



RA12-225 (12V225Ah)

RA series is a general purpose battery with 10 years design life in float service. It meets with IEC, JIS and BS standards. With up-dated AGM valve regulated technology and high purity raw materials, the RA series battery maintains high consistency for better performance and reliable standby service life. It is suitable for UPS/EPS, medical equipment, emergency light and security system applications.



Specification

| | |
|--|---|
| Cells Per Unit | 6 |
| Voltage Per Unit | 12 |
| Capacity | 225Ah@10hr-rate to 1.80V per cell @25°C |
| Weight | Approx. 65 Kg (Tolerance±1.5%) |
| Max. Discharge Current | 2250A (5 sec) |
| Internal Resistance | Approx. 3.7 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 | 13.6 to 13.8 VDC/unit Average at 25°C |
| Recommended Maximum Charging Current Limit | 67.5A |
| Equalization and Cycle Service | 14.6 to 14.8 VDC/unit Average at 25°C |
| Self Discharge | RITAR Valve Regulated Lead Acid (VRLA) 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 | Terminal F16 |
| Container Material | A.B.S. UL94-HB, UL94-V0 Optional. |



MH28539



G4M20206-0910-E-16



CERTIFICATE

Postcode: 421001

is in conformity with

ISO 14001:2004 Standard



CERTIFICATE

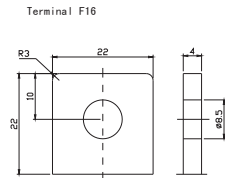
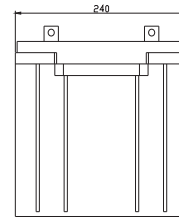
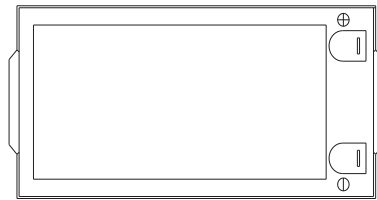
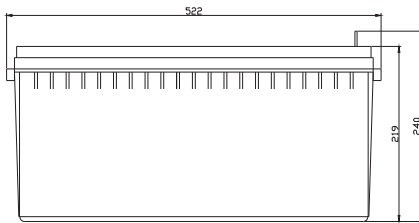
Postcode: 421001

is in conformity with

OHSAS 18001:1999 Standard

Dimensions

Unit: mm Dimension: 522(L)×240(W)×219(H)



Constant Current Discharge Characteristics: A (25°C)

| F.V/Time | 5MIN | 10MIN | 15MIN | 30MIN | 1HR | 2HR | 3HR | 4HR | 5HR | 8HR | 10HR | 20HR |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 9.60V | 640.9 | 480.0 | 387.8 | 210.2 | 140.4 | 86.71 | 58.92 | 47.51 | 39.44 | 25.98 | 23.41 | 12.40 |
| 10.0V | 622.3 | 456.8 | 379.8 | 207.5 | 138.6 | 84.96 | 57.83 | 46.84 | 39.09 | 25.88 | 23.18 | 12.16 |
| 10.2V | 603.9 | 440.6 | 373.9 | 204.4 | 137.3 | 84.06 | 57.32 | 46.37 | 38.83 | 25.64 | 22.95 | 11.93 |
| 10.5V | 542.3 | 406.6 | 356.0 | 198.7 | 135.6 | 82.96 | 56.81 | 45.68 | 38.51 | 25.41 | 22.73 | 11.70 |
| 10.8V | 489.4 | 370.8 | 328.1 | 192.2 | 133.7 | 82.28 | 56.15 | 44.12 | 38.32 | 25.31 | 22.52 | 11.58 |
| 11.1V | 417.9 | 331.4 | 294.3 | 184.9 | 130.5 | 78.97 | 55.05 | 43.49 | 38.04 | 25.11 | 22.26 | 11.11 |

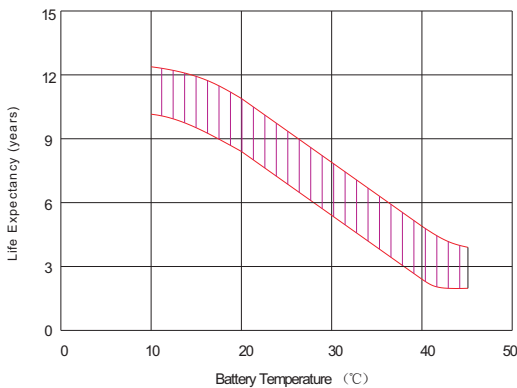
Constant Power Discharge Characteristics: W(25°C)

