

Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	85Ah@20hr-rate to 1.75V per cell @25°C
Weight	Approx. 24.8 Kg/54.67Lbs (Tolerance ± 2%)
Internal Resistance	Approx. 5.5 mΩ
Terminal	F11(M6)
Max. Discharge Current	800A (5 sec)
Cold Cranking Ampere(CCA)	520A
Cranking Ampere(CA)	640A
Maximum Charging Current	24A
Reserve Capacity	142min@25A to 1.75V/Cell(25°C) 32min@75A to 1.75V/Cell(25°C)
Reference Capacity	C10 80.1AH C20 85.0AH
Float Charging Voltage	13.6 V~13.8 V @ 25°C Temperature Compensation: -3mV/°C/Cell
Cycle Use Voltage	14.6 V~14.8 V @ 25°C Temperature Compensation: -4mV/°C/Cell
Operating Temperature Range	Discharge: -20°C~60°C Charge: 0°C~50°C Storage: -20°C~60°C
Normal Operating Temperature Range	25°C ± 5°C
Self Discharge	RITAR Valve Regulated Lead Acid (VRLA) batteries can be stored for up to 6 months at 25°C and then recharging is recommended. Monthly Self-discharge ratio is less than 3% at 25°C. Please charged batteries before using.
Container Material	A.B.S. UL94-HB, UL94-V0 Optional.



The series batteries provide superior high integrity and reliability. It is specially designed for frequent cyclic charge and discharge. By using strong grids, thick plate and specially active material are designed for repeated deep-discharge applications. The series batteries offer 30% more cyclic life than the standby series. It is suitable for solar and wind renewable energy storage, mobility and medical equipment, V, telecom, broadband and cable TV, UPS systems etc.



ISO 9001



ISO 14001



OHSAS 18001

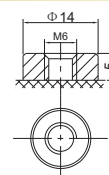
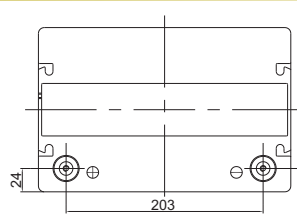
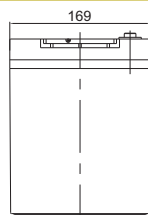
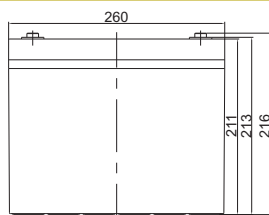


MH 60419



G4M20206-0910-E-16

Dimensions



F11 TERMINAL

Length	260±2mm (10.2 inches)
Width	169±2mm (6.65 inches)
Height	211±2mm (8.31 inches)
Total Height	216±2mm (8.50 inches)
Terminal	Value
M5	6~7 N*m
M6	8~10 N*m
M8	10~12 N*m

Unit: mm

Constant Current Discharge Characteristics : A(25°C)

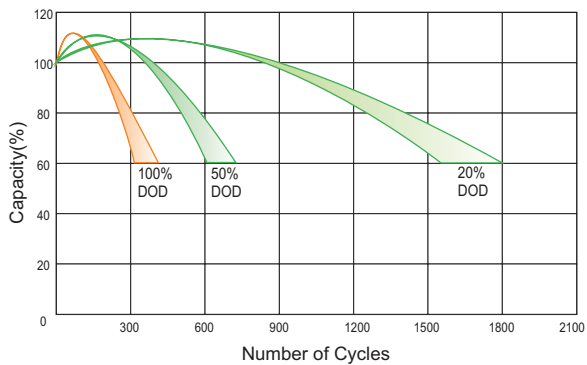
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	280.1	206.2	153.8	80.38	49.93	30.83	20.95	16.89	14.02	9.240	8.320	4.450
10.0V	272.0	196.2	150.7	79.35	49.27	30.21	20.56	16.65	13.90	9.200	8.240	4.360
10.2V	264.0	189.3	148.3	78.14	48.80	29.89	20.38	16.49	13.81	9.120	8.160	4.280
10.5V	237.0	174.7	141.2	75.98	48.20	29.50	20.20	16.24	13.69	9.040	8.080	4.250
10.8V	213.9	159.3	130.2	73.47	47.53	29.26	19.96	15.69	13.62	9.000	8.010	4.160
11.1V	182.7	142.4	116.8	70.68	46.41	28.08	19.57	15.46	13.53	8.930	7.910	3.990

Constant Power Discharge Characteristics : W(25°C)

