TELONG ENERGY TECHNOLOGY CO.,LTD.

# Specification
# for SEALED LEAD-ACID B A T T E R Y

## M o d e l : T L 6 4 0

| | |
|---|---|
| Approved By | |
| Department | |
| Name | |
| Title | |
| Signature/Date | |

(Remarks: The above table shall be filled by customer)

Issued by: ___Ming Cai_____

Checked by:___Fu Xiang_____

Approved by:__TieGang Dong_

DATE:_2010-06-23__


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The rechargeable batteries are lead-lead dioxide systems. The dilute sulfuric acid electrolyte is absorbed by separators and plates and thus immobilized. Should the battery be accidentally overcharged producing hydrogen and oxygen, special one-way valves allow the gases to escape thus avoiding excessive pressure build-up. Otherwise, the battery is completely sealed and is, therefore, maintenance-free, leak proof and usable in any position. GENERAL FEATURES

Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance or water adding.

Not restricted for air transport-complies with IATA/ICAO Special Provision A67.

Can be mounted in any orientation.

Computer designed lead, calcium tin alloy grid for high power density.

Long service life, float or cyclic applications.

Maintenance-free operation.

Low self discharge.

Case and cover available in both standard and flame retardant ABS.

## CONSTRUCTION

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

## TECHNOLOGY PARAMETER

| | | | | |
|---|---|---|---|---|
| Battery model | TL640 | | | |
| Nominal voltage | 6V | | | |
| Number of cell | 3 | | | |
| Capacity (25℃) | $0.05C_{20}$(0.2A) | $0.5C_{20}$(2.0A) | $1C_{20}$(4A) | $3C_{20}$(12A) |
| | 4.0Ah | 3.0Ah | 2.2Ah | 1.5Ah |
| Dimensions | Length | Width | Height | Total Height |
| | 70±1mm | 47±1mm | 101±1mm | 107±1mm |
| Approx. weight | 0.68Kg | | | |
| Internal resistance | Full charged at 25℃: 25mOhms | | | |
| Self discharge | 3% of capacity declined per month at 20℃(average) | | | |
| Operating temperature range | Discharge | Charge | Storage | |
| | -20～60℃ | -10～60℃ | -20～60℃ | |
| Max. discharge current (25℃) | 60A (5s) | | | |
| Short circuit current | 200A | | | |

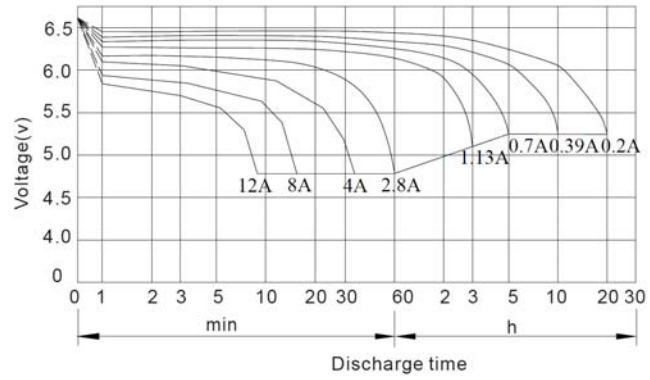
## Charging Method

| Charging Method(25℃) | Cycle use | Float use |
|---|---|---|
| Charge Voltage | 7.30--7.50V | 6.80—6.90V |
| Max Charge Current | 1.2A | 1.2A |
| Charging Time | 12h(60%DOD)<br>24h(100%DOD) | ＞48h |

