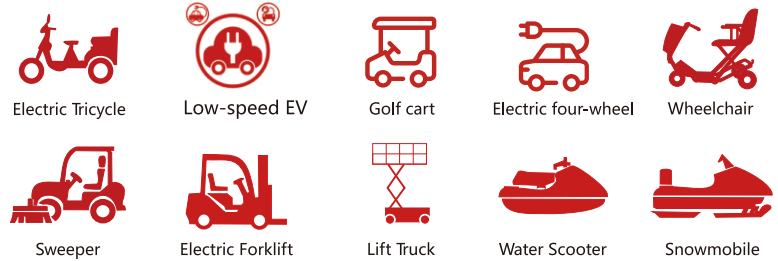




Product Features

| Deep Cycle Series | 400~600 Cycle Times @100%DOD | |
|-----------------------------------------------------------|---------------------------------------------------|---------------------------------------------------------|
| ↑10% Energy Density Patent negative pasting formula | ↓50% Grid Corrosion Rare-earth patent alloy | 0% Acid stratification Nano silica gel technology |

Product Applications



Physical Specification

| Model | Dimensions (mm/inch) | | | | Weight (kg/lbs) | Terminal | Container |
|----------|----------------------|----------|----------|--------------|-----------------|----------|-------------------------------------------|
| TNE12-52 | Length | Width | Height | Total Height | 12.0/26.5 | I2 | ABS UL94-HB (Optional: FR ABS UL94-V0) |
| | 224/8.82 | 120/4.72 | 175/6.89 | 175/6.89 | | | |

Product Specifications

| Nominal Voltage | Rated Capacity 25°C/77°F | Operating Temp. Range | Capacity Effected Temp | Capacity vs Storage Time (25°C/77°F) |
|-----------------|------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|----------------------------------------|
| 12V | 52Ah 20hr Rate (1.80V/cell) 49Ah 10hr Rate (1.75V/cell) 47Ah 5hr Rate (1.75V/cell) 45Ah 3hr Rate (1.75V/cell) | Discharge: -15°C~50°C (5°F~122°F) Charge: 0°C~40°C (32°F~104°F) Storage: -15°C~40°C (5°F~104°F) Optimum: 25°C±2°C (77°F±5°F) | 40°C (104°F): 106% 25°C (77°F): 100% 0°C (32°F): 85% -15°C (5°F): 72% | Three months : 90% Six months : 80% |

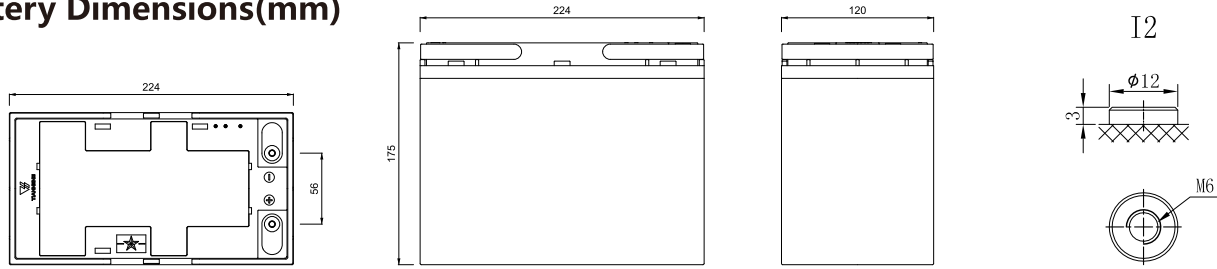
Constant Current Discharge (A)@25°C (77°F)

| F.V/Time | 30min | 45min | 1h | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 20h |
|------------|-------|-------|------|------|------|------|------|------|------|------|------|
| 1.85V/cell | 53.0 | 37.7 | 30.2 | 17.3 | 13.9 | 10.8 | 8.79 | 7.43 | 5.68 | 4.62 | 2.51 |
| 1.80V/cell | 54.8 | 38.9 | 31.2 | 17.9 | 14.5 | 11.2 | 9.13 | 7.71 | 5.86 | 4.76 | 2.60 |
| 1.75V/cell | 56.3 | 40.3 | 32.3 | 19.0 | 15.0 | 11.6 | 9.36 | 7.90 | 6.03 | 4.86 | 2.65 |
| 1.70V/cell | 57.7 | 41.4 | 33.4 | 19.3 | 15.3 | 11.9 | 9.69 | 8.21 | 6.17 | 4.98 | 2.71 |
| 1.67V/cell | 58.9 | 42.7 | 34.6 | 19.5 | 15.5 | 12.0 | 9.87 | 8.27 | 6.28 | 5.06 | 2.73 |
| 1.60V/cell | 60.5 | 43.9 | 35.3 | 20.2 | 16.1 | 12.4 | 10.1 | 8.50 | 6.43 | 5.20 | 2.75 |

Constant Power Discharge (W/cell)@25°C (77°F)

