

## EURO PLUS - EMF 12

### 12V-12AH - AGM MONOBLOCK VRLA BATTERY

**Applications:**

- UPS
- Data Centers
- Emergency Lighting
- Security Systems
- Medical Instruments

**Features:**

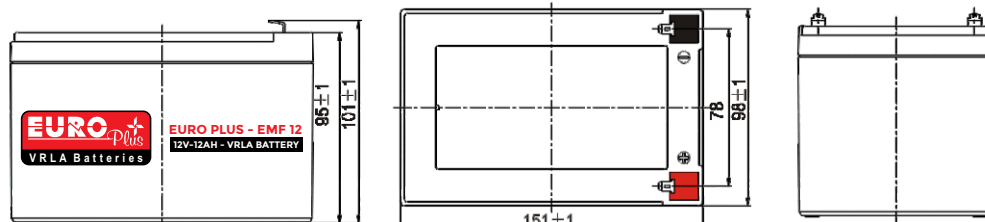
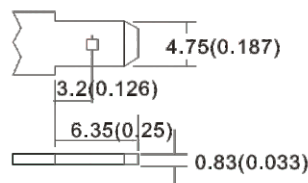
- Suitable for High Rate Discharge
- Self Regulating pressure valve
- Flame retardant ABS/PP case
- Product Performance Complies with JIS 8702 C
- Design life 8 Years

|  |   |
|--|---|
| Cells Per Unit                             | 6   |
| Voltage Per Unit                           | 12  |
| Capacity                                   | 12Ah@C <sub>20</sub> upto 1.75ECV @27°C   |
| Weight                                     | 3.50 Kgs  |
| Maximum Discharge Current(1 min 1.60 ECV)  | 36AMP   |
| Operating Temperature Range                | -5°C~+40°C  |
| Nominal Operating Temperature              | 27°C  |
| Float Charging Voltage                     | 13.5 to 13.8 V  |
| Recommended Maximum Charging Current Limit | 3AMP  |
| Equalization and Cycle Service             | 14.2 to 14.8 V  |
| Self Discharge                             | Batteries can be stored for more than 6 months @ 27°C<br>Please charge batteries before using. For higher temperatures<br>the time interval will be shorter |
| Construction                               | Plate Type: Flat Pasted<br>Separator: AGM<br>Electrolyte: Immobilised H <sub>2</sub> SO <sub>4</sub>  |
| Terminal                                   | F2  |
| Container & Cover Material                 | ABS   |

|              |               |              |               |
|--------------|---------------|--------------|---------------|
| Dimensions : | Length ± 5 mm | Width ± 5 mm | Height ± 5 mm |
| Battery      | 151           | 98           | 94            |

### ■ F2 Terminal

Unit: mm [inches]



### Constant Current Discharge Characteristics : Amps (27°C)

| FV         | 5mins | 10mins | 15mins | 20mins | 30mins | 45mins | 1hr  | 2hr  | 3hr  | 4hr  | 5hr  | 6hr  | 8hr  | 10hr | 20hr  |
|------------|-------|--------|--------|--------|--------|--------|------|------|------|------|------|------|------|------|-------|
| 1.85V/cell | 22.9  | 17.5   | 14.5   | 12.6   | 9.72   | 7.16   | 6.03 | 3.57 | 2.79 | 2.27 | 1.85 | 1.61 | 1.30 | 1.08 | 0.594 |
| 1.80V/cell | 30.7  | 22.4   | 17.6   | 14.9   | 11.5   | 8.33   | 6.76 | 3.90 | 3.00 | 2.42 | 1.99 | 1.72 | 1.37 | 1.12 | 0.600 |
| 1.75V/cell | 34.6  | 24.6   | 19.2   | 16.0   | 11.9   | 8.64   | 7.07 | 4.04 | 3.06 | 2.48 | 2.04 | 1.77 | 1.40 | 1.15 | 0.606 |
| 1.70V/cell | 38.1  | 26.9   | 20.5   | 16.8   | 12.4   | 8.99   | 7.29 | 4.14 | 3.15 | 2.54 | 2.09 | 1.81 | 1.42 | 1.17 | 0.617 |
| 1.65V/cell | 42.0  | 29.0   | 21.8   | 17.8   | 13.1   | 9.21   | 7.46 | 4.20 | 3.28 | 2.63 | 2.15 | 1.85 | 1.44 | 1.19 | 0.625 |
| 1.60V/cell | 46.3  | 31.5   | 23.3   | 19.0   | 13.8   | 9.60   | 7.54 | 4.38 | 3.38 | 2.71 | 2.22 | 1.89 | 1.45 | 1.21 | 0.629 |

