# UB-12U22.0 (12V22.0AH)




## Capacity & electrical

| Capacity (25°C) | |
|---|---|
| 20HR(10.5V) | 22Ah |
| 10HR(10.5V) | 19.5Ah |
| 1HR(9.60V) | 13.8Ah |
| Terminal type | T3/T12 |
| Internal resistance (Fully charged,25°C) | Approx.12m Ω |
| Maximum charging current | 6.6A |
| Maximum discharge current | 300A(5 sec.) |
| Designed floating life(20°C) | 5 years |

## Operating temperatures

| | |
|---|---|
| Nominal operating temperature | 25℃ ±3℃(77℉ ±5℉) |
| Discharge | -15℃~50℃(5℉~122℉) |
| Charge | -10℃~50℃(14℉~122℉) |
| Storage | -20℃~50℃(-4℉~122℉) |

## Charging parameters

**Float charging voltage(25°C)**

13.50 to 13.80V
Temperature compensation:
-18mV/℃

**Cyclic charging voltage(25°C)**

14.50 to 15.00V
Temperature compensation:
-30mV/℃

## Self-discharge (25°C)

| | |
|---|---|
| 3month | Remaining Capacity:91% |
| 6month | Remaining Capacity:82% |
| 12month | Remaining Capacity:65% |

## Capacity affected by temperature (20HR)

| | |
|---|---|
| 40℃ | 102% |
| 25℃ | 100% |
| 0℃ | 85% |
| -15℃ | 65% |

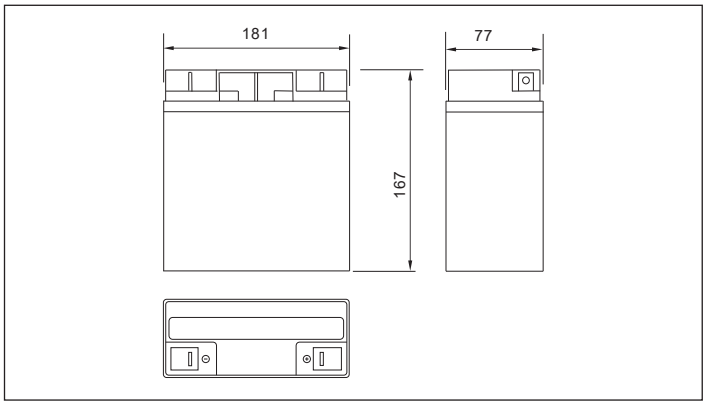
# Specifications & technical details

## Specifications

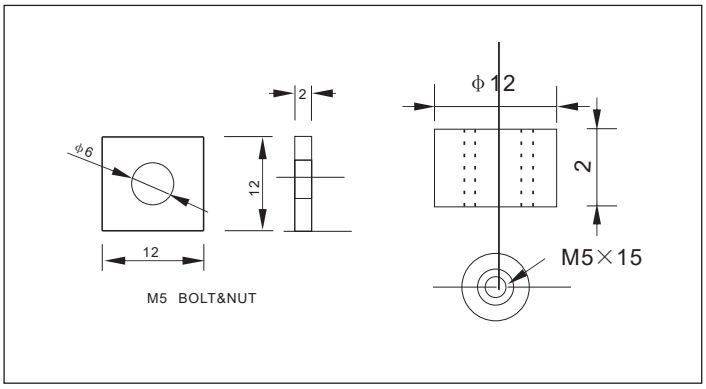
| | |
|---|---|
| Nominal Voltage | 12V |
| Rated capacity (20 hour rate) | 22Ah |
| Approx. Weight | 6.1kg(13.45lbs)±3% |

| | |
|---|---|
| Length | 181±2mm(7.13inch) |
| Width | 77±1mm(3.03inch) |
| Height | 167±2mm(6.57inch) |
| Total Height | 167±2mm(6.57inch) |

## Outer dimensions (mm)




## Terminal Type (mm)




## 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 | 5min | 10min | 15min | 30min | 60min | 2h | 3h | 4h | 5h | 10h | 20h |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9.60V | 80.2 | 50.8 | 39.7 | 22.4 | 13.8 | 7.53 | 5.21 | 4.31 | 3.66 | 1.98 | 1.07 |
| 9.90V | 77.8 | 49.2 | 38.7 | 21.9 | 13.5 | 7.48 | 5.18 | 4.28 | 3.64 | 1.98 | 1.06 |
| 10.2V | 74.7 | 47.3 | 37.3 | 21.2 | 13.2 | 7.41 | 5.13 | 4.25 | 3.61 | 1.97 | 1.06 |
| 10.5V | 71.4 | 45.3 | 36.0 | 20.7 | 12.9 | 7.30 | 5.11 | 4.22 | 3.59 | 1.96 | 1.05 |
| 10.8V | 67.4 | 42.7 | 34.1 | 20.0 | 12.5 | 7.12 | 4.95 | 4.10 | 3.49 | 1.92 | 1.03 |

