

EC type batteries are made in AGM technology and are constructed by plates, separators, safety valves and a container. Since the electrolyte is held by a glass-mat separator and plates, the batteries can be used in any chosen position without the risk of leakage. EC type batteries have a pressure relief valves that allows safe dispersal of any excess pressure inside the cell (VRLA). EC type batteries have been designed for cycle use (repeated cycles of discharging/charging). They last for up to 80% more cycles than EP type batteries. These batteries are perfect as a source of autonomous power supplies in all types of mobile and portable appliances.

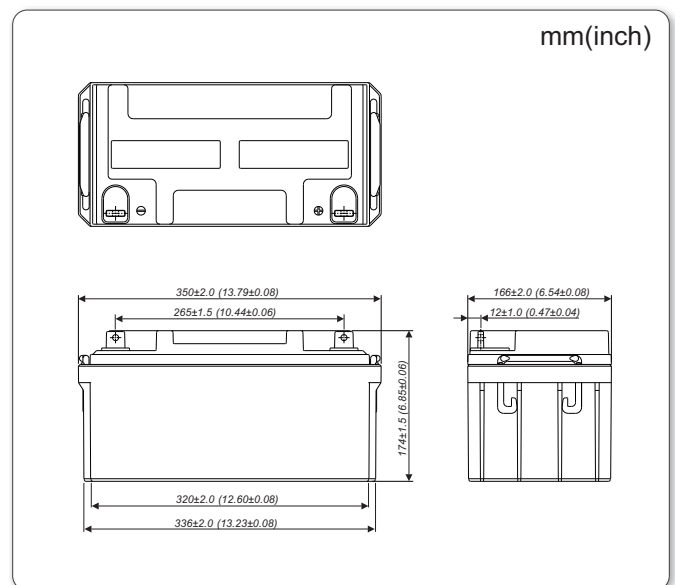


TECHNICAL DATA

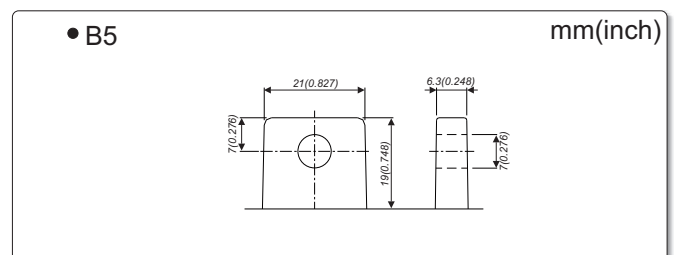
| | | | |
|---|-------------------------|-----------------------------|---------|
| Nominal voltage | 12 V | | |
| Nominal capacity | 65 Ah / C ₂₀ | | |
| Cell per unit | 6 | | |
| Technology | AGM | | |
| Design life | 6 ~ 9 years @ 20°C* | | |
| | 5 years @ 25°C | | |
| Dimensions | height | 174,0 mm | |
| | length | 350,0 mm | |
| | width | 166,0 mm | |
| Weight | ~22,8 kg | | |
| | Capacity @ 25°C | | |
| Capacity @ 25°C | 20h | 3,37A @1,75V/cell | 65,0 Ah |
| | 10h | 6,35A @1,75V/cell | 63,5 Ah |
| | 5h | 11,36A @1,75V/cell | 56,8 Ah |
| | 1h | 44,20A @1,60V/cell | 44,2 Ah |
| Ambient nominal temperature range | charge | 0°C ~ 40°C | |
| | discharge | -20°C ~ 50°C | |
| | storage | -20°C ~ 40°C | |
| Internal resistance | @ fully charge battery | ≤6 mΩ | |
| Charging voltage @ 20°C | standby use | 13,5V to 13,8V (-18 mV/°C) | |
| | cycle use | 14,4 V to 15,0V (-24 mV/°C) | |
| Charging current | recommended | 6,5 A | |
| | maximum | 19,5 A | |
| Maximum discharge current (for 5 sec) | 6500 A | | |
| Capacity retention during storage @ 20°C (self discharge) | after 1 month | 97 % | |
| | after 6 months | 80 % | |
| | after 12 months | 63 % | |
| Container material | standard | ABS UL 94-HB | |
| | optional | ABS UL 94-V0** | |
| Terminal | bolt fastened terminal | B5 | |
| Terminal hardware initial torque | 5,5 Nm | | |