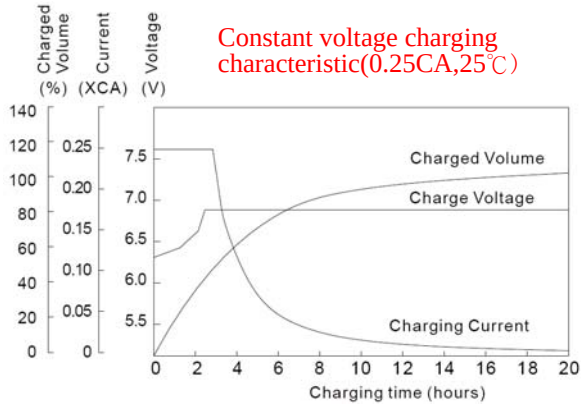
Depth of discharge

| Time | Constant current discharge characteristics(25℃） A | | | | | Constant power discharge characteristics(25℃） W | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1min | 12.0 | 13.5 | 15.3 | 16.0 | 16.7 | 130 | 143 | 158 | 161 | 165 |
| 5min | 10.4 | 11.5 | 12.8 | 13.5 | 14.0 | 111 | 123 | 136 | 139 | 142 |
| 15min | 6.40 | 6.72 | 7.12 | 7.36 | 7.68 | 68.8 | 73.6 | 77.2 | 80.4 | 82.4 |
| 30min | 4.24 | 4.28 | 4.40 | 4.52 | 4.56 | 47.2 | 48.4 | 50.0 | 51.2 | 52.4 |
| 45 min | 3.16 | 3.24 | 3.32 | 3.32 | \ | 36.0 | 37.5 | 38.6 | 38.8 | \ |
| 1hr | 2.56 | 2.64 | 2.68 | 2.68 | \ | 29.5 | 30.4 | 31.0 | 31.0 | \ |
| 2hr | 1.48 | 1.48 | 1.52 | \ | \ | 17.0 | 17.1 | 17.5 | \ | \ |
| 3hr | 1.00 | 1.04 | \ | \ | \ | 12.2 | 12.2 | \ | \ | \ |
| 5hr | 0.68 | 0.68 | \ | \ | \ | 7.92 | 7.92 | \ | \ | \ |
| 8hr | 0.46 | 0.48 | \ | \ | \ | 5.52 | 5.64 | \ | \ | \ |
| 10hr | 0.39 | 0.40 | \ | \ | \ | 4.56 | 4.72 | \ | \ | \ |
| 20hr | 0.20 | 0.20 | \ | \ | \ | 2.16 | 2.16 | \ | \ | \ |
| End Voltage V | 5.40 | 5.25 | 5.10 | 4.95 | 4.80 | 5.40 | 5.25 | 5.10 | 4.95 | 4.80 |

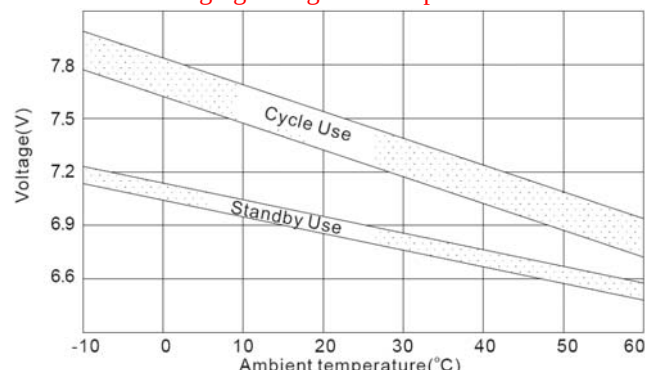
## Discharge characteristic(25℃)



