

# ECOBAT

## Deep Cycle Batteries

### EDC12-55 (12V55Ah)

#### Specification

|                                  |                                                                                                                                                                  |                               |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| Nominal Voltage                  | 12V                                                                                                                                                              |                               |
| Nominal Capacity(20HR)           | 55AH                                                                                                                                                             |                               |
| Dimensions                       | Length                                                                                                                                                           | 229±2mm (9.02 inches)         |
|                                  | Width                                                                                                                                                            | 138±2mm (5.43 inches)         |
|                                  | Container Height                                                                                                                                                 | 208±2mm (8.07 inches)         |
|                                  | Total Height (with Terminal)                                                                                                                                     | 212±2mm (8.31 inches)         |
| Approx Weight                    | Approx 18.0 kg (39.6lbs)                                                                                                                                         |                               |
| Terminal                         | M6X16                                                                                                                                                            |                               |
| Container Material               | ABS                                                                                                                                                              |                               |
| Rated Capacity                   | 55.0 AH/275A                                                                                                                                                     | (20hr , 1.80V/cell,25°C/77°F) |
|                                  | 50.0 AH/5.00A                                                                                                                                                    | (10hr, 1.80V/cell,25°C/77°F)  |
|                                  | 47.1 AH/9.42A                                                                                                                                                    | (5hr, 1.75V/cell,25°C/77°F)   |
|                                  | 39.0 AH/13.0A                                                                                                                                                    | (3hr, 1.75V/cell,25°C/77°F)   |
|                                  | 30.5 AH/30.5A                                                                                                                                                    | (1hr, 1.60V/cell,25°C/77°F)   |
| Max. Discharge Current           | 600A (5s)                                                                                                                                                        |                               |
| Internal Resistance              | Approx 8mΩ                                                                                                                                                       |                               |
| Operating Temp.Range             | Discharge : -15~50°C (5~122°F)                                                                                                                                   |                               |
|                                  | Charge : 0~40°C (32~104°F)                                                                                                                                       |                               |
|                                  | Storage : -15~40°C (5~104°F)                                                                                                                                     |                               |
| Nominal Operating Temp. Range    | 25±3°C (77±5°F )                                                                                                                                                 |                               |
| Cycle Use                        | Initial Charging Current less than 15.0A.Voltage                                                                                                                 |                               |
|                                  | 14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/℃                                                                                                               |                               |
| Standby Use                      | No limit on Initial Charging Current Voltage                                                                                                                     |                               |
|                                  | 13.5V~13.8V at 25°C(77°F)Temp. Coefficient -20mV/℃                                                                                                               |                               |
| Capacity affected by Temperature | 40°C (104°F)                                                                                                                                                     | 103%                          |
|                                  | 25°C ( 77°F)                                                                                                                                                     | 100%                          |
|                                  | 0°C ( 32°F)                                                                                                                                                      | 86%                           |
| Self Discharge                   | The self-discharge rate is about 2% at 25°C (77°F) per month. Refreshing charge is required after stored for 8 months. For higher temperature, shorter interval. |                               |



#### Applications

- ◆ Electrical Vehicles ( E-Wheelchairs)
- ◆ Stored energy (Photovoltaic or wind)
- ◆ Uninterruptable Power Supply (UPS)
- ◆ Electric Power System (EPS)
- ◆ Emergency backup power supply
- ◆ Emergency light
- ◆ Railway signal
- ◆ Aircraft signal
- ◆ Alarm and security system
- ◆ Electronic apparatus and equipment
- ◆ Telecommunications
- ◆ DC power supply

ISO9001  
ISO14001  
OHSAS18001



#### Constant Current Discharge (Amperes) at 25°C (77°F)

| F.V/Time   | 5min  | 10min | 15min | 20min | 30min | 45min | 1h   | 2h   | 3h   | 4h   | 5h   | 6h   | 8h   | 10h  | 20h  |
|------------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|
| 1.85V/cell | 85.6  | 67.3  | 57.2  | 47.9  | 38.0  | 28.8  | 23.6 | 15.0 | 11.9 | 9.70 | 7.82 | 6.81 | 5.53 | 4.72 | 2.58 |
| 1.80V/cell | 114.9 | 86.0  | 69.1  | 56.6  | 44.9  | 33.5  | 26.4 | 16.4 | 12.8 | 10.4 | 8.40 | 7.30 | 5.86 | 5.00 | 2.60 |
| 1.75V/cell | 129.5 | 94.5  | 75.5  | 60.9  | 46.6  | 34.7  | 27.6 | 17.0 | 13.0 | 10.6 | 8.60 | 7.50 | 5.96 | 5.05 | 2.63 |
| 1.70V/cell | 142.6 | 103.0 | 80.6  | 64.0  | 48.5  | 36.1  | 28.5 | 17.7 | 13.4 | 10.9 | 8.83 | 7.66 | 6.05 | 5.10 | 2.68 |
| 1.65V/cell | 157.3 | 111.1 | 85.7  | 67.9  | 51.2  | 37.0  | 29.5 | 18.2 | 13.9 | 11.2 | 9.08 | 7.83 | 6.14 | 5.21 | 2.71 |
| 1.60V/cell | 173.5 | 120.6 | 91.7  | 72.4  | 54.0  | 38.6  | 30.5 | 18.8 | 14.4 | 11.6 | 9.38 | 8.00 | 6.20 | 5.26 | 2.73 |

