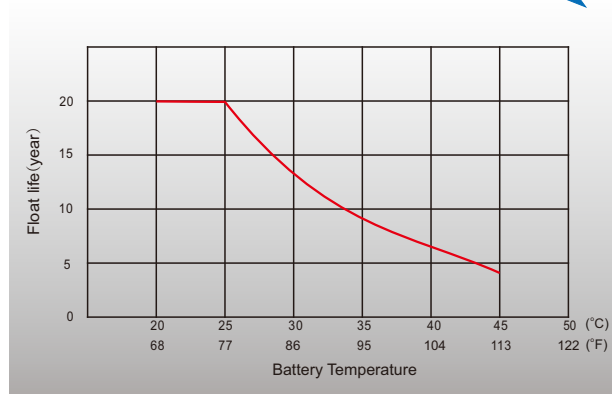
### Charge voltage Vs ambient temperature curve



### Discharge capacity Vs Ambient temperature curve (I10A)



### Float Service Life



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