

### MNG Series GEL Battery

#### MHB MNG Series—Storage-type Gelled Battery

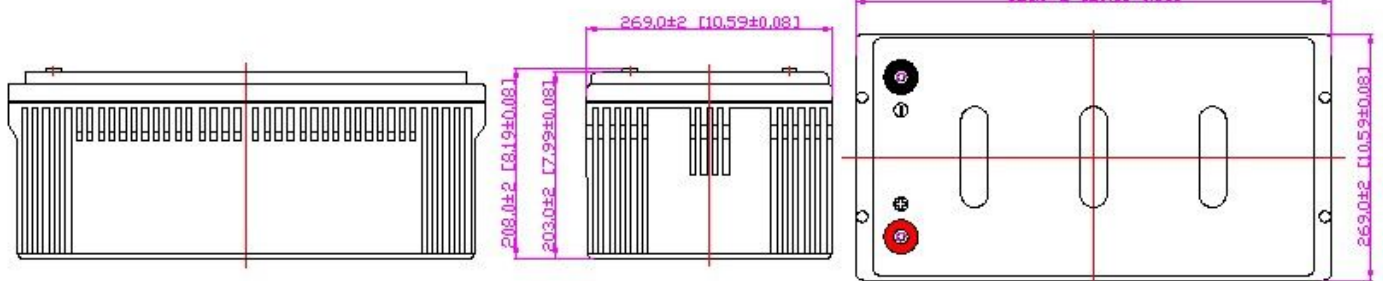
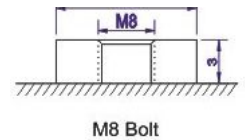
- Completely sealed and maintenance-free, low self-discharge
- 100% precise quality testing, stable quality and high reliable performance
- Unique grid alloy formula, Gelled electrolyte formula and updated manufacturing technique
- Floating & standby use: up to 12 years
- Cycle use 1: Up to 350 cycles at 100% DOD
- Cycle use 2: Up to 1800 cycles at 30% DOD

#### Application:

- Telecommunications
- Uninterruptable Power Supply (UPS)
- Electric Power System (EPS)
- Emergency backup power supply
- Alarm and security system
- Communication power supply
- DC power supply
- Auto control system

#### Construction:

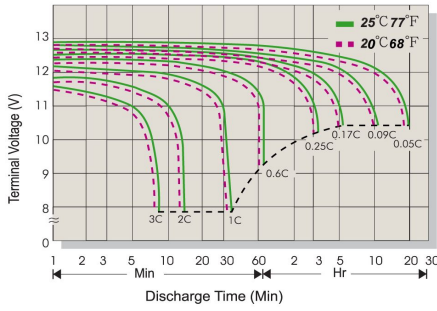
- Component .....Raw material
- Positive .....Lead dioxide
- Negative .....Lead
- Container .....ABS
- Cover .....ABS
- Sealant .....Epoxy
- Safety valve .... Rubber
- Terminal .....Copper/Pb
- Separator .....Fiber glass
- Electrolyte ..... Sulfuric acid



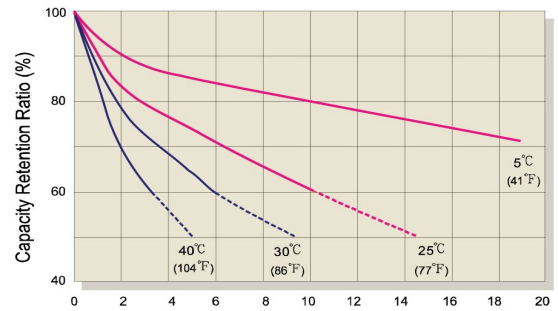
#### Speification:

Battery Model	MNG 230-12 12V230AH			
Designed Floating Life	Up to 12 Years			
Capacity (25°C)	20HR(11.61A,10.8V)	10HR(23.0A,10.8V)	5HR(37.86A,10.5V)	1HR(128.0A,10.5V)
	232.2AH	230.0AH	189.30AH	128.0AH
Dimensions	Length	Width	Height	Total Height
	521mm (20.51inch)	269mm (10.59inch)	203mm (7.99inch)	208mm (8.19inch)
Approx. Weight	63.20Kg (139.36lbs) ±5%			
Internal Resistance	Full charged at 25°C: ≤3.0mΩ			
Self Discharge	2% of capacity declined per month at (25°C)			
Capacity Affected by Temp.(20HR)	40°C	25°C	0°C	-15°C
	102%	100%	85%	65%
Charge Voltage(25oC)	Cycle use		Float use	
	14.4-14.6V(-30mV/°C), max. Current:69.0A		13.6-13.8V (-20mV/°C)	

