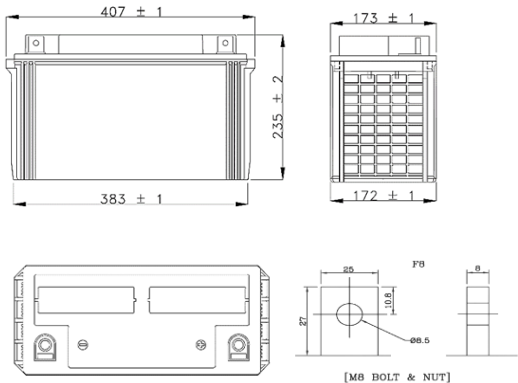


Product Outline

Product Details

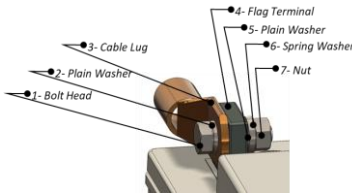


|                                                            |                       |
|------------------------------------------------------------|-----------------------|
| Battery Type                                               | EP 84-12              |
| Nominal voltage (V)                                        | 12                    |
| Rated Capacity @25°C<br>20 hour (up to 10.5V)              | 84                    |
| Dimension (L x W x H) (mm) ±3                              | 407 x 173 x 235       |
| Weight (kg) ± 5%                                           | 30                    |
| Internal Resistance (mΩ) @ 25°C Fully<br>Charged Condition | 5 max                 |
| Short Circuit Current (A)                                  | 1784                  |
| Ah Efficiency                                              | >90%                  |
| Wh Efficiency                                              | >80%                  |
| Plastic Material                                           | PPCP-FR               |
| Type of +ve & -ve plate                                    | Flat Pasted           |
| Terminal Torque (N-m)                                      | 12.3                  |
| Terminal Type                                              | M8-Bolt               |
| Operating Temperature Range                                | 0°C to 45°C           |
| Self-Discharge/Month @ 27°C                                | <3% of Rated Capacity |

Features

- ❖ Non-spillable sealed maintenance free VRLA battery
- ❖ Absorptive Glass Mat Technology.
- ❖ Long Service Life
- ❖ Low Self-discharge
- ❖ Excellent Charge Retention.
- ❖ Superior High-Rate Discharge
- ❖ Internal Oxygen Recombination
- ❖ Design Float life of 10 years

Terminal Connection Sequence



Constant Power Discharge Rating (W) at 25°C

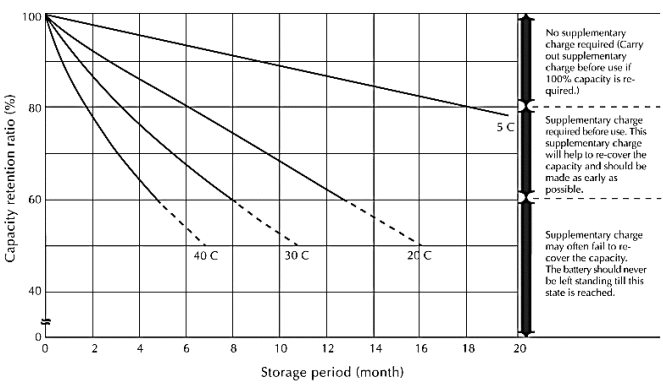
| EMV  | 10 min | 15 min | 20 min | 30 min | 60 min | 120 min | 180 min | 300 min | 480 min | 600 min |
|------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|
| 10.2 | 2065   | 1661   | 1351   | 1021   | 616    | 373     | 267     | 176     | 121     | 101     |
| 10.5 | 2023   | 1601   | 1312   | 990    | 599    | 368     | 256     | 172     | 118     | 97.6    |
| 10.8 | 1981   | 1541   | 1273   | 958    | 582    | 362     | 244     | 168     | 116     | 94.5    |

Constant Current Discharge Rating (A) at 25°C

| EMV  | 10 min | 15 min | 20 min | 30 min | 60 min | 120 min | 180 min | 300 min | 480 min | 600 min |
|------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|
| 10.2 | 193    | 151    | 126    | 96.6   | 56.3   | 33.6    | 24.4    | 16.0    | 10.9    | 9.1     |
| 10.5 | 180    | 145    | 122    | 94.4   | 55.0   | 31.8    | 23.5    | 15.1    | 10.0    | 8.2     |
| 10.8 | 168    | 139    | 118    | 92.4   | 53.8   | 30.2    | 22.7    | 14.3    | 9.2     | 7.6     |

\*\* Please note, the above discharge values are average and can be achieved within 5 charge/discharge cycles