#### Constant Power Discharge (Watts/cell) at 25°C (77°F)

| F.V/Time   | 5min  | 10min | 15min | 20min | 30min | 45min | 1h   | 2h   | 3h   | 4h   | 5h   | 6h   | 8h   | 10h  | 20h  |
|------------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|
| 1.85V/cell | 156.5 | 124.3 | 106.8 | 90.2  | 72.5  | 55.3  | 45.5 | 29.2 | 23.1 | 19.0 | 15.3 | 13.4 | 10.9 | 9.34 | 5.10 |
| 1.80V/cell | 207.8 | 156.9 | 127.3 | 105.1 | 84.2  | 63.9  | 50.7 | 31.6 | 24.8 | 20.1 | 16.4 | 14.3 | 11.5 | 9.88 | 5.14 |
| 1.75V/cell | 229.3 | 169.7 | 137.3 | 111.9 | 86.7  | 65.6  | 52.8 | 32.7 | 25.1 | 20.5 | 16.7 | 14.6 | 11.7 | 9.97 | 5.19 |
| 1.70V/cell | 245.5 | 180.7 | 144.5 | 116.8 | 89.8  | 68.0  | 54.2 | 33.9 | 25.8 | 21.0 | 17.1 | 14.9 | 11.9 | 10.1 | 5.28 |
| 1.65V/cell | 266.9 | 193.3 | 152.5 | 123.1 | 93.9  | 69.1  | 55.7 | 34.6 | 26.7 | 21.7 | 17.6 | 15.2 | 12.0 | 10.2 | 5.34 |
| 1.60V/cell | 287.5 | 205.0 | 160.4 | 129.7 | 98.5  | 71.6  | 57.3 | 35.6 | 27.4 | 22.3 | 18.1 | 15.5 | 12.1 | 10.3 | 5.37 |

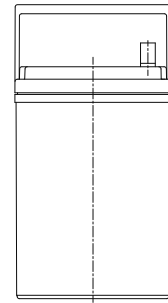
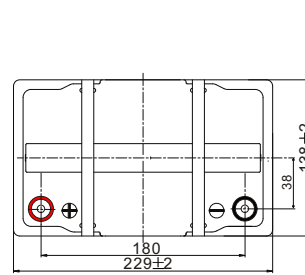
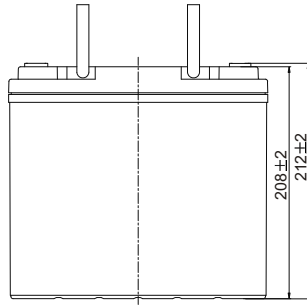
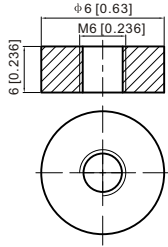
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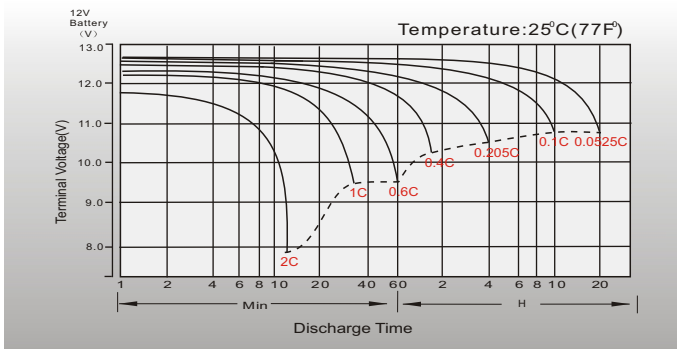
### EDC12-55 (12V55Ah)

