

## PM65-12 12V65AH

### PM SERIES-VRLA BATTERY



#### Specification

|                                  |                                                                                                                                                                              |                                |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| Nominal Voltage                  | 12V                                                                                                                                                                          |                                |
| Nominal Capacity(10HR)           | 65.0AH                                                                                                                                                                       |                                |
| Dimension                        | Length                                                                                                                                                                       | 348±3mm (13.70 inches)         |
|                                  | Width                                                                                                                                                                        | 167±2mm (6.57 inches)          |
|                                  | Container Height                                                                                                                                                             | 178±2mm (7.01 inches)          |
|                                  | Total Height (with Terminal)                                                                                                                                                 | 178±2mm (7.01 inches)          |
| Approx Weight                    | Approx 17.3 kg (38.14 lbs)                                                                                                                                                   |                                |
| Terminal                         | T6 / T10                                                                                                                                                                     |                                |
| Container Material               | ABS                                                                                                                                                                          |                                |
| Rated Capacity                   | 67.6 AH/3.38A                                                                                                                                                                | (20hr , 1.80V/cell, 25°C/77°F) |
|                                  | 65.0 AH/6.50A                                                                                                                                                                | (10hr, 1.80V/cell, 25°C/77°F)  |
|                                  | 56.0 AH/11.2A                                                                                                                                                                | (5hr, 1.75V/cell, 25°C/77°F)   |
|                                  | 50.7 AH/16.9A                                                                                                                                                                | (3hr, 1.75V/cell, 25°C/77°F)   |
|                                  | 39.7 AH/39.7A                                                                                                                                                                | (1hr, 1.60V/cell, 25°C/77°F)   |
| Max. Discharge Current           | 780A (5s)                                                                                                                                                                    |                                |
| Internal Resistance              | Approx 7.3 mΩ                                                                                                                                                                |                                |
| 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 19.5 A. Voltage 14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C                                                                       |                                |
| Standby Use                      | No limit on Initial Charging Current Voltage 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                   | PALMA PM series batterys may be stored for up to 6 months at 25°C(77°F) and then a freshening charge is required. For higher temperatures the time interval will be shorter. |                                |

#### Applications

- ◆ All purpose
- ◆ 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
- ◆ Communication power supply
- ◆ DC power supply
- ◆ Auto controlsystem

#### 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 | 111.2 | 87.5  | 74.4  | 62.2  | 49.4  | 37.4  | 30.6 | 19.5 | 15.4 | 12.6 | 10.2 | 8.85 | 7.18 | 6.14 | 3.35 |
| 1.80V/cell | 149.3 | 111.8 | 89.9  | 73.5  | 58.3  | 43.5  | 34.3 | 21.3 | 16.6 | 13.5 | 10.9 | 9.49 | 7.62 | 6.50 | 3.38 |
| 1.75V/cell | 168.4 | 122.8 | 98.2  | 79.1  | 60.6  | 45.2  | 35.9 | 22.1 | 16.9 | 13.8 | 11.2 | 9.75 | 7.75 | 6.57 | 3.41 |
| 1.70V/cell | 185.4 | 133.8 | 104.8 | 83.1  | 63.0  | 47.0  | 37.0 | 23.0 | 17.4 | 14.1 | 11.5 | 9.95 | 7.86 | 6.63 | 3.48 |
| 1.65V/cell | 204.5 | 144.4 | 111.4 | 88.3  | 66.5  | 48.1  | 38.3 | 23.6 | 18.1 | 14.6 | 11.8 | 10.2 | 7.98 | 6.77 | 3.52 |
| 1.60V/cell | 225.5 | 156.8 | 119.2 | 94.1  | 70.2  | 50.2  | 39.7 | 24.4 | 18.7 | 15.1 | 12.2 | 10.4 | 8.06 | 6.84 | 3.54 |

#### 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 | 203.4 | 161.6 | 138.8 | 117.3 | 94.2  | 71.9  | 59.1 | 37.9 | 30.1 | 24.6 | 19.9 | 17.4 | 14.2 | 12.1 | 6.63 |
| 1.80V/cell | 270.1 | 204.0 | 165.4 | 136.6 | 109.5 | 83.0  | 65.9 | 41.1 | 32.2 | 26.2 | 21.3 | 18.6 | 15.0 | 12.8 | 6.69 |
| 1.75V/cell | 298.1 | 220.6 | 178.5 | 145.5 | 112.7 | 85.3  | 68.6 | 42.5 | 32.7 | 26.7 | 21.8 | 19.0 | 15.2 | 13.0 | 6.74 |
| 1.70V/cell | 319.1 | 235.0 | 187.9 | 151.8 | 116.7 | 88.4  | 70.5 | 44.1 | 33.5 | 27.3 | 22.3 | 19.4 | 15.4 | 13.1 | 6.87 |
| 1.65V/cell | 346.9 | 251.2 | 198.3 | 160.1 | 122.1 | 89.8  | 72.4 | 45.0 | 34.8 | 28.2 | 22.8 | 19.8 | 15.6 | 13.3 | 6.95 |
| 1.60V/cell | 373.8 | 266.5 | 208.5 | 168.6 | 128.0 | 93.1  | 74.5 | 46.3 | 35.7 | 28.9 | 23.5 | 20.1 | 15.7 | 13.4 | 6.98 |

**Note** The above data are average values, and can be obtained with 3 charge/discharge cycles. These are not minimum values.

