

# RM Series lead - acid battery



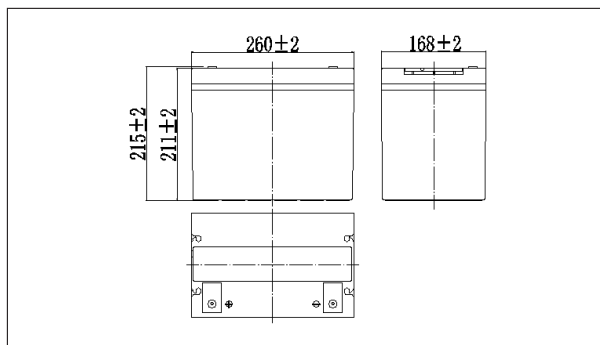
## RM-1270B

### Specifications

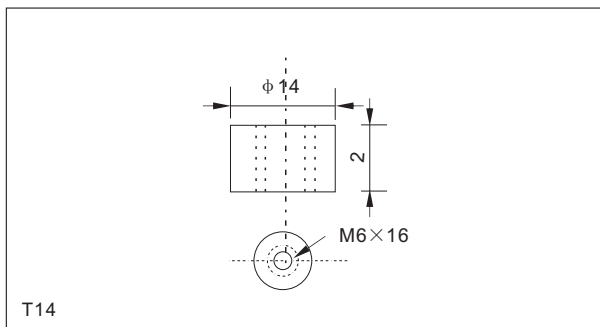
|                               |              |                    |
|-------------------------------|--------------|--------------------|
| Nominal Voltage               |              | 12V                |
| Rated capacity (10 hour rate) |              | 70Ah               |
| Dimensions                    | Length       | 260±2mm(10.24inch) |
|                               | Width        | 168±2mm(6.61inch)  |
|                               | Height       | 211±2mm(8.31inch)  |
|                               | Total Height | 215±2mm(8.46inch)  |
| Approx. Weight                |              | 22.5kg(49.6lbs)±3% |



### Outer dimensions (mm)



### Terminal Type (mm)



### Characteristics

|                                           |             |                                                       |
|-------------------------------------------|-------------|-------------------------------------------------------|
| Capacity (25°C)                           | 10HR(10.8V) | 70Ah                                                  |
|                                           | 3HR(10.8V)  | 52.5Ah                                                |
|                                           | 1HR(10.5V)  | 39Ah                                                  |
| Terminal type                             |             | T14                                                   |
| Internal resistance (Fully charged, 25°C) |             | Approx. 6mΩ                                           |
| Capacity affected by temperature (10HR)   | 40°C        | 102%                                                  |
|                                           | 25°C        | 100%                                                  |
|                                           | 0°C         | 85%                                                   |
|                                           | -15°C       | 65%                                                   |
| Self-discharge (25°C)                     | 3 months    | Remaining Capacity: 91%                               |
|                                           | 6 months    | Remaining Capacity: 82%                               |
|                                           | 12 months   | Remaining Capacity: 65%                               |
| Nominal operating temperature             |             | 25°C ± 3°C (77°F ± 5°F)                               |
| Operating temperature range               | Discharge   | -15°C ~ 50°C (5°F ~ 122°F)                            |
|                                           | Charge      | -10°C ~ 50°C (14°F ~ 122°F)                           |
|                                           | Storage     | -20°C ~ 50°C (-4°F ~ 122°F)                           |
| Float charging voltage(25°C)              |             | 13.50 to 13.80V<br>Temperature compensation: -18mV/°C |
| Cyclic charging voltage(25°C)             |             | 14.50 to 15.00V<br>Temperature compensation: -30mV/°C |
| Maximum charging current                  |             | 21A                                                   |
| Maximum discharge current                 |             | 700A(5 sec.)                                          |
| Designed floating life(20°C)              |             | 10years                                               |

### Construction

| Component    | Positive plate | Negative plate | Container | Cover | Separator | Electrolyte   | Safety valve | Terminal |
|--------------|----------------|----------------|-----------|-------|-----------|---------------|--------------|----------|
| Raw material | Lead dioxide   | Lead           | ABS       | ABS   | AGM       | Sulfuric acid | Rubber       | Copper   |