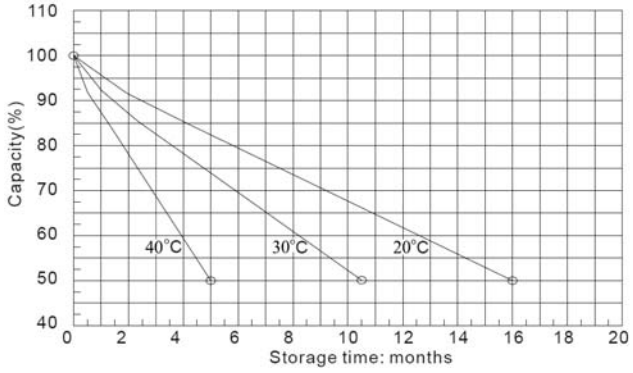

## Constant voltage charging characteristic(0.25CA,25℃)



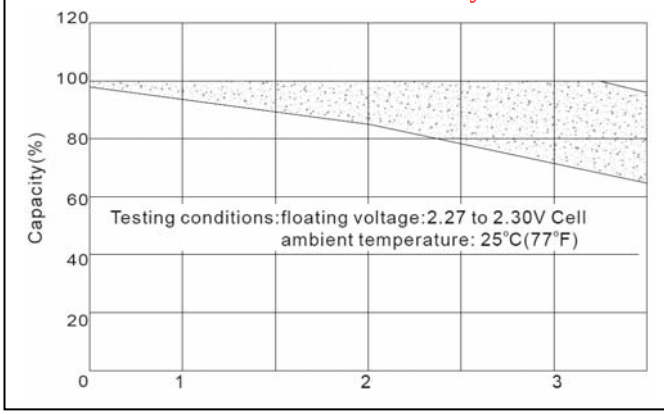

## Relationship between Charging voltage and temperature



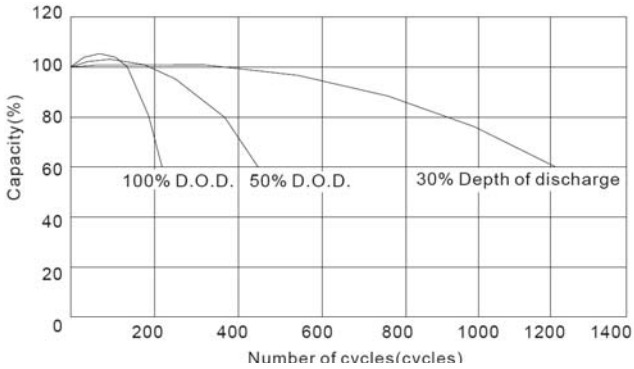

## Self-discharge characteristic



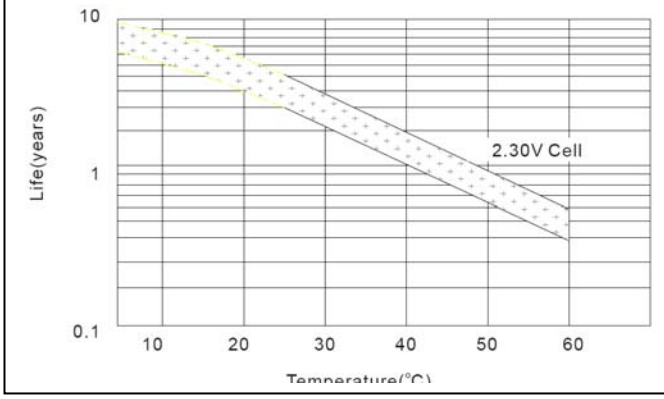

## Life characteristics of Standby use



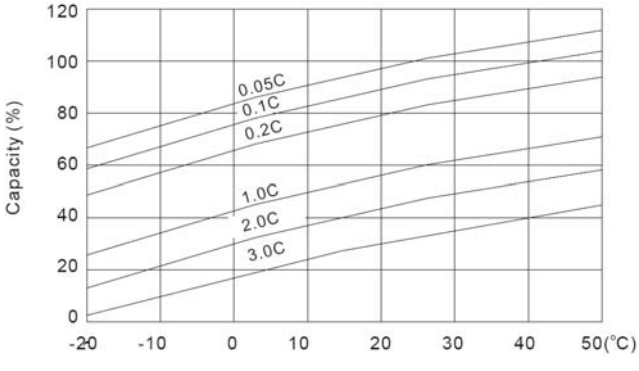

