



# JM Series lead-acid battery JM12-90(C)

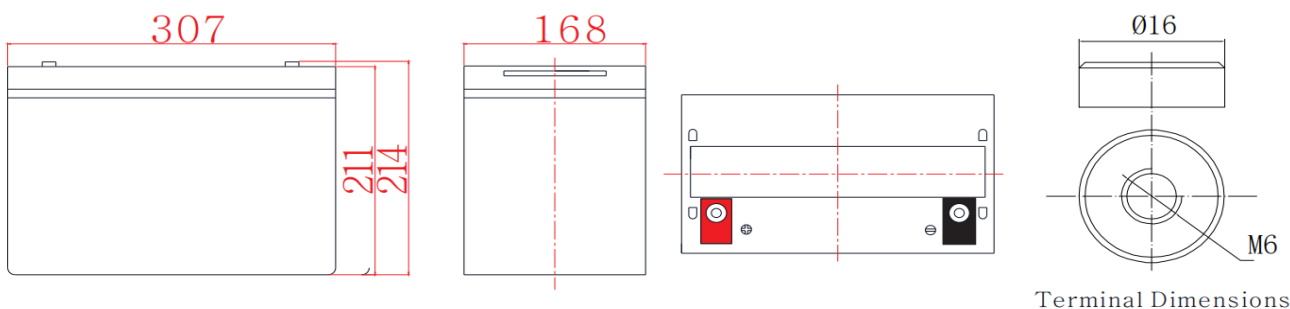
## General Features

- ▶ High corrosion resistant performance: Pb-Ca multi-alloy grid
- ▶ High energy density and power density
- ▶ Optimized capability of instant high-current discharging
- ▶ Excellent charge acceptance ability
- ▶ Excellent deep cycle discharge capability
- ▶ Strong high and low temperature performance
- ▶ Precision sealing technology
- ▶ Long life



Dimension: 307(L) × 168(W) × 211(H) × 214(TH) / (±3)

Unit: mm



Terminal Dimensions

## Specification

|                                              |                                           |
|----------------------------------------------|-------------------------------------------|
| Nominal Voltage                              | 12V                                       |
| Nominal Capacity                             | 90Ah@10hour-rate to 1.80V per cell @25°C  |
| Design life                                  | 10 years                                  |
| Terminal                                     | M6                                        |
| Approx. Weight                               | Approx 26.0kg ± 3% (57.3 ± 3% lbs)        |
| Container Material                           | ABS (UL94-HB, UL94-V0 Optional)           |
| short-circuit current                        | 1846A                                     |
| Internal resistance (Full charged at 25°C: ) | 6.5 mΩ                                    |
| Self discharge                               | 3% of capacity declined per month at 25°C |

## Operating Temperature

|            |                         |
|------------|-------------------------|
| Discharge: | -20 ~ 50°C (-4 ~ 122°F) |
| Charge :   | -20 ~ 50°C (-4 ~ 122°F) |
| Storage:   | -20 ~ 50°C (-4 ~ 122°F) |

## Charge Method (25 °C)

|                             |                         |
|-----------------------------|-------------------------|
| Charge current:             | Max. 22.5A; Recom. 9.0A |
| Float charge: 13.5-13.8V    | recom. 13.8V (-18mV/°C) |
| Equalize charge: 13.8-14.1V | recom. 14.1V (-24mV/°C) |
| Cycle charge: 14.4-15.0V    | recom. 14.7V (-30mV/°C) |

## Standards

Executive standard: IEC 60896-21/22, GB/T 19638.1-2014

## Applications

- ▶ UPS/EPS
- ▶ Power systems
- ▶ Telecommunications system
- ▶ Emergency lighting, Auto control system
- ▶ Solar/wind generating storage cyclic
- ▶ Other general purpose

## Rated Capacity

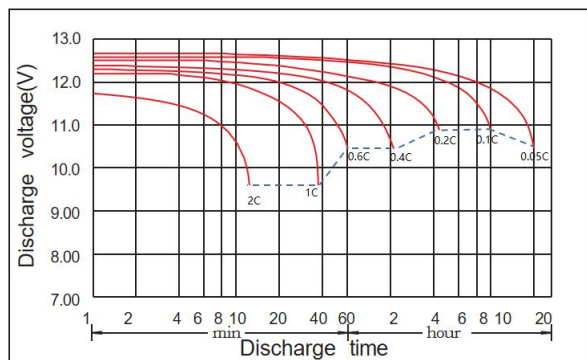
|                              |        |
|------------------------------|--------|
| 10Hour Rate (9.00A to 10.8V) | 90.0Ah |
| 3Hour Rate (23.9A to 10.2V)  | 71.7Ah |
| 1Hour Rate (56.9A to 9.6V)   | 56.9Ah |

## Attain Certificate

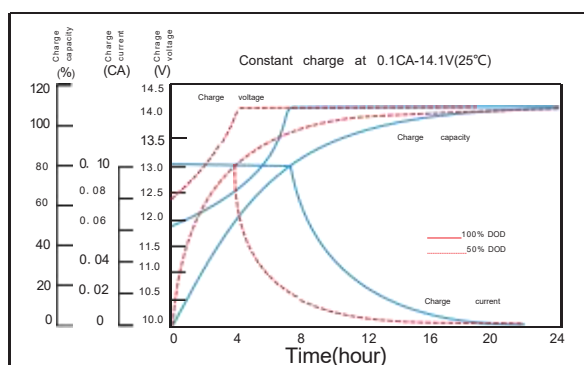


Disclaimer: Manufacturers have the right to self-modify the parameters of the product updates, please keep in touch with manufacturers to obtain the latest information.