- uninterruptible power supplies (UPS)
- emergency lighting systems
- telecommunication PABX
- cash registers and fiscal printers
- fire and security systems
- wheelchairs, golf-carts
- electric vehicles
- solar powered systems
- lawn mowers
- electrical bicycle
- mobile and portable equipment – cycle use
- measuring devices
- fishing lights

DIMENSIONS



TERMINALS



* - According to Eurobat (General Purpose group) ** - Flame-retardant

NO TRANSPORT RESTRICTED

Not restricted for air, surface and water transport. Classified as non-hazardous material (IATA/ICAO Special Provision A67, DOT-CFR Title 49 parts 171-189, IMDG amendment 27)

DISCHARGE CHARACTERISTICS

• Constant current (Current [A], 25[°C] / 77[°F])

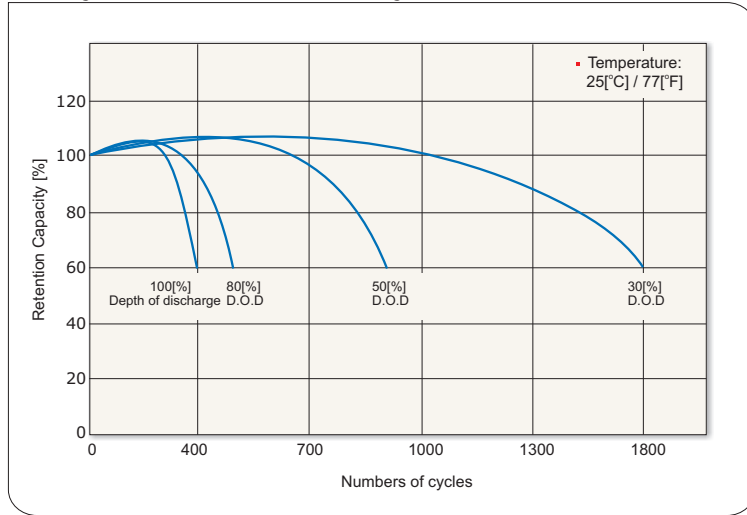
| F.V. V/cell | Discharge time | | | | | | | | | | |
|----------------|----------------|--------|--------|--------|-------|-------|-------|-------|------|------|------|
| | 5 min | 10 min | 15 min | 30 min | 1 hr | 2hr | 3hr | 5hr | 8hr | 10hr | 20h |
| 1,80 | 187,4 | 141,7 | 113,8 | 68,40 | 40,70 | 22,30 | 16,39 | 11,25 | 7,58 | 6,26 | 3,30 |
| 1,75 | 208,6 | 155,7 | 119,4 | 71,00 | 42,30 | 23,09 | 16,60 | 11,36 | 7,72 | 6,35 | 3,37 |
| 1,70 | 227,8 | 162,2 | 123,2 | 72,70 | 43,10 | 23,54 | 16,72 | 11,53 | 7,76 | 6,40 | 3,38 |
| 1,65 | 241,2 | 166,7 | 126,7 | 73,60 | 43,70 | 23,67 | 16,78 | 11,57 | 7,80 | 6,42 | 3,39 |
| 1,60 | 252,3 | 169,2 | 129,1 | 74,50 | 44,20 | 23,80 | 16,98 | 11,63 | 7,88 | 6,42 | 3,41 |

• Constant power (Power [W/cell], 25[°C] / 77[°F])

