

6-CNF Series

VRLA Battery For Energy Storage

6-CNF-100



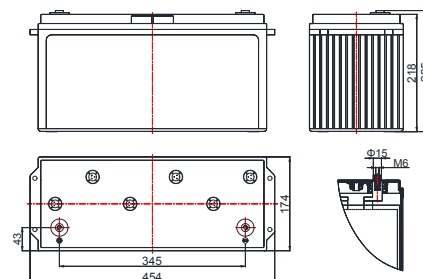
Main Applications

- ▶ Renewable energy (wind & solar) storage system
- ▶ Peak shifting of electrical power system
- ▶ Frequency regulation and load following service
- ▶ Smart-grid & micro-grid sites
- ▶ Off-grid & bad-grid sites

Benefits

- ▶ Extra long life design, design life is 20 years
- ▶ Superior deep cycling performance
- ▶ Lifetime maintenance free, Low annual operating cost, reduced TCO
- ▶ High potential fuel savings when used with hybrid genset applications

Dimensions



Technical Parameters

| | |
|--|--|
| Nominal Voltage | 12 V |
| Capacity | 100 Ah @ 10hr to 1.80V per cell @ 25°C (77°F) |
| Weight | 39.8 kg (87.74 lbs) |
| Dimensions | Length: 454 mm Width: 174 mm Height: 218 mm Total height: 225 mm |
| Internal Resistance (full charged) | Approx. 4.3 mΩ @ 25°C(77°F) |
| Short- circuit Current | 620 A(5sec) |
| Self Discharge @25°C(77°F) | Less than 4% after 30 days storage |
| Operating Temperature Range | Discharge: -40°C~50°C(-40°F~122°F) Charge: -20°C~45°C(-4°F~113°F) Storage:-20°C~40°C(-4°F~104°F) |
| Recommended Operating Temperature | 15°C~25°C (59°F~77°F) |
| Maximum Charging Current | 20 A |
| Charging Voltage @25°C(77°F) | Float: 2.25 V/cell, Temps coefficient -3 mV/°C Equalize: 2.35 V/cell Cycle:2.40 V/cell |
| Terminal | M6 |
| Container Materials | ABS/ABS V0 (Optional) |
| Capacity Affected by Temperature(C ₁₀) | 105% @ 40°C(104°F) 85% @ 0°C(32°F) 60% @ -20°C(-4°F) |
| Design Life @25°C(77°F) | 20 years |

Attain Certificate

- ISO9001
- ISO14001
- ISO18001

Technical Features

- ▶ Adopt lead- carbon technology
- ▶ Special gel electrolyte without flowing to avoid acid stratification and can prolong service life
- ▶ Excellent charging and discharging ability in low current
- ▶ Exquisite design for premium quality, high reliability and stability

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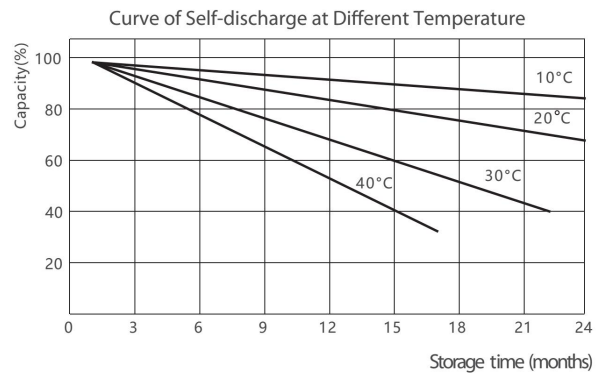
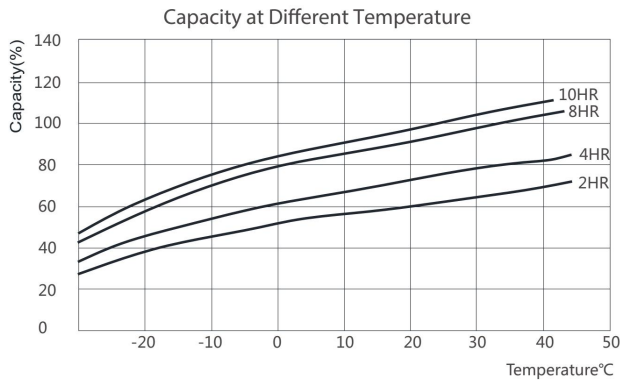
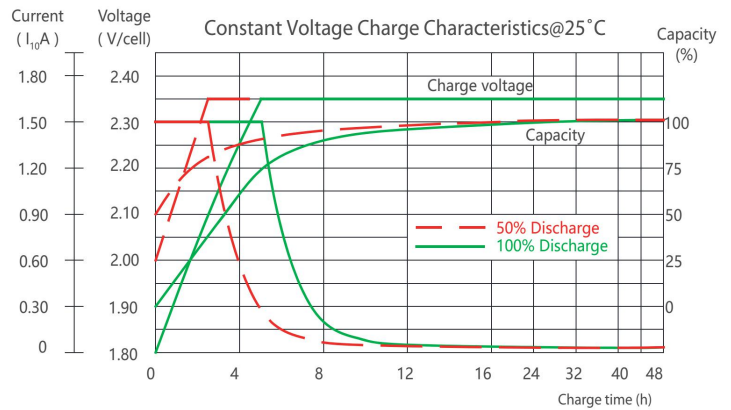
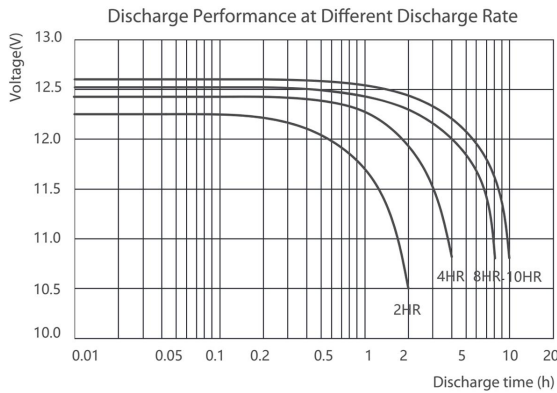
Constant Current Discharge Characteristics Unit: A (25°C, 77°F)