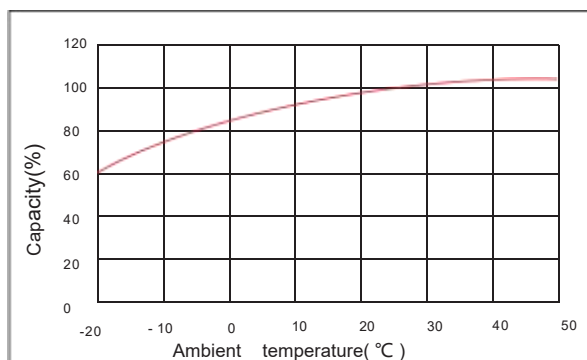
## Discharge characteristic



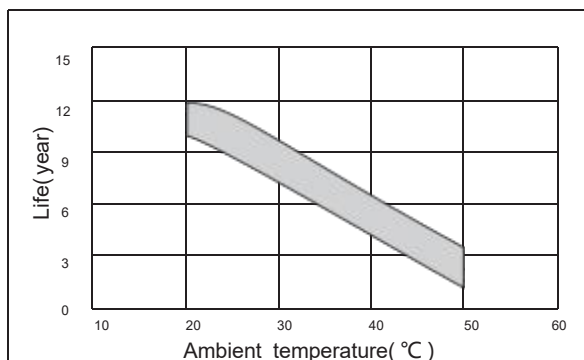
## Charging characteristic



## The effect of temperature on capacity



## The effect of temperature on float life



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

| FV/Time | 15min | 30min | 45min | 1h   | 1.5h | 2h   | 3h   | 4h   | 5h   | 6h   | 8h   | 10h  | 20h  |
|---------|-------|-------|-------|------|------|------|------|------|------|------|------|------|------|
| 1.60V   | 166.1 | 98.6  | 72.1  | 56.9 | 42.3 | 33.7 | 25.4 | 20.5 | 17.4 | 14.8 | 11.4 | 9.49 | 4.97 |
| 1.65V   | 159.5 | 94.6  | 69.3  | 54.7 | 41.0 | 33.0 | 24.6 | 19.8 | 17.0 | 14.6 | 11.3 | 9.38 | 4.89 |
| 1.70V   | 149.4 | 90.4  | 66.2  | 52.4 | 39.4 | 31.6 | 23.9 | 19.4 | 16.5 | 14.3 | 11.1 | 9.24 | 4.84 |
| 1.75V   | 139.0 | 85.6  | 63.3  | 50.8 | 37.8 | 30.5 | 23.2 | 18.9 | 16.1 | 13.9 | 11.0 | 9.12 | 4.82 |
| 1.80V   | 131.0 | 83.2  | 61.0  | 48.6 | 36.0 | 29.5 | 23.0 | 18.3 | 15.7 | 13.5 | 10.8 | 9.00 | 4.77 |
| 1.85V   | 108.7 | 70.4  | 53.2  | 42.7 | 32.5 | 26.2 | 20.2 | 16.6 | 14.3 | 12.3 | 10.1 | 8.30 | 4.57 |

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

| FV/Time | 15min | 30min | 45min | 1h    | 1.5h | 2h   | 3h   | 4h   | 5h   | 6h   | 8h   | 10h  | 20h  |
|---------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|
| 1.60V   | 291.7 | 179.0 | 131.3 | 104.2 | 78.3 | 62.1 | 47.9 | 38.3 | 32.7 | 28.4 | 22.3 | 18.7 | 9.78 |
| 1.65V   | 283.0 | 173.7 | 127.1 | 101.3 | 76.3 | 61.0 | 47.2 | 37.4 | 32.0 | 28.1 | 22.1 | 18.5 | 9.64 |
| 1.70V   | 269.0 | 167.7 | 125.6 | 98.6  | 75.2 | 59.1 | 45.2 | 36.5 | 31.3 | 27.6 | 21.8 | 18.2 | 9.53 |
| 1.75V   | 254.0 | 161.9 | 120.4 | 96.5  | 73.1 | 57.5 | 44.9 | 35.7 | 30.6 | 26.9 | 21.5 | 18.0 | 9.50 |
| 1.80V   | 240.2 | 156.3 | 115.8 | 92.5  | 69.3 | 56.6 | 43.7 | 35.3 | 29.9 | 26.5 | 21.2 | 17.8 | 9.44 |
| 1.85V   | 200.2 | 136.0 | 102.9 | 82.7  | 64.4 | 51.7 | 39.2 | 32.5 | 28.0 | 24.2 | 20.0 | 16.8 | 8.89 |