### Constant Current Discharge Characteristics Unit:A(25°C, 77°F)

| F.V/Time | 10min | 15min | 30min | 60min | 2h   | 3h   | 4h   | 5h   | 8h   | 10h  | 20h  |
|----------|-------|-------|-------|-------|------|------|------|------|------|------|------|
| 9.60V    | 153   | 118   | 70.4  | 43.3  | 25.6 | 18.4 | 14.7 | 12.6 | 8.64 | 7.13 | 3.78 |
| 9.90V    | 148   | 115   | 68.9  | 42.6  | 25.4 | 18.3 | 14.6 | 12.5 | 8.59 | 7.11 | 3.77 |
| 10.2V    | 142   | 111   | 66.8  | 41.5  | 25.2 | 18.2 | 14.5 | 12.4 | 5.53 | 7.09 | 3.76 |
| 10.5V    | 136   | 107   | 65.2  | 40.2  | 24.8 | 18.1 | 14.4 | 12.3 | 8.47 | 7.05 | 3.74 |
| 10.8V    | 128   | 101   | 62.8  | 38.9  | 24.2 | 17.5 | 14.0 | 12.0 | 8.22 | 7.00 | 3.71 |

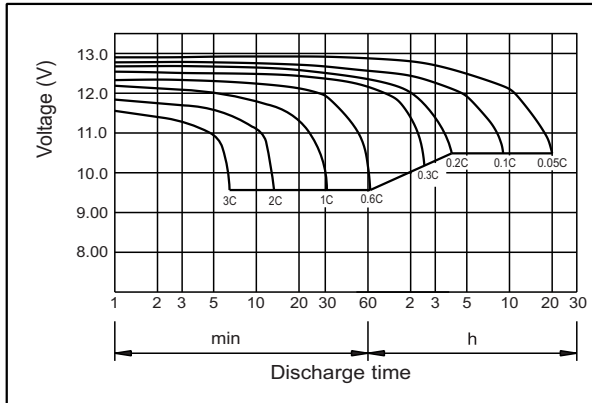
### Constant Power Discharge Characteristics Unit:W(25°C, 77°F)

| F.V/Time | 10min | 15min | 30min | 60min | 2h  | 3h  | 4h  | 5h  | 8h   | 10h  | 20h  |
|----------|-------|-------|-------|-------|-----|-----|-----|-----|------|------|------|
| 9.60V    | 1648  | 1291  | 789   | 493   | 296 | 217 | 173 | 149 | 103  | 85.1 | 45.3 |
| 9.90V    | 1599  | 1260  | 774   | 486   | 294 | 215 | 172 | 148 | 102  | 84.9 | 45.2 |
| 10.2V    | 1533  | 1214  | 750   | 473   | 292 | 214 | 171 | 147 | 101  | 84.7 | 45.1 |
| 10.5V    | 1467  | 1172  | 732   | 459   | 287 | 212 | 170 | 146 | 101  | 84.2 | 44.8 |
| 10.8V    | 1384  | 1110  | 705   | 444   | 280 | 206 | 164 | 141 | 97.6 | 83.6 | 44.5 |

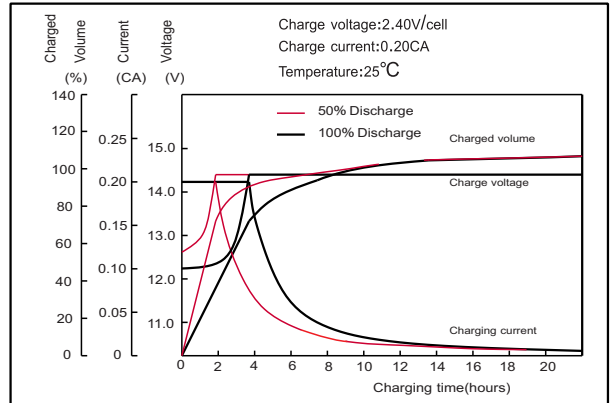
Note: The above characteristics data can be obtained within three charge or discharge cycles.