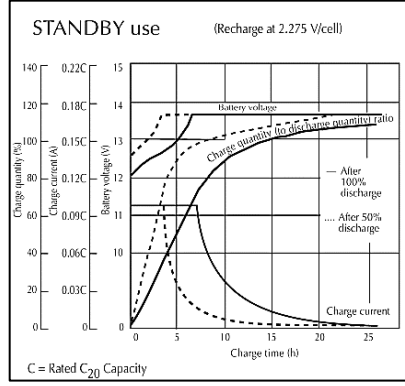
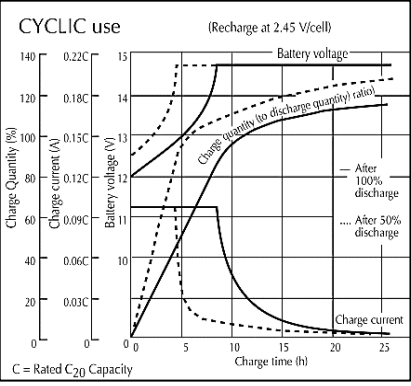
Capacity Retention & Supplementary Charge



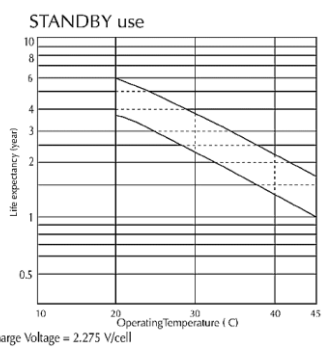
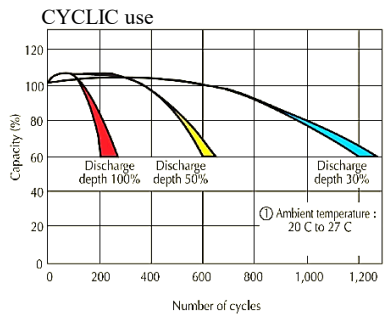
| Supplementary Charge Guideline for 3 -6 Months of Storage |                   |                   |                                    |                                    |             |
|-----------------------------------------------------------|-------------------|-------------------|------------------------------------|------------------------------------|-------------|
| Charging Method                                           | Voltage Setting   | Current Setting   | Duration for upto 3 months storage | Duration for upto 6 months storage | Temperature |
| Constant Voltage                                          | 14.5V per battery | 15% limit current | 6 hours                            | 12 hours                           | 5°C-35°C    |
| Constant Current                                          | NA                | 5% Current        | 6 hours                            | 12 hours                           |             |

Charge Characteristics

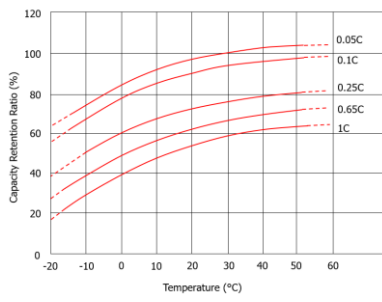
| Recharge voltages: Batteries to be charged in CC-CV mode only |                                                                  | Current setting                 |         |
|---------------------------------------------------------------|------------------------------------------------------------------|---------------------------------|---------|
| Recharge Voltage Type                                         | Voltage settings per 12 V unit for ambient temperature 20°C-30°C | Maximum                         | 0.3C A  |
| Float                                                         | 13.7 ± 0.1 V                                                     | Minimum                         | 0.1C A  |
| Boost                                                         | 14.1 ± 0.1 V                                                     | Recommended                     | 0.15C A |
| Cycle                                                         | 14.7 ± 0.1 V                                                     |                                 |         |
| Temperature compensation (Ref. 25°C)                          |                                                                  | -18 mV/ °C increase / 12 V unit |         |



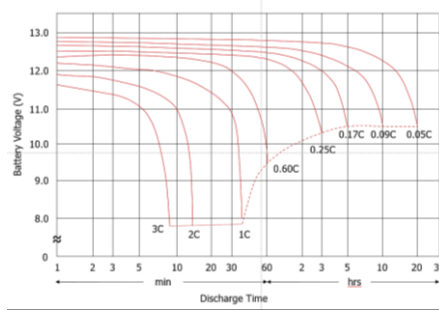
Service Life Characteristics



Effect of Temperature on Capacity



Discharge Characteristics



Gas Evolution & Heat Generation

Considering the wide variation in the operating condition, in a worst-case scenario, Hydrogen gas evolved per hour per battery may be estimated as = 0.000454 m<sup>3</sup> at NTP  
Heat Generation per battery = 2.3 W

Installation – Best Practices

Sizing Calculator – Online