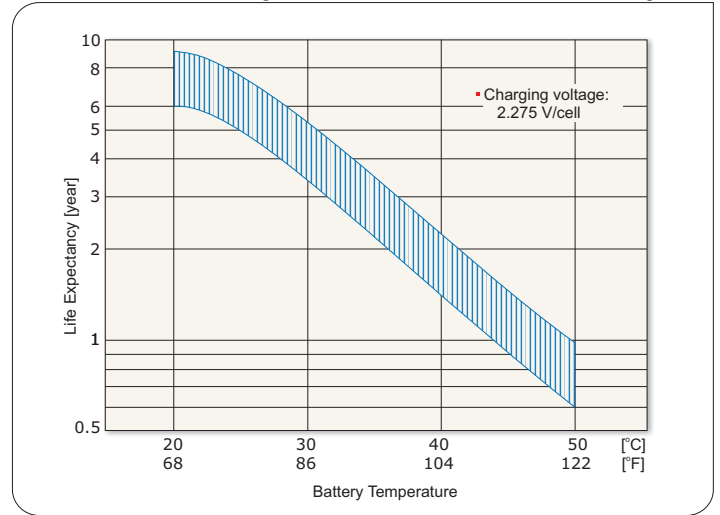
| F.V. V/cell | Discharge time | | | | | | | | | | |
|----------------|----------------|--------|--------|--------|-------|-------|-------|-------|-------|-------|------|
| | 5 min | 10 min | 15 min | 30 min | 1 hr | 2hr | 3hr | 5hr | 8hr | 10hr | 20h |
| 1,80 | 345,0 | 261,3 | 216,3 | 134,7 | 75,83 | 43,85 | 32,00 | 22,07 | 14,90 | 12,32 | 6,50 |
| 1,75 | 378,5 | 283,3 | 227,0 | 140,3 | 78,17 | 45,00 | 32,60 | 22,48 | 15,18 | 12,45 | 6,60 |
| 1,70 | 408,8 | 294,8 | 234,7 | 143,7 | 79,67 | 45,75 | 33,05 | 22,67 | 15,25 | 12,53 | 6,65 |
| 1,65 | 433,3 | 305,5 | 240,3 | 146,3 | 80,67 | 46,00 | 33,20 | 22,75 | 15,38 | 12,58 | 6,70 |
| 1,60 | 443,8 | 313,0 | 244,2 | 147,7 | 81,33 | 46,20 | 33,37 | 22,75 | 15,52 | 12,67 | 6,75 |

F.V. - Final voltage

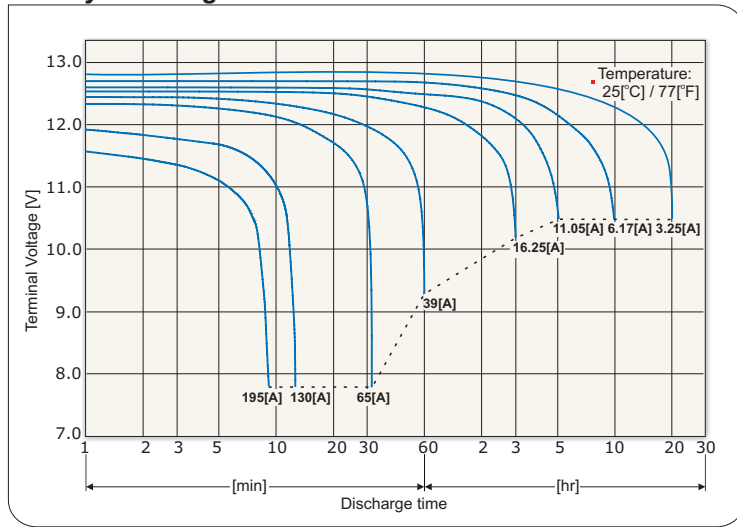
Battery life characteristics of cycle use