## Cycle service life in relation to depth of discharge



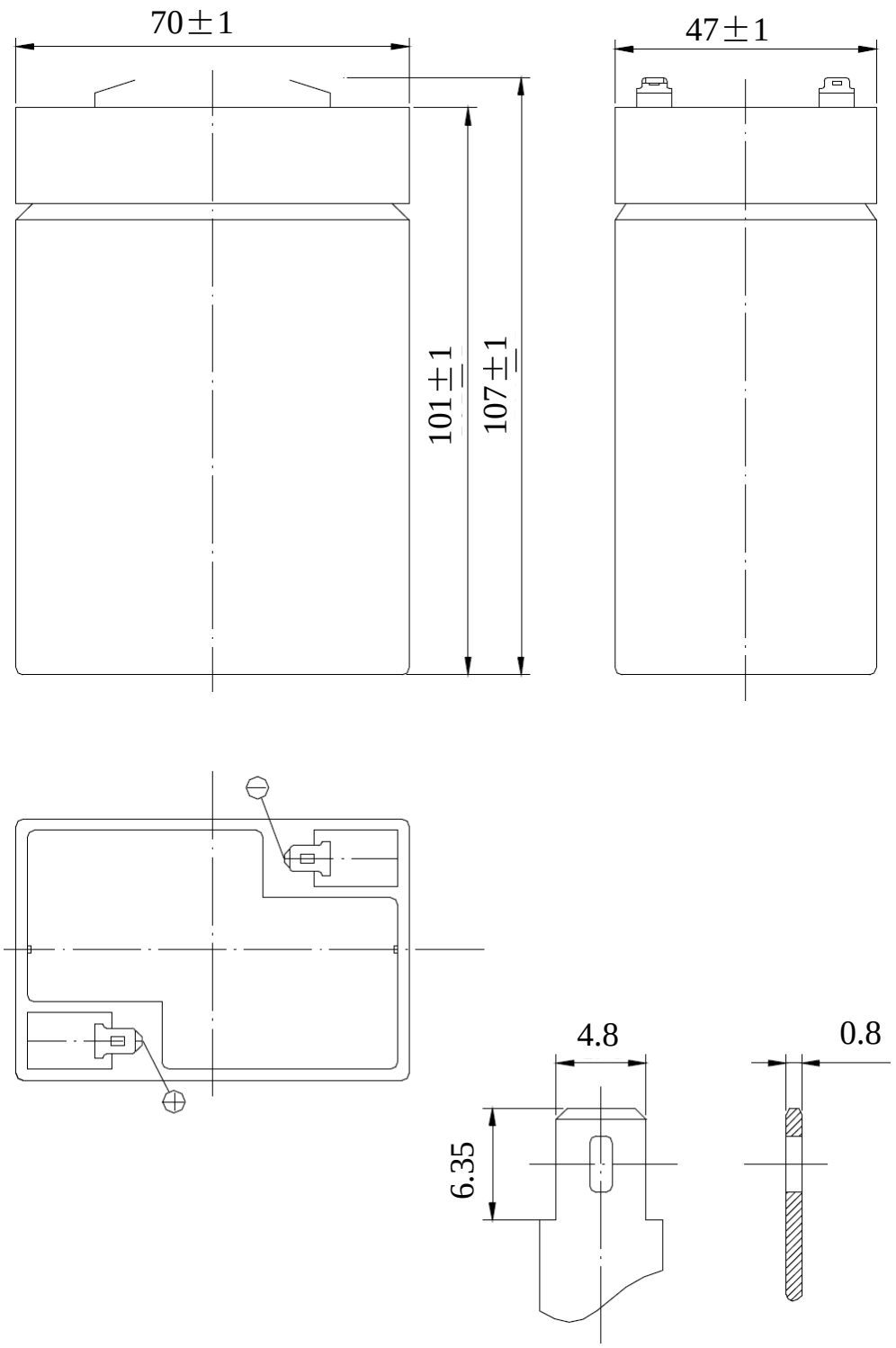

## Temperature effects on float life




## Temperature effects on capacity



**Battery and terminal dimensions**




| | | |
|---|---|---|
| Telong Energy Technology Co., Ltd. | | |
| MODEL:TL640 | DWG No.:TLG640-01 | |
| SCALE:NTS | DIM:mm | Approved by: |
| DATE:2010.6.23 | DRAWN BY: jia yu | Xiang Fu |