

# High Temperature Deep Cycle GEL Battery

# HTB12-100

The HTB deep cycle gel battery adopts the advanced developed nano gel electrolyte with super-C additive plus heavy duty plates design inside. It has a longer service life even deep cycle discharge use and can provide optimum and reliable service under extreme condition such as high temperature and frequent power failure, thus it is highly suited for tropical area in outdoor applications such as Telecom BTS stations and Off-grid PV system.

**12V**  
Voltage

**100Ah**  
Capacity

**Gel**  
Technology

**Deep**  
Cycle


## GENERAL FEATURES

- Able to operate at 40-60°C
- Integrated design to ensure the best uniformity and reliability
- Longer life and higher stability under high temp. environment (no air-con needed)
- Super-C additives: Deep discharge recovery capability, 1600cycles @50%DOD

## APPLICATIONS

- BTS Stations
- Solar & Wind energy system
- UPS system
- Telecom systems
- Wheel chair, Golf cart

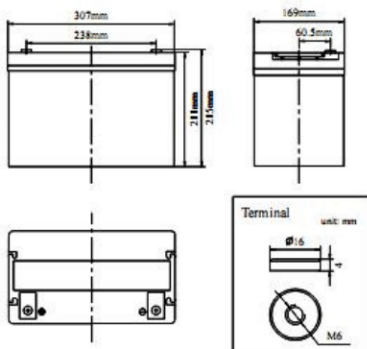


## COMPLIED STANDARDS

IEC 60896-21/22 JIS C8704  
IEC61427 BS6290 part4  
GB/T 19638 CE/ISO

## DIMENSIONS & WEIGHT

|                  |         |
|------------------|---------|
| Length(mm)       | 307±1   |
| Width(mm)        | 169±1   |
| Height(mm)       | 211±1   |
| Total Height(mm) | 216±1   |
| Weight(kg)       | 30.5±3% |



## TECHNICAL SPECIFICATIONS

|                                                  |                           |                                                                |
|--------------------------------------------------|---------------------------|----------------------------------------------------------------|
| Nominal Voltage                                  |                           | 12V (6 cells per unit)                                         |
| Design Floating Life @25°C                       |                           | 20 Years                                                       |
| Nominal Capacity @25°C (20 hour rate@5.0A,10.8V) |                           | 100Ah                                                          |
| Capacity @25°C                                   | 10hour rate (9.0A,10.8V)  | 90Ah                                                           |
|                                                  | 5 hour rate (15.9A,10.5V) | 79.5Ah                                                         |
|                                                  | 1 hour rate (55.6A,9.6V)  | 55.6Ah                                                         |
| Internal Resistance                              | Full Charged Battery@25°C | ≤5.3mΩ                                                         |
| Ambient Temperature                              | Discharge                 | -25°C~60°C                                                     |
|                                                  | Charge                    | -25°C~60°C                                                     |
|                                                  | Storage                   | -25°C~60°C                                                     |
| Max.Discharge Current@25°C                       |                           | 540A(5s)                                                       |
| Capacity affected by Temperature (10 hour )      | 40°C                      | 108%                                                           |
|                                                  | 25°C                      | 100%                                                           |
|                                                  | 0°C                       | 90%                                                            |
|                                                  | -15°C                     | 70%                                                            |
| Self-Discharge@25°C per Month                    |                           | 3%                                                             |
| Charge (Constant Voltage) @25°C                  | Standby Use               | Initial Charging Current Less than 22.5A<br>Voltage 13.6-13.8V |
|                                                  | Cycle Use                 | Initial Charging Current Less than 22.5A<br>Voltage 14.4-14.9V |