### Constant Current Discharge Characteristics : Watts (27°C)

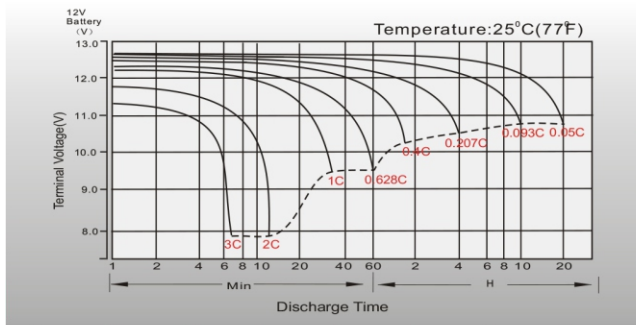
| FV         | 5mins | 10mins | 15mins | 20mins | 30mins | 45mins | 1hr  | 2hr  | 3hr  | 4hr  | 5hr  | 6hr  | 8hr  | 10hr | 20hr |
|------------|-------|--------|--------|--------|--------|--------|------|------|------|------|------|------|------|------|------|
| 1.85V/cell | 41.8  | 32.4   | 27.1   | 23.7   | 18.5   | 13.8   | 11.6 | 6.93 | 5.44 | 4.44 | 3.63 | 3.16 | 2.56 | 2.14 | 1.18 |
| 1.80V/cell | 55.5  | 40.9   | 32.3   | 27.6   | 21.5   | 15.9   | 13.0 | 7.51 | 5.82 | 4.71 | 3.88 | 3.37 | 2.71 | 2.21 | 1.19 |
| 1.75V/cell | 61.2  | 44.3   | 34.9   | 29.4   | 22.2   | 16.3   | 13.5 | 7.76 | 5.91 | 4.80 | 3.97 | 3.46 | 2.75 | 2.26 | 1.20 |
| 1.70V/cell | 65.6  | 47.1   | 36.7   | 30.7   | 22.9   | 16.9   | 13.9 | 7.94 | 6.06 | 4.92 | 4.06 | 3.52 | 2.78 | 2.31 | 1.22 |
| 1.65V/cell | 71.3  | 50.4   | 38.7   | 32.3   | 24.0   | 17.2   | 14.1 | 8.01 | 6.29 | 5.07 | 4.16 | 3.59 | 2.82 | 2.35 | 1.23 |
| 1.60V/cell | 76.8  | 53.5   | 40.8   | 34.1   | 25.2   | 17.8   | 14.2 | 8.31 | 6.45 | 5.21 | 4.28 | 3.65 | 2.84 | 2.37 | 1.24 |

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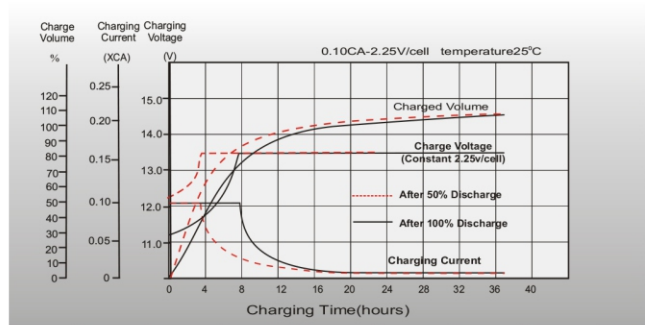
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### PERFORMANCE CHARACTERISTICS

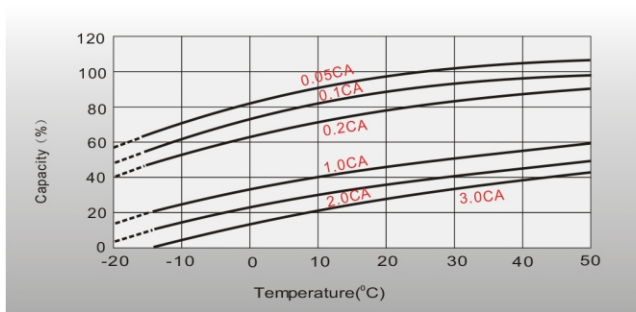
#### DISCHARGE CHARACTERISTICS



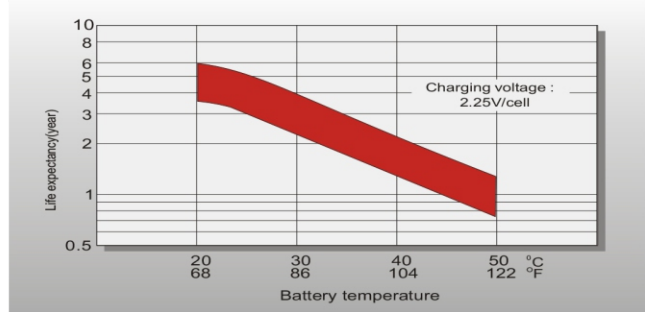
#### FLOAT CHARGING CHARACTERISTICS



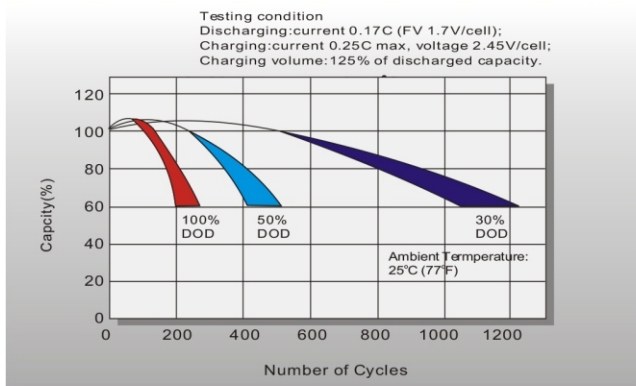
#### TEMPERATURE EFFECTS IN RELATION TO BATTERY CAPACITY



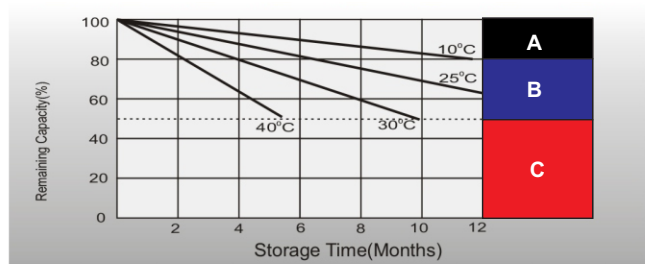
#### TEMPERATURE EFFECTS ON LONG TERM FLOAT LIFE



#### 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.