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

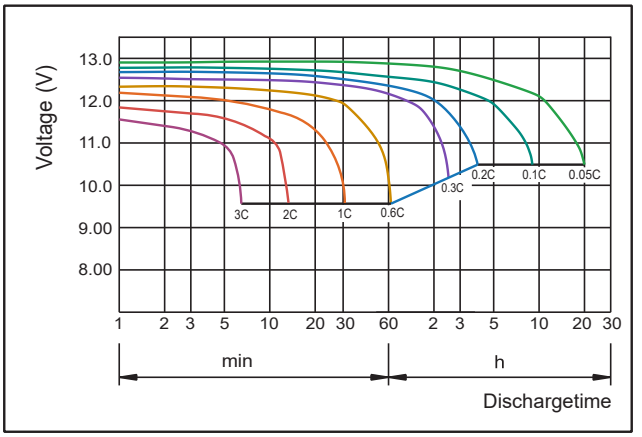
| F.V/Time | 5min | 10min | 15min | 30min | 60min | 2h | 3h | 4h | 5h | 10h | 20h |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9.60V | 896 | 573 | 453 | 256 | 160 | 88.0 | 61.8 | 51.2 | 43.8 | 23.8 | 12.8 |
| 9.90V | 868 | 557 | 442 | 251 | 156 | 87.5 | 61.4 | 50.9 | 43.5 | 23.7 | 12.7 |
| 10.2V | 833 | 533 | 425 | 244 | 153 | 86.7 | 61.0 | 50.6 | 43.2 | 23.6 | 12.7 |
| 10.5V | 797 | 510 | 411 | 237 | 150 | 85.5 | 60.6 | 50.3 | 42.8 | 23.5 | 12.6 |
| 10.8V | 752 | 482 | 390 | 229 | 145 | 83.3 | 58.8 | 48.7 | 41.6 | 23.0 | 12.4 |

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

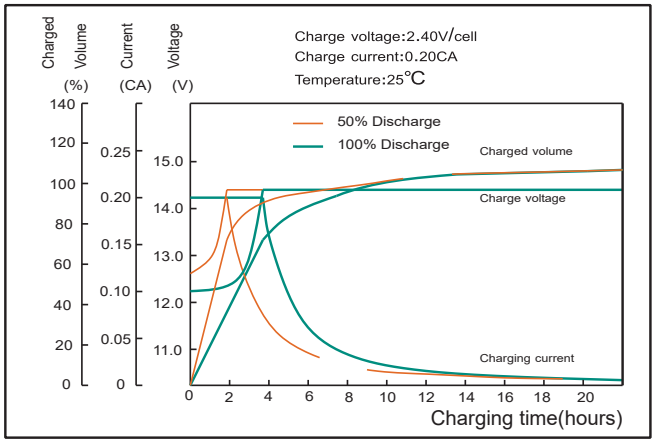
MH47211

# Performance characteristics

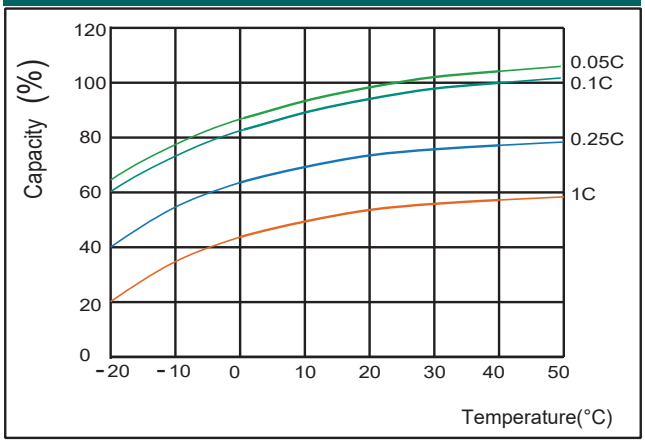
## Discharge characteristics (25°C)