#### Dimensions

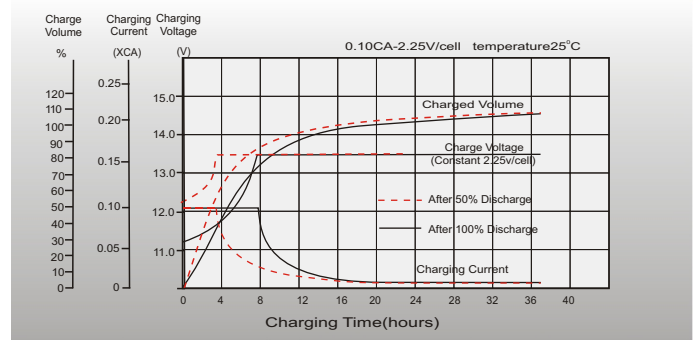
■ M6 Terminal  
Unit: mm [inches]



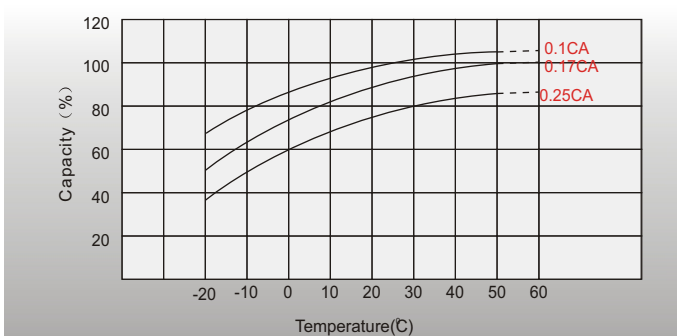
#### Discharge Characteristics



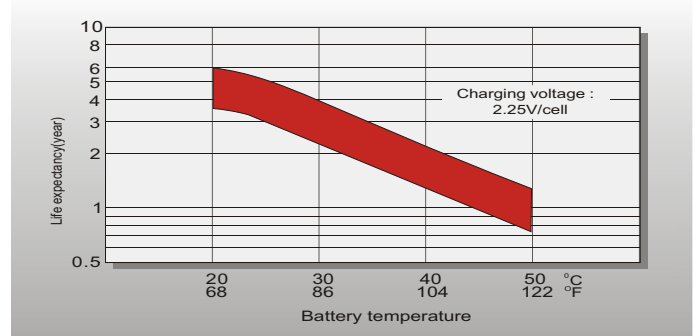
#### Float Charging Characteristics



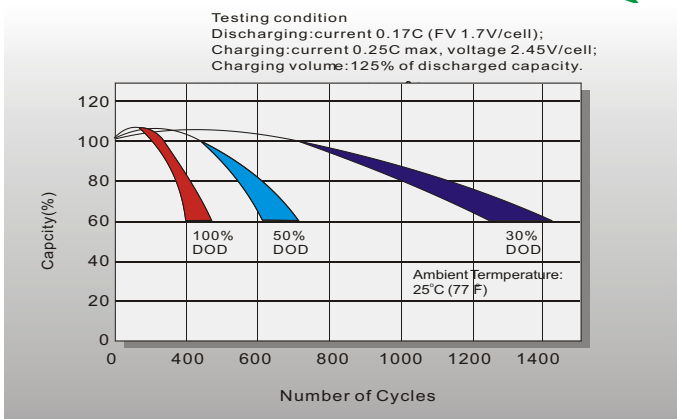
#### Temperature Effects in Relation to Battery Capacity



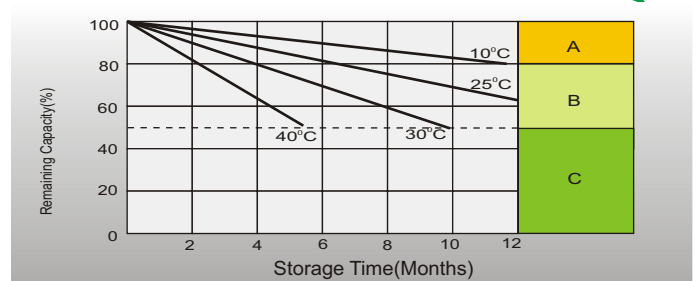
#### Effect of Temperature on Long Term Float Life



#### Cycle Life in Relation to Depth of Discharge



#### Self-discharge Characteristics



- A** No supplementary charge required.  
(Carry out supplementary charge before use if 100% capacity is required.)
- B** Supplementary charge required before use. Optional charging way as below:  
1. Charged for above 3 days at limited current 0.25CA and constant voltage 2.25V/cell.  
2. Charged for above 20 hours at limited current 0.25CA and constant voltage 2.45V/cell.  
3. Charged for 8-10 hours at limited current 0.05CA.
- C** Supplementary charge may often fail to recover the capacity.  
The battery should never be left standing till this is reached.

Specifications subject to change without prior notice.