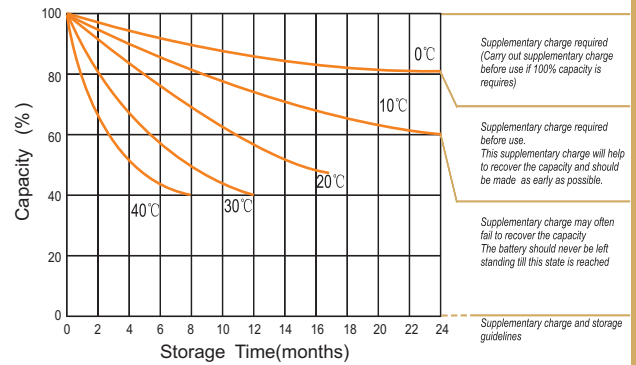
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	2955	2196	1677	920.1	578.7	361.3	246.7	202.2	168.0	110.6	99.83	53.45
10.0V	2897	2129	1650	910.5	573.4	356.9	243.0	199.4	166.5	110.2	99.04	52.36
10.2V	2864	2073	1632	902.6	570.0	354.3	241.9	197.5	165.5	109.4	98.16	51.39
10.5V	2607	1930	1556	884.2	566.3	349.8	240.0	194.8	164.2	108.4	97.20	51.00
10.8V	2375	1779	1439	863.3	559.1	347.2	237.3	188.3	163.4	108.0	96.24	49.93
11.1V	2086	1609	1295	839.6	550.7	334.2	233.3	185.6	162.8	107.2	95.19	47.87

(Note) The above characteristics data are average values obtained within three charge/discharge cycle not the minimum values.

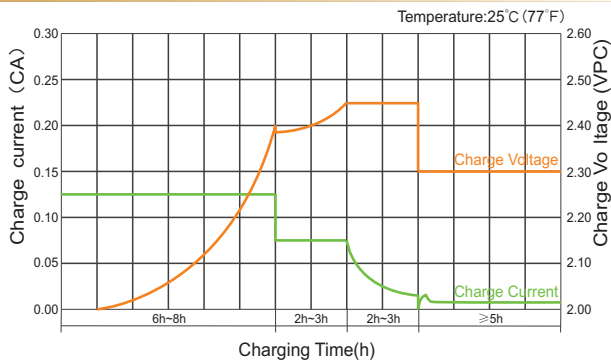
Cycle Life in Relation to Depth of Discharge



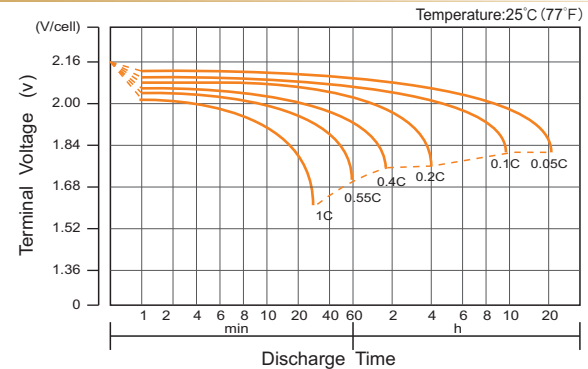
Storage Characteristics



Charge Characteristic Curve for Cycle Use(IUUU)



Discharge Characteristics Curve



CHARGE VOLTAGES

Charge Stage	Battery Voltage			
	12V	24V	36V	48V
Bulk	14.6	29.2	43.8	58.4
Absorption	14.6	29.2	43.8	58.4
Float	13.6	27.2	40.8	54.4
TC Factor: (-3mV/°C/cell) or (-4mV/°C/cell)				

Capacity Factors With Different Temperature

Battery Type	-20°C	-10°C	0°C	5°C	10°C	20°C	25°C	30°C	40°C	45°C
GEL 6V&12V	50%	70%	83%	85%	90%	98%	100%	102%	104%	105%
Battery 2V	60%	75%	85%	88%	92%	99%	100%	103%	105%	106%
AGM 6V&12V	46%	66%	76%	83%	90%	98%	100%	103%	107%	109%
Battery 2V	55%	70%	80%	85%	92%	99%	100%	104%	108%	110%

Discharge Current VS. Discharge Voltage

Final D ischarge Voltage V /cell	1.75V	1.70V	1.60V
Discharge Current (A)	(A) ≤0.2C	0.2C < (A) < 1.0C	(A) ≥1.0C

Charge the batteries at least once every six months, if they are stored at 25°C.

Charging Method:

Constant Voltage	-0.2Cx2h+2.4-2.45V/cellx24h, Max. Current 0.3C
Constant Current	-0.2Cx2h+0.1Cx12h
Fast	-0.2Cx2h+0.3Cx4h

Maintenance & Cautions

Cycle Service

- ▶ Avoid battery overcharge, especially in series connection use.
- ▶ Charge with recommended voltage. Ensure battery fully recharges. In general, recharge capacity should be 1.1-1.15 times discharge capacity.
- ▶ Effect of temperature on cycle charge voltage: -4mV/°C / Cell
- ▶ The length of cycle service will be affected by depth of discharge, ambient temperature, discharge rate, and the manner in which the battery is recharged. Generally speaking, the most important factor is depth of discharge.

Float Service:

- ▶ Every month, recommend inspection of every battery's voltage.
 - ▶ Every three months, recommend a one time equalization charge.
- Equalization charge method:
- Discharge - 100% rate capacity discharge
 - Charge - Max. current 0.3C, constant voltage 2.4-2.45V/Cell charge 24h.
 - ▶ Effect of temperature on float charge voltage: -3mV/°C/Cell.
 - ▶ Length of service life will be affected by the number of discharge cycles, depth of discharge, ambient temperature, and charging voltage