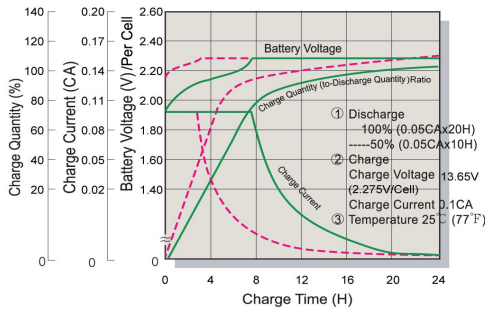
### Terminal Voltage (V) and Discharge Time



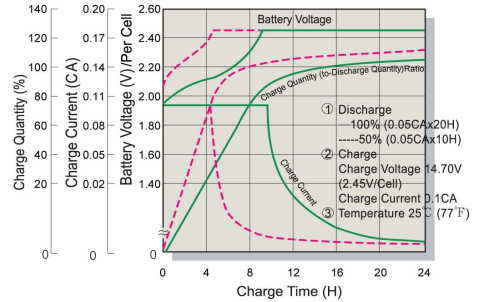
### Capacity Retention Characteristic



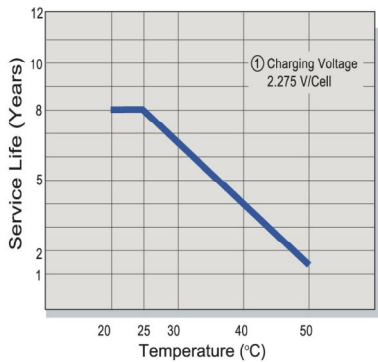
### Battery Voltage and Charge Time for Standby Use



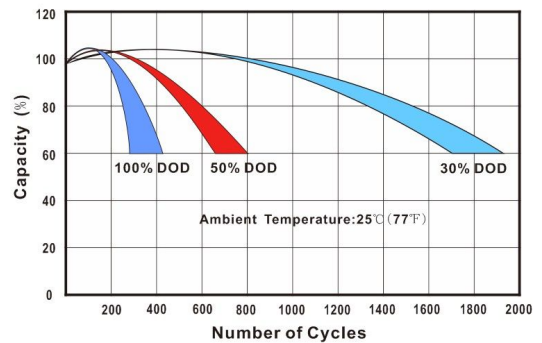
### Battery Voltage and Charge Time for Cycle Use



### Tickle(or Float) Service Life



### Cycle Service Life



### Constant Current Discharge (CC, Unit: A) at 25°C (77°F)

F.V/Time	5Min	10Min	15Min	30Min	1Hr	2Hr	3Hr	4Hr	5Hr	6Hr	10Hr	20Hr
1.85V/Cell	519.7	382.8	332.3	200.5	118.1	69.61	51.82	43.71	35.97	33.12	22.08	11.04
1.80V/Cell	539.5	397.4	345.0	208.2	123.1	72.53	54.13	45.54	37.49	34.50	23.00	11.61
1.75V/Cell	593.5	417.3	362.3	216.5	128.0	74.67	55.66	46.00	37.86	34.85	23.23	11.62
1.70V/Cell	663.6	437.1	379.5	226.9	130.5	76.05	56.73	46.44	38.22	35.19	23.46	11.73
1.67V/Cell	733.8	457.1	396.8	233.1	135.4	78.19	58.42	46.91	38.61	35.54	23.69	11.85

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

F.V/Time	5Min	10Min	15Min	30Min	1Hr	2Hr	3Hr	4Hr	5Hr	6Hr	10Hr	20Hr
1.85V/Cell	987.5	727.4	631.3	381.0	224.3	132.3	98.46	83.05	68.35	62.93	41.95	20.98
1.80V/Cell	1025.1	755.1	655.5	395.6	233.9	137.8	102.84	86.52	71.23	65.55	43.70	22.06
1.75V/Cell	1127.7	793.0	688.4	411.3	243.2	141.9	105.75	87.39	71.93	66.22	44.14	22.08
1.70V/Cell	1260.8	830.5	721.0	431.2	247.9	144.5	107.79	88.24	72.62	66.86	44.57	22.28
1.67V/Cell	1394.3	868.4	753.9	442.8	257.2	148.6	110.99	89.13	73.35	67.53	45.01	22.52