



Specification

Cells Per Unit	3
Voltage Per Unit	6
Capacity	400Ah@10hr-rate to 1.80V per cell @25°C
Weight	Approx. 57.5 Kg/126.79Lbs (Tolerance ± 2%)
Internal Resistance	Approx. 1.1 mΩ
Terminal	F14(M8)/F22
Max. Discharge Current	4000A (5 sec)
Cold Cranking Ampere(CCA)	900A
Cranking Ampere(CA)	1600A
Maximum Charging Current	120A
Reserve Capacity	1030min@25A to 1.75V/Cell(25°C) 260min@75A to 1.75V/Cell(25°C)
Reference Capacity	C10 400.3AH C20 416.0AH
Float Charging Voltage	6.80 V~6.90 V @ 25°C Temperature Compensation: -3mV/°C/Cell
Cycle Use Voltage	7.30 V~7.40 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 is specially designed for frequent discharge deep cycle application. By using the specially designed active material, strong grids and thick plate construction, the series battery offers reliable performance in high load situations and could provide competitive cycle performance. Suitable for Electric Vehicle and Golf cart; Industrial equipment, Floor machines, Forklifts, Aerial lifts, and Robotics; Marine, RV, and no-idle solutions; Mobility and Medical equipment; and most outdoor application.



ISO 9001



ISO 14001



OHSAS 18001

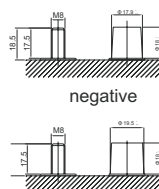
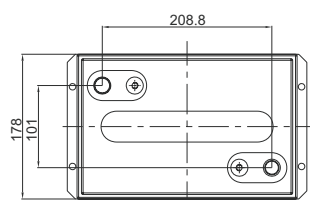
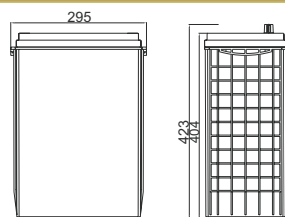


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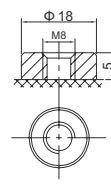


G4M20206-0910-E-16

Dimensions



negative



F14 TERMINAL

Length	295±2mm (11.6 inches)		
Width	178±2mm (7.01 inches)		
Height	404±2mm (15.9 inches)		
Total Height	423±2mm (16.7 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)

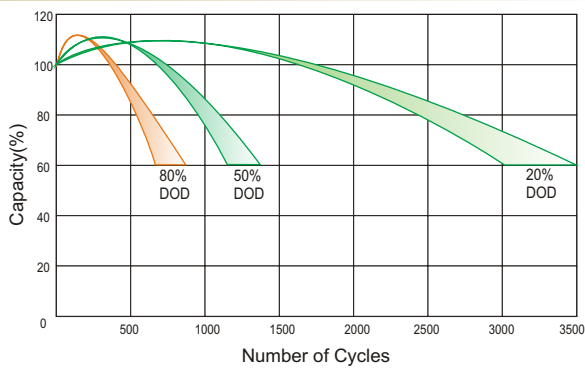
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
4.80V	1430	1052.9	776.9	454.7	260.0	158.6	107.0	88.94	70.88	51.15	41.62	22.04
5.00V	1389	1001.8	761.0	446.9	254.8	157.4	106.2	88.53	70.44	50.73	41.22	21.62
5.10V	1348	966.5	749.0	438.6	248.4	156.2	104.2	88.12	70.00	50.32	40.81	21.21
5.25V	1210	891.8	713.2	435.3	243.2	155.0	101.7	87.29	69.12	49.90	40.40	20.80
5.40V	1092.2	813.2	657.4	427.8	236.0	152.2	100.0	85.24	68.60	49.07	40.03	20.59
5.55V	932.6	726.8	589.7	400.6	227.6	145.5	98.33	81.12	66.87	46.99	39.57	19.76

Constant Power Discharge Characteristics : W(25°C)

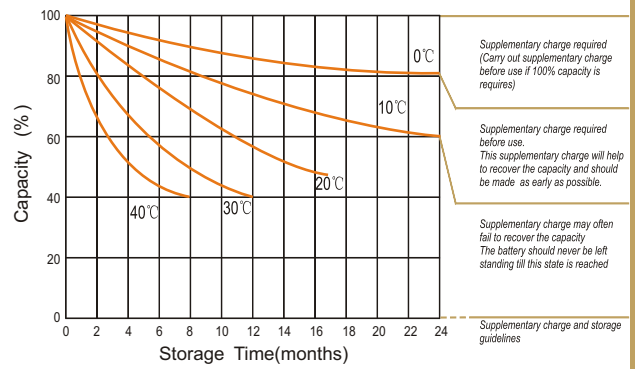
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
4.80V	7543	5663	4298	2602	1502	941.3	636.1	530.1	424.5	305.4	249.7	135.7
5.00V	7395	5489	4229	2570	1499	938.3	633.3	529.4	421.4	303.9	248.1	133.3
5.10V	7310	5344	4198	2548	1487	932.6	623.6	528.3	420.0	301.9	245.9	130.9
5.25V	6655	4977	4069	2560	1458	929.7	609.7	523.3	416.0	299.4	243.5	128.4
5.40V	6062	4587	3761	2519	1416	915.8	602.4	511.4	411.6	294.4	241.1	125.9
5.55V	5324	4188	3452	2372	1367	876.3	592.1	486.7	401.9	281.9	238.0	122.3

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

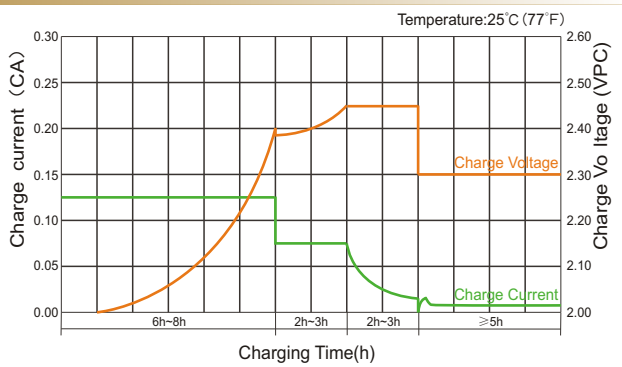
Cycle Life in Relation to Depth of Discharge



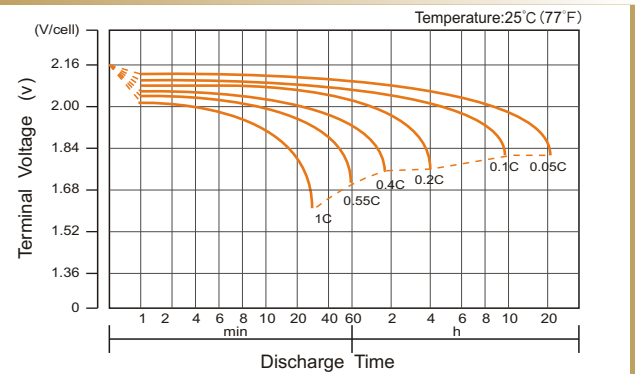
Storage Characteristics



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 Battery	50%	70%	83%	85%	90%	98%	100%	102%	104%	105%
AGM Battery	46%	66%	76%	83%	90%	98%	100%	103%	107%	109%

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