



RL 23000 (2V3000Ah)

RL 23000 is a general purpose battery with 18 years floating design life. With heavy duty grid, thick plates, special additives, RL series battery maintain very long life time and stable performance.



Specification

Cells Per Unit	1
Voltage Per Unit	2
Capacity	3000Ah@10hr-rate to 1.80V per cell @25°C
Weight	Approx. 193.0 Kg
Max. Discharge Current	9000 A (5 sec)
Internal Resistance	Approx. 0.3 mΩ
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
Float charging Voltage	2.27 to 2.3 VDC/unit Average at 25°C
Recommended Maximum Charging Current Limit	600 A
Equalization and Cycle Service	2.43 to 2.47 VDC/unit Average at 25°C
Self Discharge	RITAR batteries can be stored for more than 6 months at 25°C. Self-discharge ratio less than 3% per month at 25°C. Please charge batteries before using.
Terminal	Thread insert & Bolt (F10)
Container Material	A.B.S. (UL94-HB), Flammability resistance of UL94-V1 can be available upon request.



MH28539



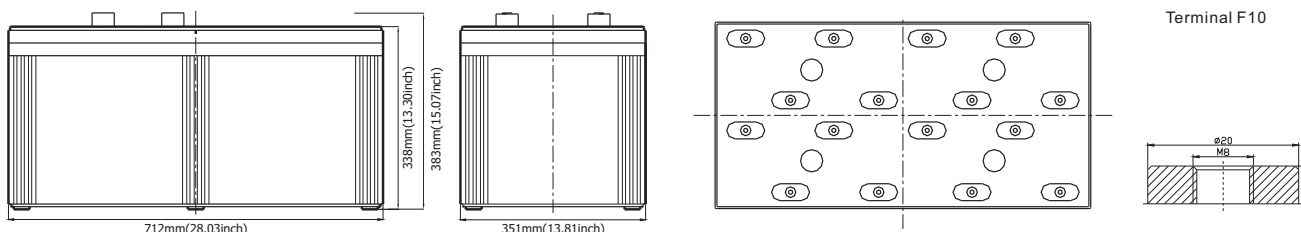
G4M20206-0910-E-16



ISO9001:2000 Certificate

Dimensions

Unit: mm Dimension: 712(L)×351(W)×338(H)



Constant Current Discharge Characteristics : A(25°C)

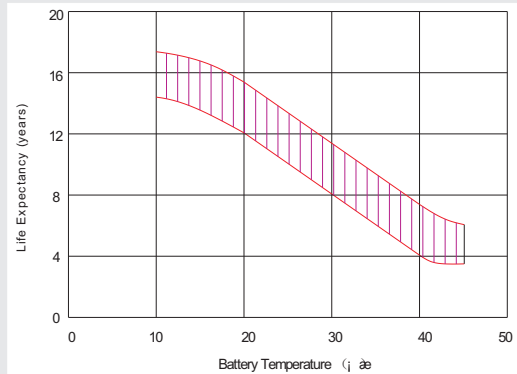
F.V/Time	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	6HR	8HR	10HR
1.60V	4073	3004	1933	1149	855.9	682.3	574.6	482.6	389.5	325.6
1.65V	3873	2884	1849	1107	819.9	658.4	550.6	470.9	372.1	320.0
1.70V	3612	2719	1813	1089	802.0	652.4	544.6	459.3	366.3	314.1
1.75V	3206	2447	1670	1029	760.1	616.5	520.7	436.1	354.7	308.3
1.80V	2760	2229	1574	981.5	730.2	610.5	502.7	430.2	348.8	302.5
1.85V	2334	2006	1454	927.7	694.3	562.6	478.8	407.0	331.4	282.1

Constant Power Discharge Characteristics : W(25°C)