| F.V/Time | 5MIN | 10MIN | 15MIN | 30MIN | 1HR | 2HR | 3HR | 4HR | 5HR | 8HR | 10HR | 20HR |
|----------|------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| 9.60V | 6628 | 5112 | 4266 | 2407 | 1627 | 1016 | 693.7 | 568.7 | 472.5 | 311.1 | 280.8 | 149.3 |
| 10.0V | 6498 | 4956 | 4197 | 2382 | 1613 | 1004 | 683.4 | 560.7 | 468.3 | 309.9 | 278.6 | 146.7 |
| 10.2V | 6424 | 4825 | 4150 | 2361 | 1603 | 996.5 | 680.4 | 555.5 | 465.4 | 307.6 | 276.1 | 144.0 |
| 10.5V | 5848 | 4493 | 3958 | 2313 | 1593 | 983.9 | 674.9 | 548.0 | 461.7 | 305.0 | 273.4 | 141.3 |
| 10.8V | 5326 | 4142 | 3658 | 2258 | 1572 | 976.6 | 667.3 | 529.5 | 459.6 | 303.6 | 270.7 | 139.9 |
| 11.1V | 4678 | 3745 | 3293 | 2196 | 1549 | 940.0 | 656.1 | 521.9 | 457.9 | 301.5 | 267.7 | 134.9 |

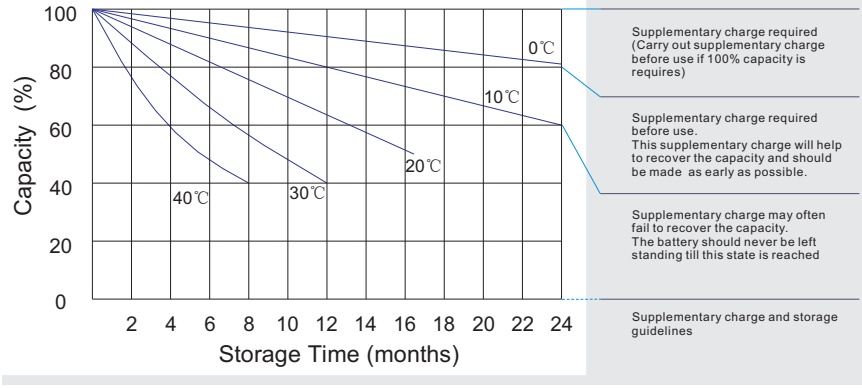
All mentioned values are average values(Tolerance±2%).



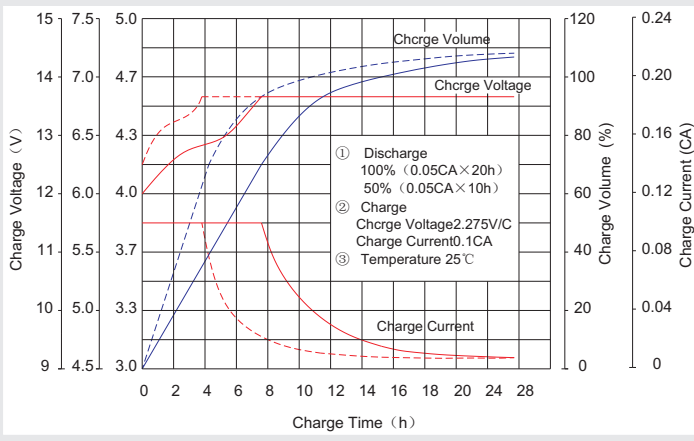
Effect of temperature on long term float life



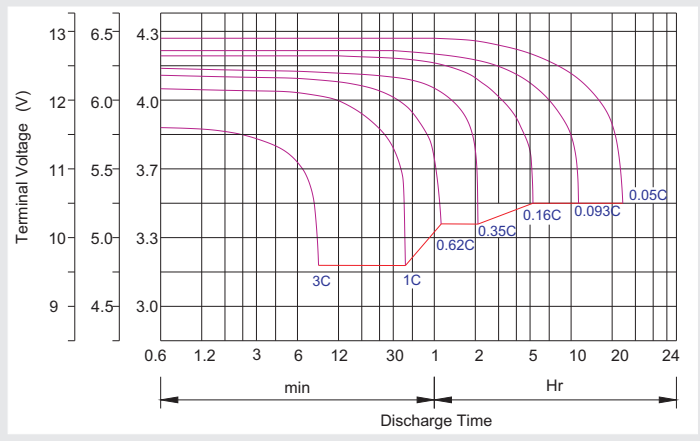
Storage characteristic



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

| | | | |
|----------|-----------------------|------------------|-----------------------|
| Bolt | M5 | M6 | M8 |
| Terminal | F3 F4 F13 F18 T25 T26 | F8 F11 F12-1 F15 | F5 F9 F10 F12 F14 F16 |
| Torque | 6~7N·m | 8~10N·m | 10~12N·m |

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.