| F.V/Time | 15min | 30min | 1hr | 2hr | 3hr | 4hr | 5hr | 6hr | 8hr | 10hr | 20hr |
|------------|-------|-------|------|------|------|------|------|------|------|------|------|
| 1.85V/cell | 138 | 88.5 | 54.5 | 32.7 | 24.3 | 19.6 | 16.5 | 14.5 | 11.7 | 10.0 | 5.23 |
| 1.80V/cell | 150 | 94.0 | 56.1 | 33.9 | 25.3 | 20.2 | 16.9 | 14.8 | 12.0 | 10.2 | 5.34 |
| 1.75V/cell | 157 | 98.7 | 58.1 | 34.9 | 25.9 | 20.6 | 17.3 | 15.2 | 12.2 | 10.3 | 5.41 |
| 1.70V/cell | 164 | 103 | 59.9 | 35.9 | 26.4 | 21.0 | 17.6 | 15.4 | 12.3 | 10.4 | 5.47 |
| 1.67V/cell | 167 | 107 | 61.4 | 36.7 | 26.9 | 21.3 | 17.8 | 15.6 | 12.5 | 10.5 | 5.52 |
| 1.60V/cell | 175 | 110 | 62.7 | 37.3 | 27.3 | 21.6 | 18.0 | 15.8 | 12.6 | 10.6 | 5.57 |

Constant Power Discharge Characteristics Unit: W/cell (25°C, 77°F)

| F.V/Time | 15min | 30min | 1hr | 2hr | 3hr | 4hr | 5hr | 6hr | 8hr | 10hr | 20hr |
|------------|-------|-------|-----|------|------|------|------|------|------|------|------|
| 1.85V/cell | 261 | 170 | 105 | 64.4 | 48.2 | 38.9 | 32.7 | 28.9 | 23.4 | 20.0 | 10.5 |
| 1.80V/cell | 281 | 179 | 108 | 66.7 | 49.8 | 39.9 | 33.5 | 29.5 | 23.9 | 20.3 | 10.7 |
| 1.75V/cell | 294 | 187 | 111 | 68.5 | 50.7 | 40.7 | 34.1 | 30.0 | 24.2 | 20.5 | 10.8 |
| 1.70V/cell | 307 | 194 | 115 | 70.0 | 51.7 | 41.3 | 34.5 | 30.4 | 24.5 | 20.7 | 10.9 |
| 1.67V/cell | 311 | 200 | 117 | 71.3 | 52.5 | 41.9 | 35.0 | 30.7 | 24.7 | 20.8 | 11.0 |
| 1.60V/cell | 321 | 205 | 119 | 72.2 | 53.0 | 42.3 | 35.2 | 31.0 | 24.9 | 20.9 | 11.1 |

Performance Curve



*Declaration:

This information is generally descriptive only and is not intended to make or imply any representation, guarantee or warranty with respect to any cells and batteries. Cell and battery designs/specifications are subject to modification without notice. Contact CHINASHOTO for the latest information.

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