

TNE 12-230 [12V230Ah]

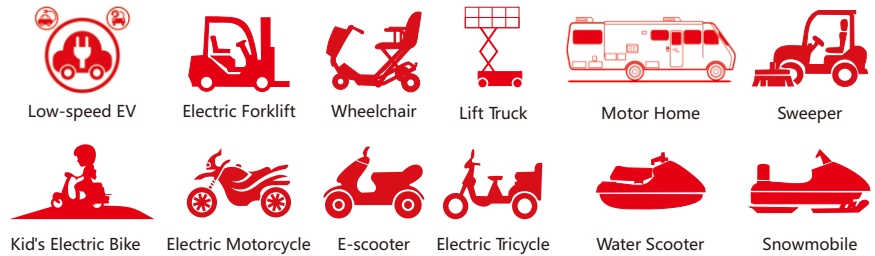


Product Features

| 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 |
|-----------|----------------------|----------|----------|--------------|-----------------|----------|---|
| TNE12-230 | Length | Width | Height | Total Height | 59/130.1 | 17 | ABS UL94-HB (Optional: FR ABS UL94-V0) |
| | 532/20.9 | 207/8.15 | 220/8.66 | 225/8.86 | | | |

Product Specifications

| Nominal Voltage | Rated Capacity ^{25°C/77°C} | Operating Temp. Range | Capacity Effected Temp | Capacity vs Storage Time |
|-----------------|--|---|--|---|
| 12V | 230Ah 20hr Rate (1.80V/cell) 205Ah 10hr Rate (1.75V/cell) 192Ah 5hr Rate (1.75V/cell) 180Ah 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% Nine months : 60% |

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 | 246.6 | 175.7 | 140.8 | 80.5 | 55.7 | 44.26 | 36.25 | 30.90 | 23.89 | 19.60 | 11.12 |
| 1.80V/cell | 255.3 | 180.9 | 145.1 | 83.3 | 57.8 | 45.53 | 37.66 | 32.04 | 24.55 | 20.09 | 11.50 |
| 1.75V/cell | 262.2 | 187.7 | 150.4 | 88.6 | 60.0 | 47.17 | 38.48 | 32.69 | 25.26 | 20.48 | 11.72 |
| 1.70V/cell | 268.6 | 192.6 | 155.7 | 89.9 | 61.4 | 48.87 | 40.14 | 34.36 | 25.86 | 21.01 | 11.98 |
| 1.67V/cell | 274.2 | 198.7 | 161.2 | 91.0 | 62.1 | 49.31 | 41.09 | 34.53 | 26.46 | 21.39 | 12.09 |
| 1.60V/cell | 281.5 | 204.5 | 164.5 | 94.0 | 64.3 | 50.78 | 41.98 | 35.57 | 27.12 | 22.12 | 12.18 |

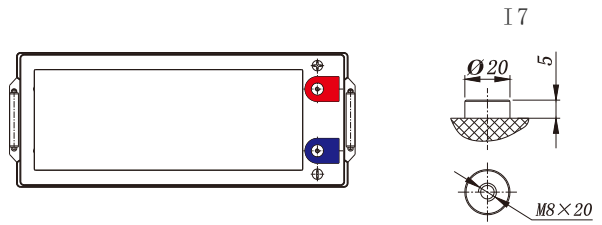
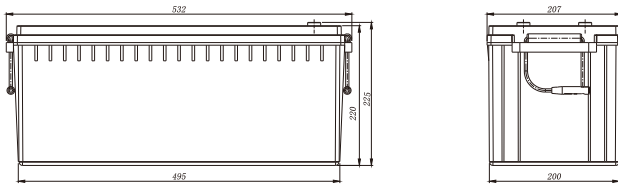
Constant Power Discharge (W/cell)@25°C (77°F)

| F.V/Time | 30min | 45min | 1h | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 20h |
|------------|-------|-------|-------|-------|-------|------|------|------|-------|-------|-------|
| 1.85V/cell | 481.6 | 345.6 | 278.4 | 160.5 | 111.8 | 89.1 | 73.1 | 62.4 | 48.39 | 39.76 | 22.64 |
| 1.80V/cell | 496.7 | 354.6 | 285.9 | 165.4 | 115.5 | 91.3 | 75.6 | 64.5 | 49.55 | 40.61 | 23.31 |
| 1.75V/cell | 508.1 | 366.9 | 295.6 | 175.3 | 119.4 | 94.2 | 77.0 | 65.5 | 50.78 | 41.25 | 23.68 |
| 1.70V/cell | 517.9 | 373.8 | 304.1 | 177.0 | 121.4 | 97.0 | 79.9 | 68.5 | 51.72 | 42.09 | 24.10 |
| 1.67V/cell | 524.4 | 382.8 | 313.0 | 178.0 | 122.1 | 97.3 | 81.2 | 68.4 | 52.47 | 42.55 | 24.16 |
| 1.60V/cell | 533.9 | 391.3 | 316.2 | 182.3 | 125.3 | 99.4 | 82.3 | 69.9 | 53.42 | 43.67 | 24.30 |