## BATTERY DISCHARGE TABEL

### Discharge Constant Current per Cell (Amperes at 25°C)

| F.V/Time | 15min | 30min | 45min | 1h   | 2h   | 3h   | 5h   | 8h   | 10h | 20h | 100h |
|----------|-------|-------|-------|------|------|------|------|------|-----|-----|------|
| 1.60V    | 128.7 | 82.0  | 60.5  | 55.6 | 35.3 | 24.8 | 16.8 | 11.1 | 9.9 | 5.4 | 1.20 |
| 1.65V    | 126.4 | 80.5  | 59.4  | 54.5 | 34.6 | 24.3 | 16.5 | 10.9 | 9.7 | 5.3 | 1.18 |
| 1.70V    | 124.0 | 79.0  | 58.3  | 53.5 | 34.0 | 23.9 | 16.2 | 10.7 | 9.5 | 5.2 | 1.15 |
| 1.75V    | 121.7 | 77.5  | 57.2  | 52.5 | 33.3 | 23.4 | 15.9 | 10.5 | 9.4 | 5.1 | 1.13 |
| 1.80V    | 117.0 | 74.5  | 55.0  | 50.5 | 32.1 | 22.5 | 15.3 | 10.1 | 9.0 | 5.0 | 1.11 |

### Discharge Constant Power per Cell (Watts at 25°C)

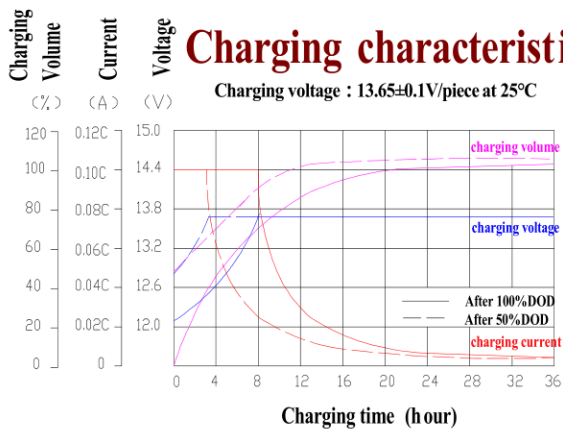
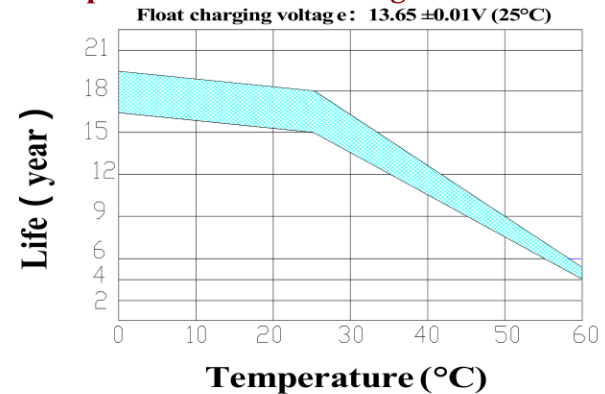
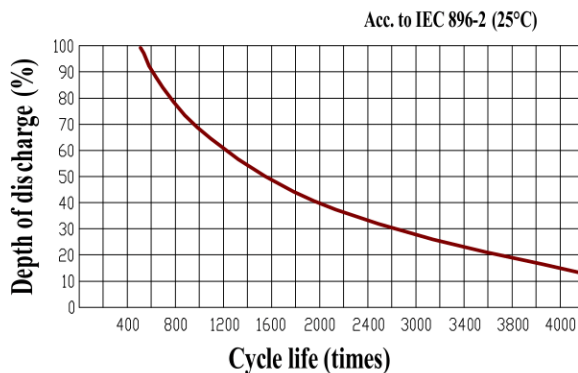
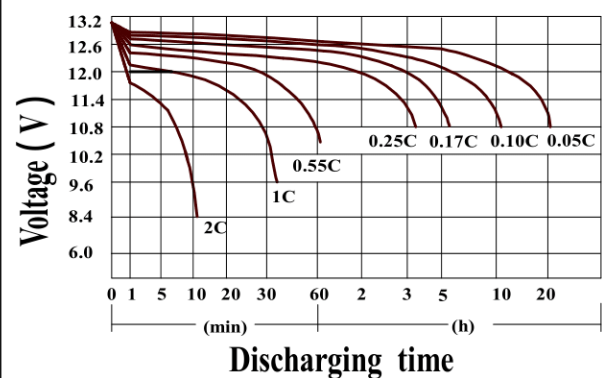
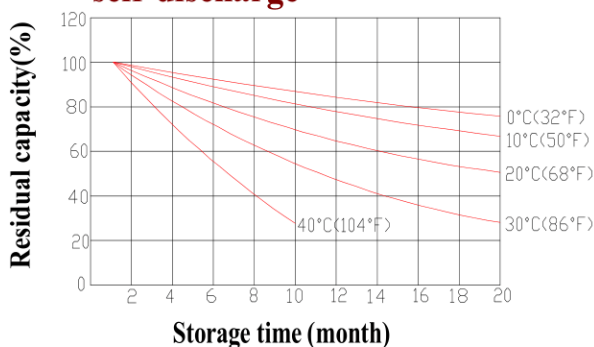
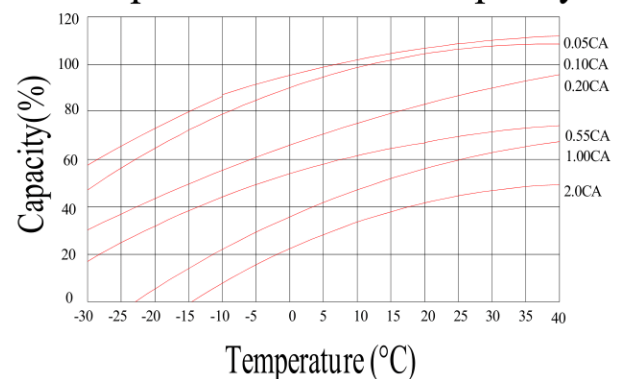
| F.V/Time | 15min | 30min | 45min | 1h    | 2h   | 3h   | 5h   | 8h   | 10h  | 20h  | 100h |
|----------|-------|-------|-------|-------|------|------|------|------|------|------|------|
| 1.60V    | 247.7 | 157.8 | 116.5 | 106.9 | 67.9 | 47.6 | 32.4 | 21.4 | 19.1 | 10.4 | 2.31 |
| 1.65V    | 243.2 | 154.9 | 114.3 | 105.0 | 66.6 | 46.8 | 31.8 | 21.0 | 18.7 | 10.2 | 2.26 |
| 1.70V    | 238.7 | 152.0 | 112.2 | 103.0 | 65.4 | 45.9 | 31.2 | 20.6 | 18.4 | 10.0 | 2.22 |
| 1.75V    | 234.2 | 149.1 | 110.1 | 101.1 | 64.2 | 45.0 | 30.6 | 20.2 | 18.0 | 9.8  | 2.18 |
| 1.80V    | 225.2 | 143.4 | 105.9 | 97.2  | 61.7 | 43.3 | 29.5 | 19.4 | 17.3 | 9.6  | 2.14 |

