

## UP-HR35-12



| Specification                       |  |                                |
|-------------------------------------|--|--------------------------------|
| Nominal Voltage                     | 12V  |                                |
| Watts(15min Rate)                   | 137.5 Wate at 1.67V/cell   |                                |
| Dimension                           | Length   | 195±1mm (7.68 inches)          |
|                                     | Width  | 130±1mm (5.12 inches)          |
|                                     | Container Height   | 164±1mm (6.46 inches)          |
|                                     | Total Height (with Terminal)   | 180±1mm (7.09 inches)          |
| Approx Weight                       | Approx 10.5 kg (23.15lbs)  |                                |
| Terminal                            | T10  |                                |
| Container Material                  | ABS  |                                |
| Rated Capacity                      | 35.2 AH/1.76A  | (10hr , 1.80V/cell, 25°C/77°F) |
|                                     | 34.2 AH/3.42A  | (8hr, 1.80V/cell, 25°C/77°F)   |
|                                     | 30.7 AH/6.14A  | (5hr, 1.75V/cell, 25°C/77°F)   |
|                                     | 27.9 AH/9.3A   | (3hr, 1.75V/cell, 25°C/77°F)   |
|                                     | 24.0 AH/24.0A  | (1hr, 1.60V/cell, 25°C/77°F)   |
| Max. Discharge Current              | 525A (5s)  |                                |
| Internal Resistance                 | Approx 12mΩ  |                                |
| Operating Temperature Range         | Discharge: -15~50°C (5~122°F)  |                                |
|                                     | Change : 0~40°C (32~104°F)   |                                |
|                                     | Storage : -15~40°C (5~104°F)   |                                |
| Nominal Operating Temperature Range | 25±3°C (77±5°F)  |                                |
| Cycle Use                           | Initial Charging Current less than 10.5A.Voltage.<br>14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C |                                |
| Standby Use                         | No limit on Initial Charging Current Voltage.<br>13.5V~13.8V at 25°C(77°F)Temp. Coefficient -20mV/°C     |                                |
| Capacity affected by Temperature    | 40°C (104°F) 103%  |                                |
|                                     | 25°C (77°F) 100%   |                                |
|                                     | 0°C (32°F) 86%   |                                |
| Self Discharge                      | Batteries may be stored for up to 6 months at 25°C (77°F) and then a freshening charge is required.      |                                |

### 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 | 96.3  | 70.9  | 59.7  | 49.8  | 37.2  | 26.7  | 20.9 | 12.1 | 8.76 | 6.93 | 5.92 | 5.02 | 4.07 | 3.35 | 1.72 |
| 1.80V/cell | 112.4 | 78.1  | 64.6  | 53.3  | 38.9  | 27.8  | 22.0 | 12.6 | 9.1  | 7.17 | 5.98 | 5.18 | 4.16 | 3.42 | 1.76 |
| 1.75V/cell | 126.8 | 85.6  | 69.3  | 56.2  | 40.9  | 29.0  | 22.7 | 13.0 | 9.3  | 7.39 | 6.14 | 5.32 | 4.22 | 3.46 | 1.78 |
| 1.70V/cell | 139.6 | 92.3  | 73.7  | 59.3  | 42.6  | 30.0  | 23.4 | 13.2 | 9.5  | 7.55 | 6.27 | 5.43 | 4.27 | 3.50 | 1.80 |
| 1.65V/cell | 154.0 | 98.0  | 77.3  | 62.0  | 44.1  | 30.9  | 24.0 | 13.6 | 9.7  | 7.71 | 6.39 | 5.51 | 4.35 | 3.56 | 1.81 |
| 1.60V/cell | 169.8 | 105.4 | 81.1  | 64.7  | 45.6  | 31.8  | 24.7 | 13.9 | 9.9  | 7.81 | 6.49 | 5.58 | 4.41 | 3.61 | 1.83 |

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

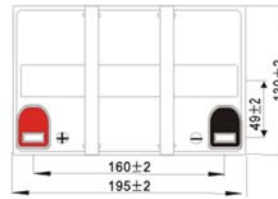
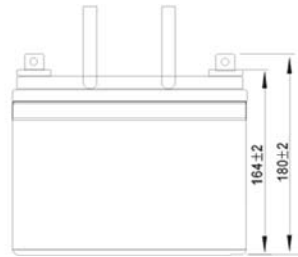
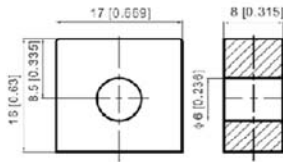
| F.V/Time   | 5min  | 10min | 15min | 20min | 30min | 45min | 1h   | 2h   | 3h   | 4h   | 5h   | 6h   | 8h   | 10h  | 20h  |
|------------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|
| 1.85V/cell | 176.2 | 131.0 | 111.4 | 93.9  | 70.8  | 51.2  | 40.3 | 23.5 | 17.1 | 13.7 | 11.8 | 10.0 | 8.22 | 6.83 | 3.53 |
| 1.80V/cell | 202.1 | 142.1 | 118.9 | 99.0  | 73.0  | 52.8  | 42.2 | 24.3 | 17.6 | 14.1 | 11.8 | 10.3 | 8.38 | 6.96 | 3.60 |
| 1.75V/cell | 224.5 | 153.8 | 126.0 | 103.4 | 76.1  | 54.8  | 43.4 | 25.0 | 18.0 | 14.5 | 12.1 | 10.6 | 8.48 | 7.03 | 3.64 |
| 1.70V/cell | 241.4 | 163.1 | 132.4 | 108.3 | 78.9  | 56.5  | 44.5 | 25.3 | 18.3 | 14.8 | 12.4 | 10.8 | 8.57 | 7.11 | 3.68 |
| 1.65V/cell | 261.3 | 170.5 | 137.5 | 112.3 | 81.0  | 57.6  | 45.4 | 25.9 | 18.7 | 15.0 | 12.5 | 10.9 | 8.70 | 7.22 | 3.69 |
| 1.60V/cell | 281.5 | 179.2 | 141.9 | 116.0 | 83.1  | 59.0  | 46.4 | 26.4 | 19.0 | 15.2 | 12.7 | 11.0 | 8.80 | 7.31 | 3.73 |