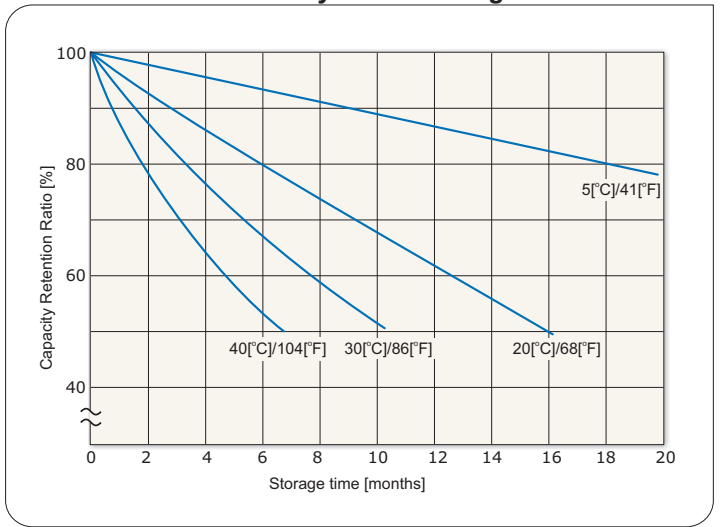
Battery life characteristics of standby use



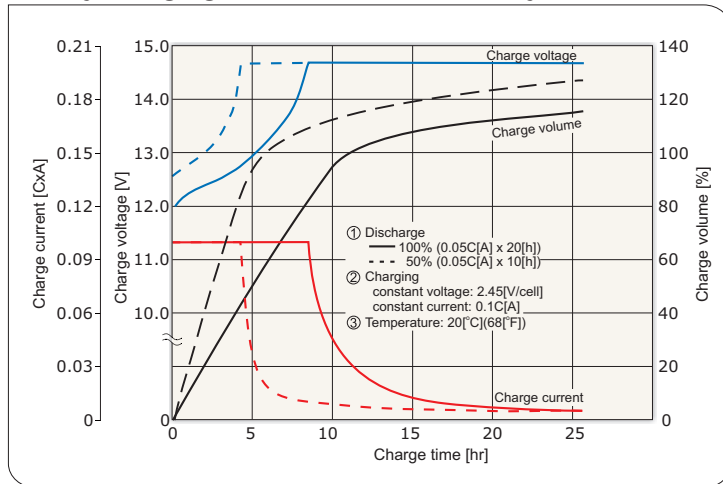
Battery discharge characteristics



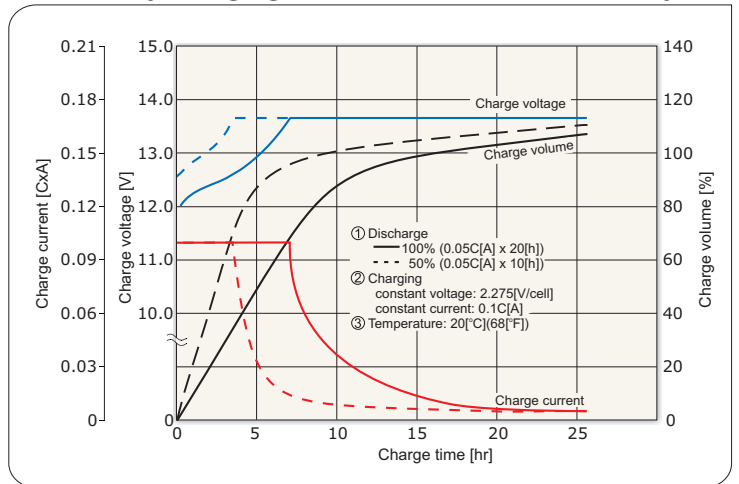
Battery self discharge characteristics



Battery charging characteristics for the cycle use



Battery charging characteristics for the standby use



Battery discharge current and final discharge voltage

| Discharge current [A] | 13 > I | 13 ≤ I < 32.5 | 32.5 ≤ I < 65 | 65 ≤ I |
|----------------------------------|--------|---------------|---------------|--------|
| Final discharge voltage [V/cell] | 1.75 | 1.70 | 1.55 | 1.30 |

*) C - Capacity