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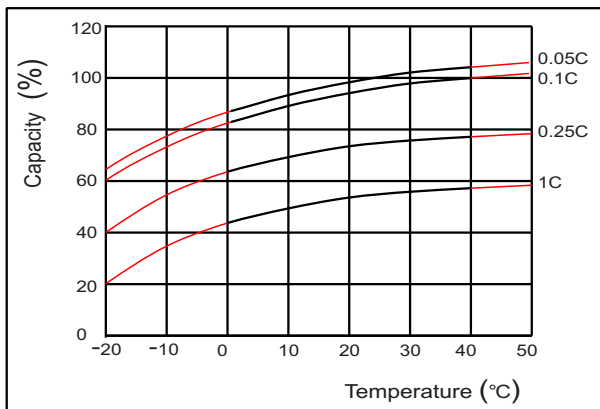
## Discharge characteristics(25°C)



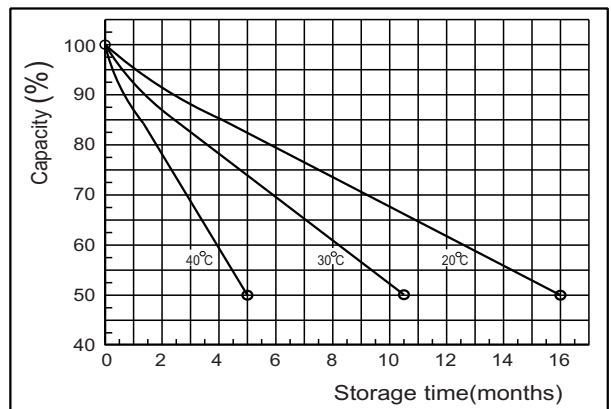
## Charging characteristics (25°C)



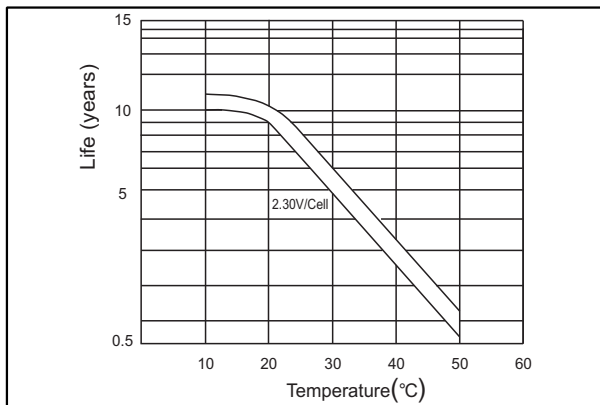
## Temperature effects on Capacity



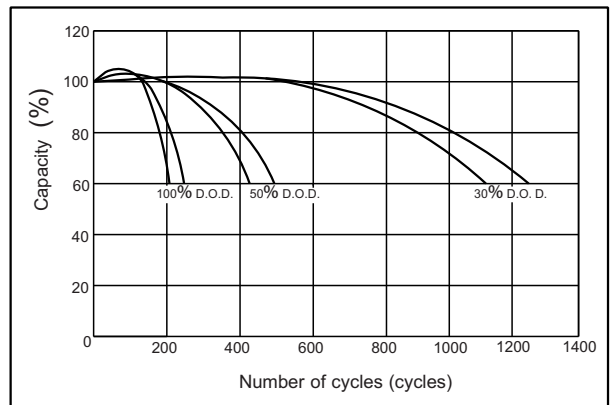
## Self-discharge characteristics



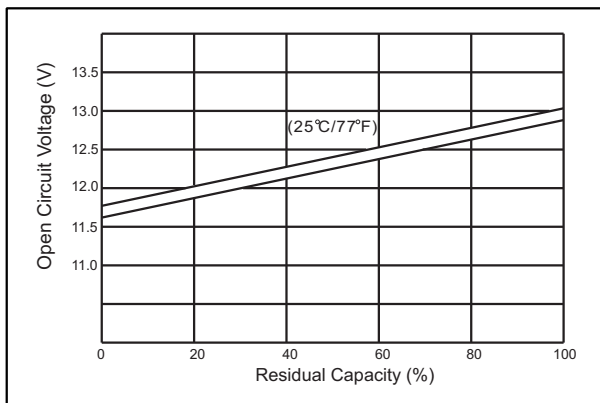
## Floating life on Temperature



## Cycle life on D.O.D (25°C)



## The relationship for OCV and Capacity (25°C)



## The relationship for Charging voltage and Temperature