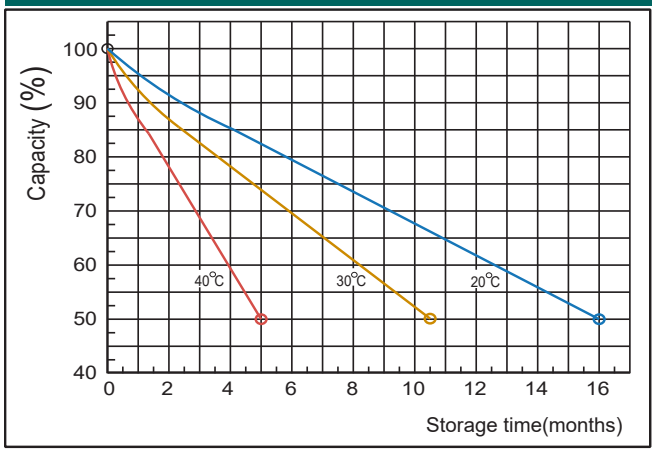

## Charge characteristics (25°C)



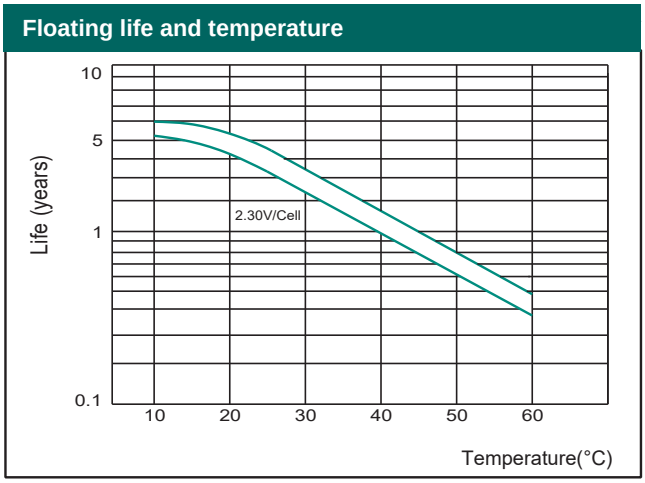

## Effect of temperature on capacity



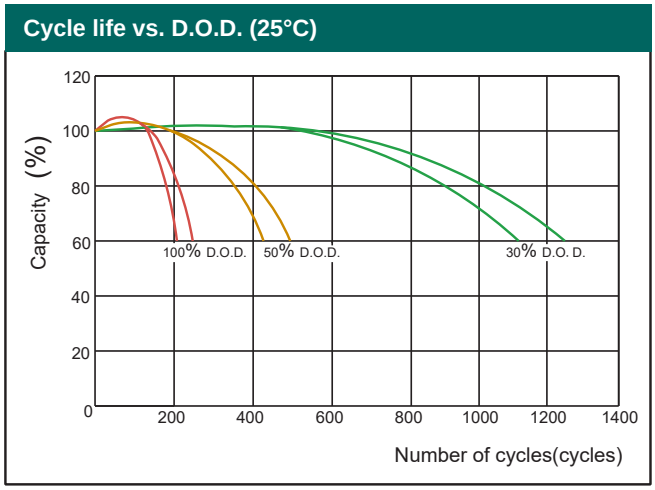

## Self-discharge characteristics



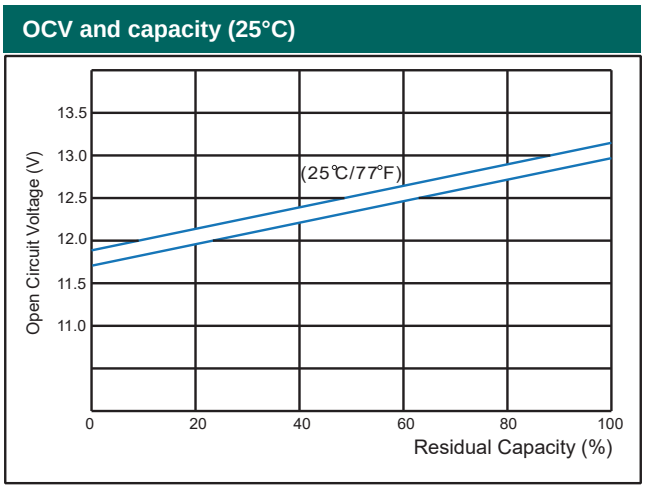

## Floating life and temperature




## Cycle life vs. D.O.D. (25°C)




## OCV and capacity (25°C)




## Charging voltage and temperature

