

CZS420-2

2V 420AH

Tubular Flooded OPzS



CZS420-2



Physical Specification

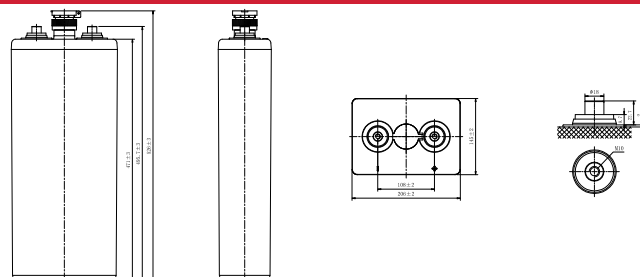
| | |
|--------------------------------------|-----------------------------------|
| Part Number: | CZS420-2 |
| Length: | 145 ± 2 mm (5.71 inches) |
| Width: | 206 ± 2 mm (8.11 inches) |
| Container Height: | 471 ± 2 mm (18.54inches) |
| Total Height (With Terminal): | 526 ± 2 mm (20.71 inches) |
| Approx Weight (Without Electrolyte): | 24.5kg (54.0lbs) |
| Approx Weight (With Electrolyte): | 32.7 kg (72.1lbs) |

Specifications

| | | |
|--|--|---|
| Voltage | Rated Voltage: 2V | |
| | Floating Voltage: 2.23V~2.25V | Boost Charge Voltage: 2.30V~2.40V |
| Terminal Type | M10 | |
| Electrolyte Type | Flooded | |
| Container Material | Standard Option | SAN transparent container |
| Rated Capacity | (10hr,42.0A,1.80V/cell) | 420.0 Ah |
| | (5hr,74.6A,1.75V/cell) | 373.0 Ah |
| | (3hr,107.9A,1.75V/cell) | 323.7 Ah |
| | (1hr,239.8A,1.60V/cell) | 239.8 Ah |
| Max.Charging Current (25°C) | 0.1CA | |
| Max Discharge Current | 3360A (5s) | |
| Internal Resistance | Approx 0.58mΩ | |
| Discharge Characteristics | Operating Temp. Range | Discharge: -15°C~55°C (5°F~131°F) |
| | | Charge: -0°C~45°C (32°F~113°F) |
| | | Storage: -15°C~45°C (5°F~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 | Initial Charging Current less than 0.1CA. Voltage |
| 2.25V~2.30V at 20°C(68°F)Temp. Coefficient -2mV/°C | | |
| Capacity affected by Temperature | 40°C (104°F) | 103% |
| | 25°C (77°F) | 100% |
| | 0°C (32°F) | 86% |
| Design Floating Life at 25°C | 20 Years | |
| Self Discharge | Canbat Tubular Flooded OPzS Batteries may be stored for 6 months at 25°C (77°F) and then a refresh charge is required. For higher temperatures the time interval will be shorter. Self-discharge ≤ 3% per month. | |

Dimensions

M10 Terminal



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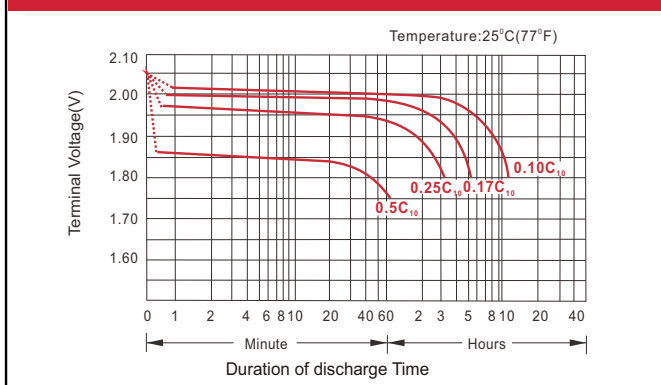
Constant Current Discharge (Amperes) at 20 °C (68°F)

| F.V/Time | 30 min | 45min | 1h | 1.5h | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 20h |
|------------|--------|-------|-------|-------|-------|-------|------|------|------|------|------|------|
| 1.60V/cell | 318.4 | 276.6 | 239.8 | 189.0 | 156.2 | 116.8 | 93.9 | 79.4 | 68.7 | 54.4 | 44.9 | 24.4 |
| 1.65V/cell | 299.0 | 266.0 | 231.8 | 184.2 | 152.7 | 114.8 | 92.5 | 78.3 | 67.8 | 53.7 | 44.4 | 24.1 |
| 1.70V/cell | 283.9 | 250.9 | 223.0 | 178.4 | 149.1 | 111.4 | 90.4 | 76.6 | 66.5 | 52.8 | 43.7 | 23.8 |
| 1.75V/cell | 266.3 | 239.1 | 211.7 | 170.0 | 142.8 | 107.9 | 87.7 | 74.6 | 64.9 | 51.9 | 42.9 | 23.4 |
| 1.80V/cell | 236.9 | 215.6 | 194.9 | 159.3 | 134.2 | 102.5 | 83.9 | 71.5 | 62.5 | 50.5 | 42.0 | 23.0 |
| 1.85V/cell | 189.0 | 178.6 | 166.7 | 141.7 | 121.8 | 93.8 | 77.7 | 67.0 | 58.9 | 48.0 | 40.2 | 22.1 |