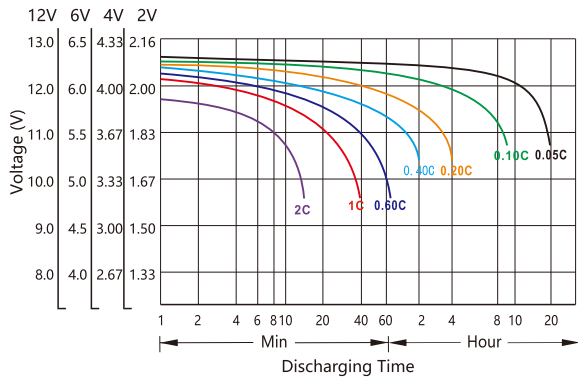
| F.V/Time | 30min | 45min | 1h | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 20h |
|------------|-------|-------|------|------|------|------|------|------|------|------|------|
| 1.85V/cell | 103 | 74.2 | 59.8 | 34.5 | 27.9 | 21.8 | 17.7 | 15.0 | 11.5 | 9.38 | 5.12 |
| 1.80V/cell | 107 | 76.2 | 61.4 | 35.5 | 28.9 | 22.4 | 18.3 | 15.5 | 11.8 | 9.61 | 5.27 |
| 1.75V/cell | 109 | 78.8 | 63.5 | 37.7 | 29.8 | 23.1 | 18.7 | 15.8 | 12.1 | 9.80 | 5.35 |
| 1.70V/cell | 111 | 80.3 | 65.3 | 38.0 | 30.3 | 23.7 | 19.3 | 16.4 | 12.3 | 10.0 | 5.45 |
| 1.67V/cell | 113 | 82.2 | 67.2 | 38.2 | 30.5 | 23.8 | 19.5 | 16.4 | 12.5 | 10.1 | 5.46 |
| 1.60V/cell | 115 | 84.0 | 67.9 | 39.1 | 31.3 | 24.3 | 19.8 | 16.7 | 12.7 | 10.3 | 5.49 |

Battery Dimensions(mm)

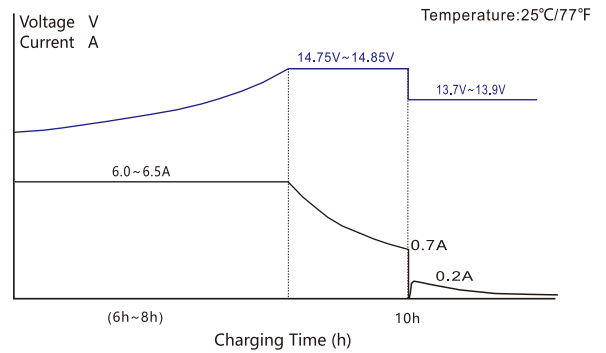


Electrical Characteristics

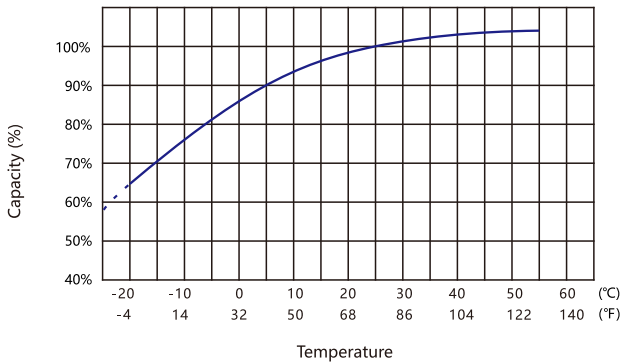
Discharging Characteristics@25°C(77°F)



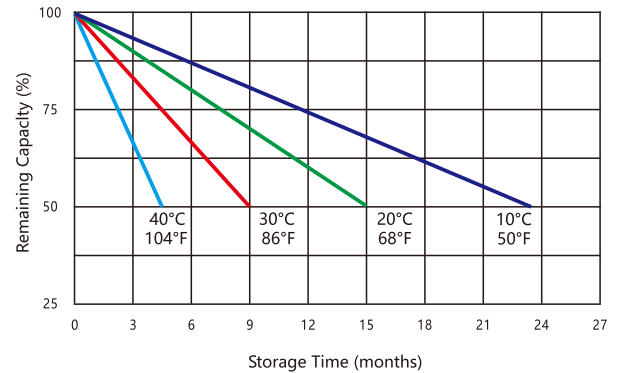
Charging Characteristics@25°C(77°F)



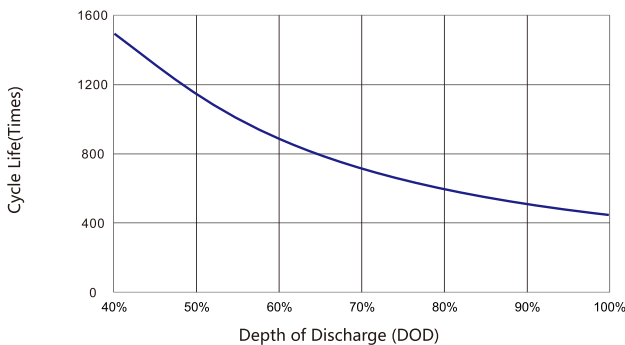
Capacity vs Temperature



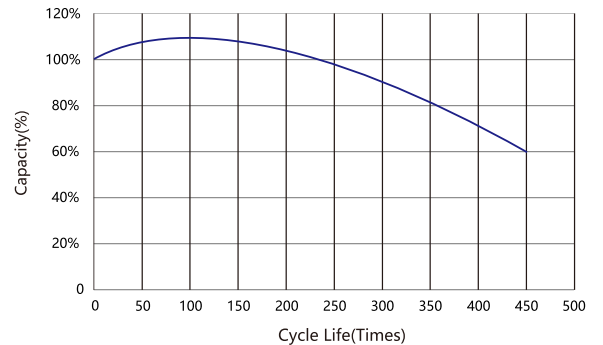
Self-discharge vs Time



Cycle Life vs Depth of Discharge@25°C(77°F)



Cycle Life vs Remaining Capacity@25°C(77°F)



Usage and Maintenance

| Limited Current | Limited Voltage | Floating Voltage |
|----------------------------------|------------------------------------------------------|------------------------------------------------------|
| Limited current: $\leq 0.15C_5A$ | 14.6V~14.8V @25°C(77°F) Temp.Coefficient:-24mV/°C | 13.6V~13.8V @25°C(77°F) Temp.Coefficient:-18mV/°C |