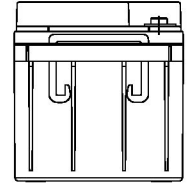
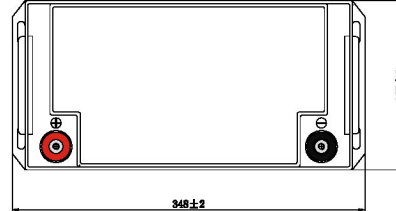
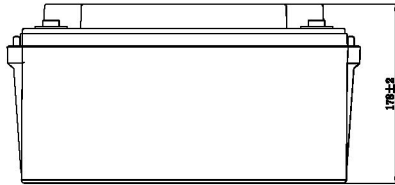
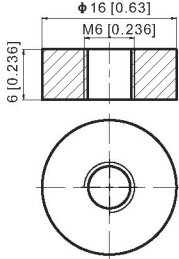
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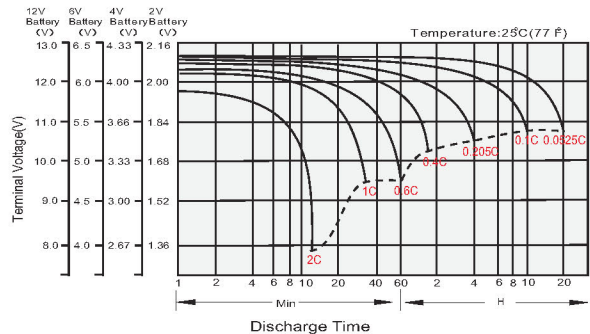
#### Dimensions

##### T6 Terminal

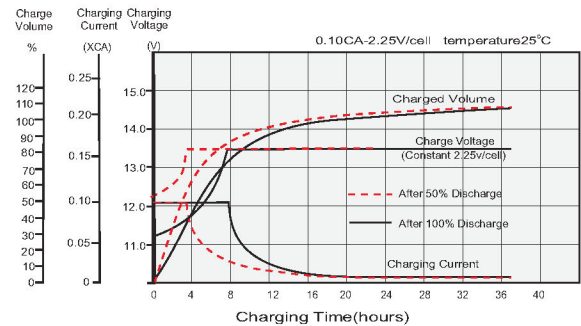
Unit: mm [inches]



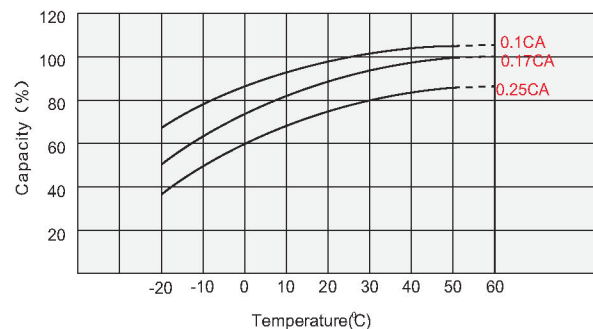
#### Discharge Characteristics



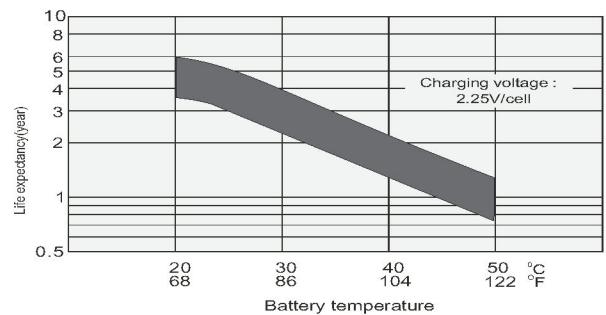
#### Float Charging Characteristics



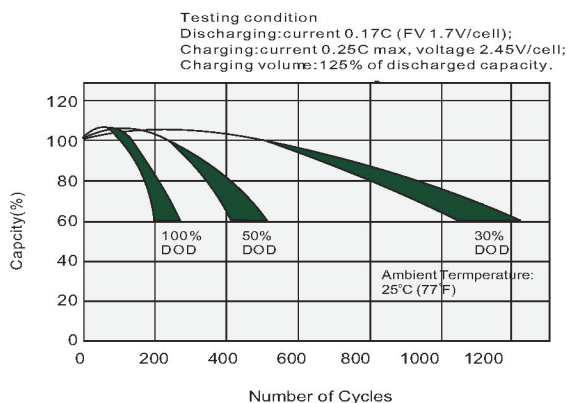
#### Temperature Effects in Relation to Battery Capacity



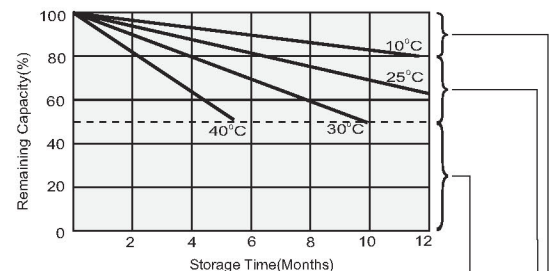
#### Effect of Temperature on Long Term Float Life



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



#### Self Discharge Characteristics



Supplementary charge may often fail to recover the capacity. The battery should never be left standing till this is reached.

Supplementary charge required before use. Optimal 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.

No supplementary charge required  
(Carry out supplementary charge before use if 100% capacity is required.)