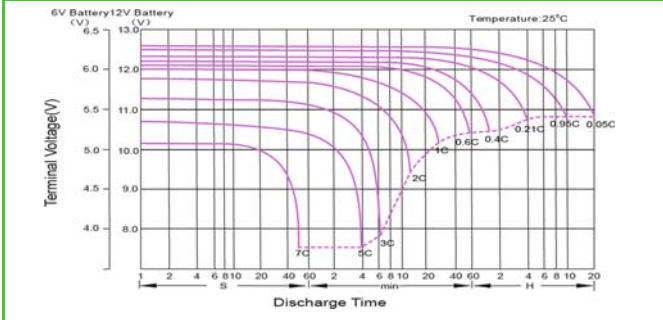
**UP-HR35-12**

**Dimensions**

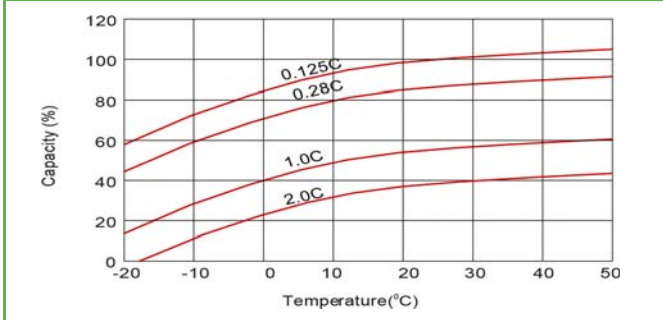
**T10 Terminal**  
Unit: mm [inches]



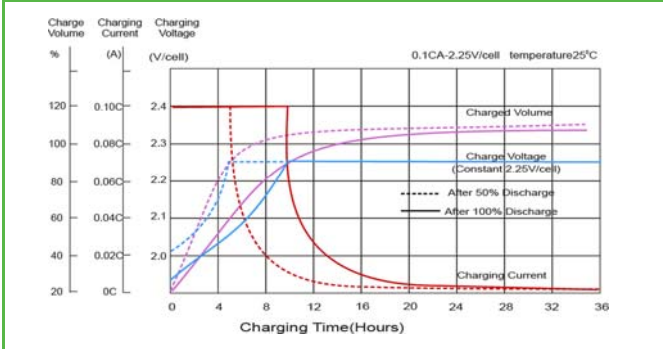
**Discharge Characteristics**



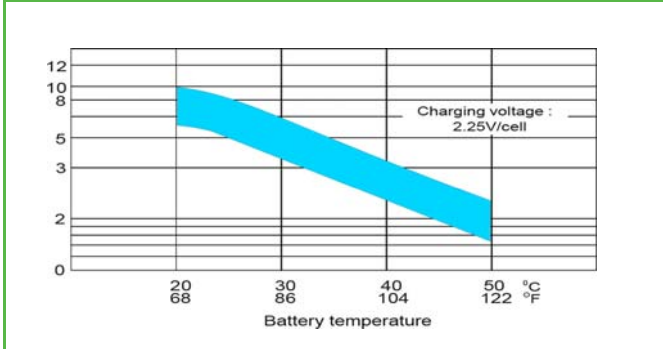
**Temperature Effects in Relation to Battery Capacity**



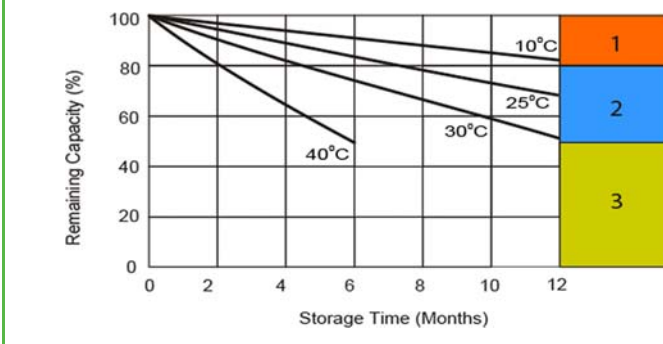
**Float Charging Characteristics**



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



**Self Discharge Characteristics**



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

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