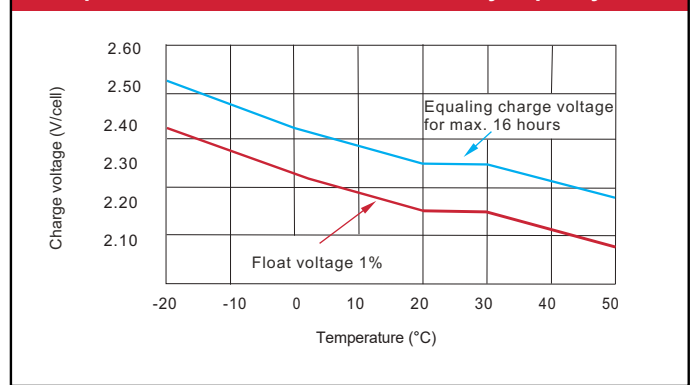
Constant Power Discharge (Watts/cell) at 20 °C (68°F)

| F.V/Time | 30 min | 45min | 1h | 1.5h | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 20h |
|------------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|
| 1.60V/cell | 543.4 | 484.1 | 425.8 | 339.8 | 284.1 | 213.8 | 173.4 | 147.7 | 128.7 | 102.2 | 84.8 | 46.2 |
| 1.65V/cell | 521.6 | 471.0 | 415.0 | 332.9 | 279.0 | 211.3 | 171.8 | 146.4 | 127.5 | 101.5 | 84.2 | 46.0 |
| 1.70V/cell | 502.0 | 448.9 | 402.3 | 324.4 | 273.7 | 206.1 | 168.4 | 143.8 | 125.5 | 100.1 | 83.1 | 45.5 |
| 1.75V/cell | 478.7 | 432.4 | 385.4 | 311.3 | 264.0 | 200.9 | 164.2 | 140.7 | 122.9 | 98.8 | 82.1 | 44.9 |
| 1.80V/cell | 431.6 | 395.8 | 359.4 | 295.2 | 250.3 | 192.2 | 158.1 | 135.5 | 119.1 | 96.6 | 80.8 | 44.3 |
| 1.85V/cell | 350.2 | 332.7 | 312.0 | 266.1 | 229.7 | 177.8 | 147.8 | 128.1 | 113.1 | 92.5 | 77.9 | 43.0 |

Discharge Characteristics



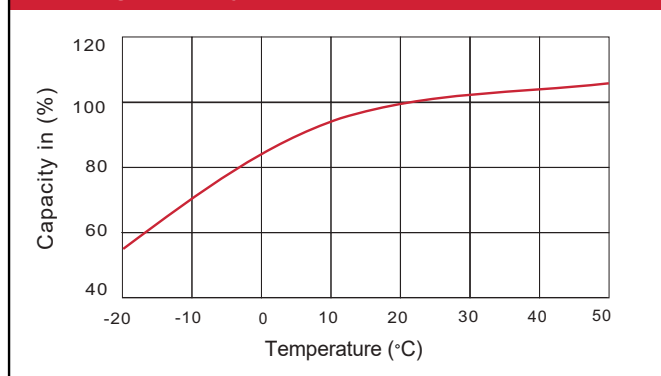
Temperature effects in relation to battery capacity



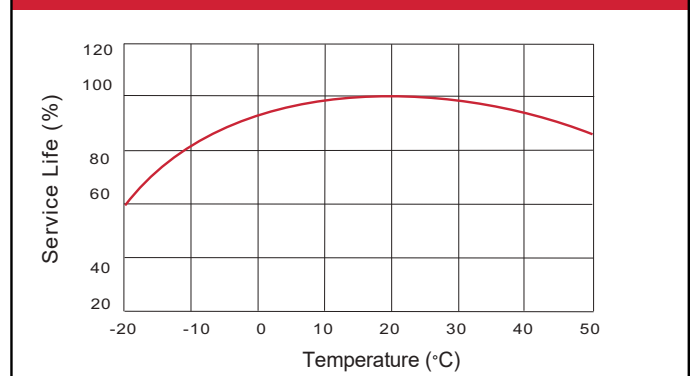
OPzS Tubular Flooded Batteries

OPzS batteries are a type of sealed lead-acid cells, commonly referred to as SLA or VRLA. OPzS cells are designed with tubular flooded technology for cost-effective energy solutions with over 3500 cycles at a 50% DOD. Canbat developed its range of OPzS batteries with a robust construction for applications demanding regular deep discharges. The batteries are characterized by long service life, outstanding capacity performance and low maintenance requirements, with reduced topping up needs. They are excellent for installations in high temperature environments or in areas with an unstable power source. Proven high reliability energy storage for critical applications including industrial projects in telecommunications, computing, power generation and distribution, railway, airport and seaport signalling, emergency lighting, automation and measuring systems.

Discharge capacity Vs Ambient temperature (10A)



Relation between service life & ambient temperature



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