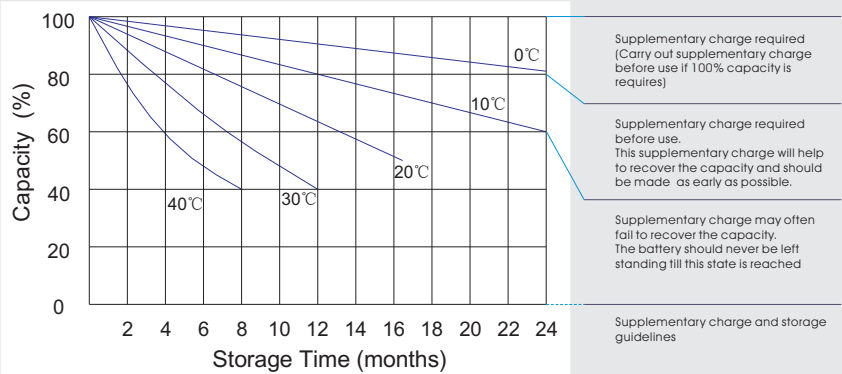
F.V/Time	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	6HR	8HR	10HR
1.60V	7131	5474	3540	2129	1595	1282	1086	931.1	741.3	628.6
1.65V	6944	5445	3527	2098	1564	1263	1074	919.2	735.0	622.7
1.70V	6560	5153	3463	2067	1540	1258	1064	897.8	723.7	613.0
1.75V	5843	4644	3190	1957	1485	1195	1019.4	853.6	700.9	603.2
1.80V	5057	4237	3008	1869	1423	1190	986.3	843.5	689.6	581.7
1.85V	4313	3820	2781	1769	1356	1102	941.2	799.1	655.3	560.1

All mentioned values are average values.

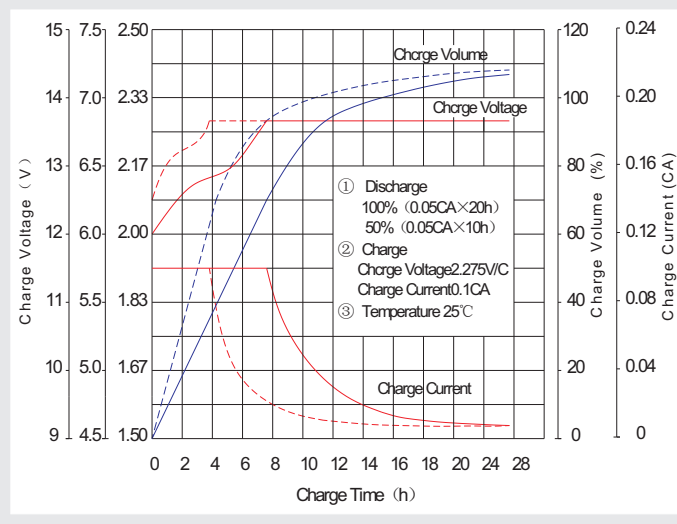
Effect of temperature on long term float life



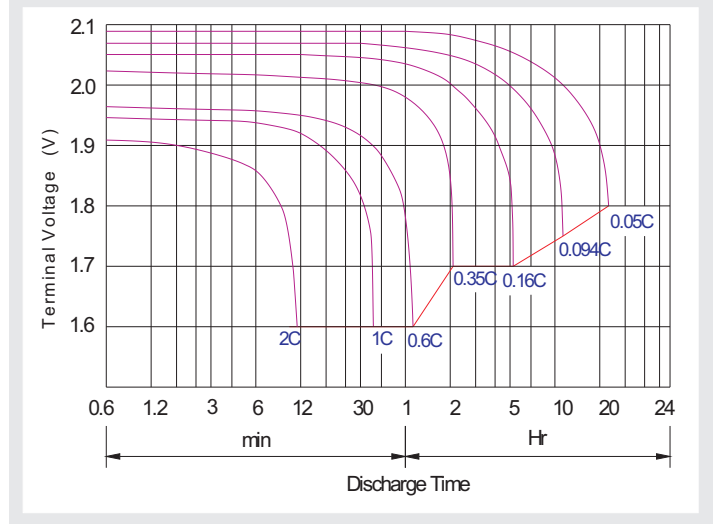
Storage characteristic



Charge characteristic Curve for standby use



Discharge characteristic Curve



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	6V&12V	50%	70%	83%	85%	90%	98%	100%	102%	104%	105%
	2V	60%	75%	85%	88%	92%	99%	100%	103%	105%	106%
AGM Battery	6V&12V	46%	66%	76%	83%	90%	98%	100%	103%	107%	109%
	2V	55%	70%	80%	85%	92%	99%	100%	104%	108%	110%

Discharge Current VS. Discharge Voltage

Final Discharge 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+2.40~2.45V,24h,Max. Current 0.2CA
Constant Current	-0.2Cx2h+0.1CAx12h
Fast	-0.2Cx2h+0.3CAx4.0h

Maintenance & Cautions

Float Service:
※ Every month, recommend inspection every battery voltage.
※ Every three months, recommend equalization charge for one time.
Equalization charge method:
Discharge: 100% rate capacity discharge.
Charge: Max. current 0.3CA, 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 directly affected by the number of discharge cycles, depth of discharge, ambient temperature and charging voltage.