**Note** The above data are average values, and can be obtained within 3 charge/discharge cycles. These are not minimum values. Cell and battery designs/specifications are subject to modification without notice.

## High Temperature Deep Cycle GEL Battery

**HTB12-100**

## PERFORMANCE CHARACTERISTICS

**Charging characteristics****Temperature effect on designed float life****Cycle life vs. Depth of discharge ( $25^\circ\text{C}$ )****Discharge characteristics ( $25^\circ\text{C}$ )****Temperature effect on battery self-discharge****Temperature effect on capacity**

## BATTERY CONSTRUCTION

| Component | Positive plate                               | Negative plate                                            | Container & Cover                     | Safety valve                         | Terminal                | Separator                                                 | Electrolyte                     | Pillar seal                 |
|-----------|----------------------------------------------|-----------------------------------------------------------|---------------------------------------|--------------------------------------|-------------------------|-----------------------------------------------------------|---------------------------------|-----------------------------|
| Features  | Thick high Sn low Ca grid with special paste | Balanced Pb-Ca grid for improved recombination efficiency | Fire resistant ABS (UL94-V0 optional) | Flame Si-Rubber and aging resistance | Female Copper Insert M6 | Advanced PVC /AGM separator for high pressure cell design | Silicon Gel import from Germany | Two layers epoxy resin seal |