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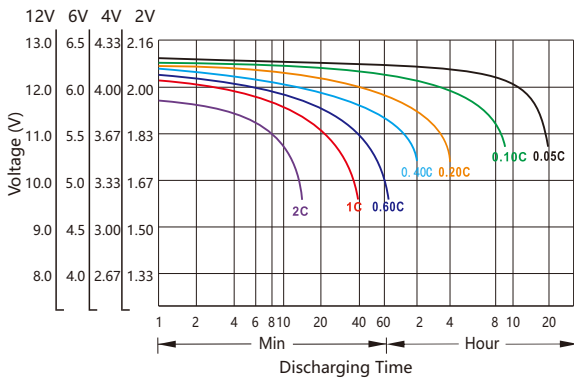


Battery Dimensions(mm)

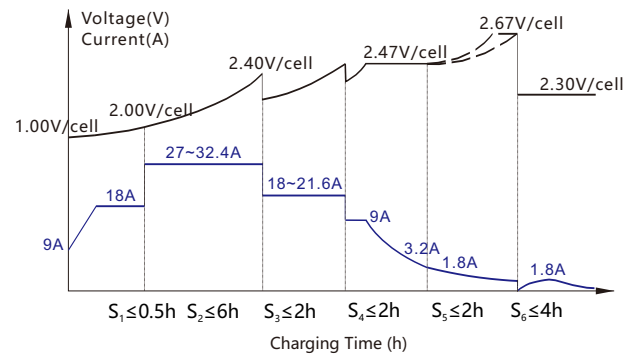


Electrical Characteristics

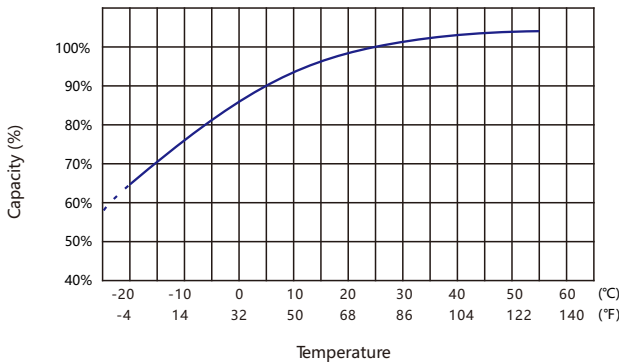
Discharging Characteristics@25°C(77°F)



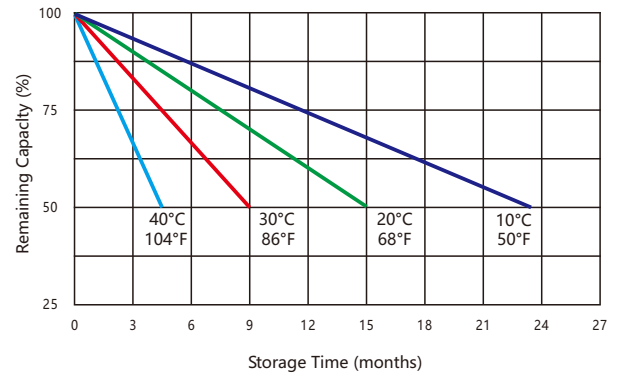
Charging Characteristics@25°C(77°F)



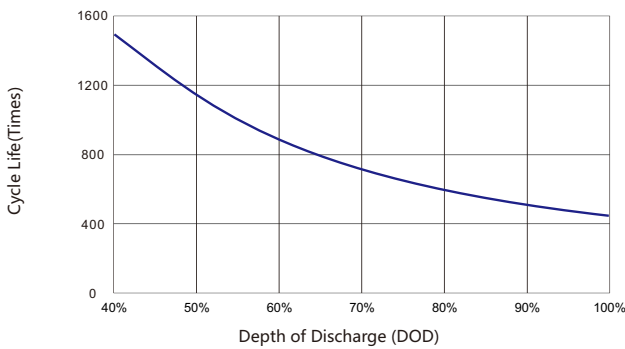
Capacity vs Temperature



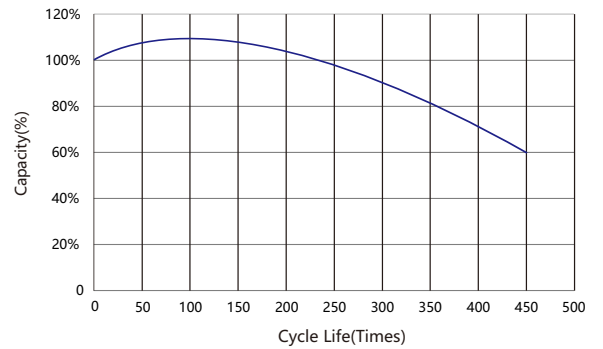
Self-discharge vs Time



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: ≤0.2C ₅ A | 14.4V~14.8V@25°C(77°F) Temp.Coefficient:-24mV/°C | 13.5V~13.8V@25°C(77°F) Temp.Coefficient:-18mV/°C |