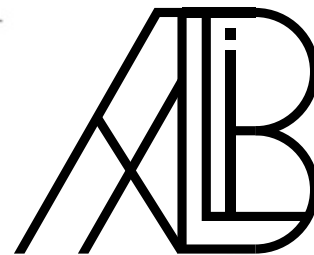


LIB12-200 (12V200Ah)

LIB (Deep Cycle GEL,12 Volts) series is pure GEL battery with 12 years floating design life, it is ideal for standby or frequent cyclic discharge applications under extreme environments. By using strong grids, high purity lead and patented Gel electrolyte, the LIB series offers excellent recovery after deep discharge under frequent cyclic discharge use Suitable for solar, CATV, marine, RV and deep discharge UPS applications.



| | |
|--------------------------------------|--|
| Cells Per Unit | 6 |
| Voltage Per Unit | 12 |
| Capacity | 200Ah@10hr-rate to 1.75V per cell @25°C |
| Weight | Approx. 59.5 Kg |
| Max. Discharge Current | 2000A (5 sec) |
| Internal Resistance | Approx. 5.2 mΩ |
| Operating Temperature Range | Disch.: -40 °C~60°C |
| | Charge: -20°C~50°C Storage: -40°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 | 40A |
| Equalization and Cycle Service | 14.2 to 14.4VDC/unit Average at 25°C |
| Self Discharge | LEXRON 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 M8 |
| Container Material | A.B.S. UL94-HB |

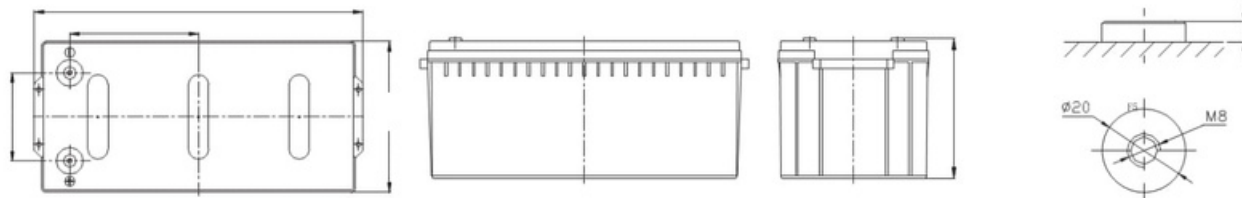
General Features

- > Nanosilica colloidal electrolyte and high tin positive plate alloy design to enhance battery performance
- > Relatively rich electrolyte, high temperature and low temperature performance is superior
- > Long cycle life, excellent deep cycle discharge ability
- > Excellent charge acceptance ability
- > Precision sealing technology
- > Long life



Dimensions

Unit: mm Dimension: 522 (L) × 240 (W) × 222 (H)



Constant Current Discharge Characteristics: A (25°C)(The capacity reaches the peak value after 5-20 cycles.)

| F.V/Time | 5MIN | 10MIN | 15MIN | 30MIN | 1HR | 2HR | 3HR | 4HR | 5HR | 8HR | 10HR | 20HR |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 9.60V | 476.4 | 340.9 | 273.6 | 183.4 | 116.6 | 70.20 | 50.79 | 40.54 | 34.42 | 23.31 | 19.36 | 10.61 |
| 10.0V | 462.6 | 324.4 | 268.0 | 181.8 | 116.1 | 69.67 | 50.59 | 40.35 | 34.22 | 23.12 | 19.17 | 10.42 |
| 10.2V | 448.9 | 312.9 | 263.8 | 180.7 | 115.0 | 69.15 | 50.20 | 40.16 | 34.02 | 22.93 | 18.98 | 10.22 |
| 10.5V | 407.8 | 292.2 | 254.1 | 177.9 | 113.9 | 68.62 | 50.01 | 39.79 | 33.61 | 22.75 | 18.80 | 10.00 |
| 10.8V | 372.4 | 269.6 | 237.0 | 171.7 | 110.0 | 67.39 | 48.65 | 38.85 | 32.79 | 21.84 | 18.20 | 9.496 |
| 11.1V | 321.6 | 243.7 | 215.0 | 162.4 | 104.5 | 64.40 | 46.50 | 36.97 | 31.38 | 20.91 | 17.66 | 8.937 |

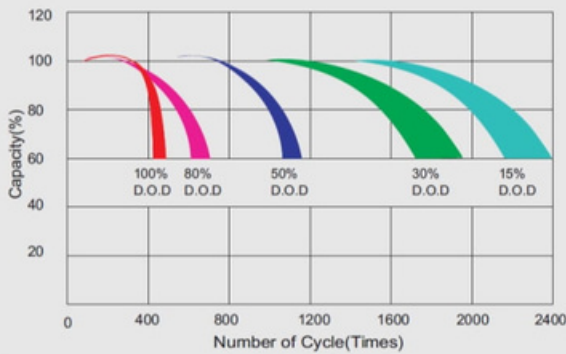
Constant Power Discharge Characteristics: W (25°C)(The capacity reaches the peak value after 5-20 cycles.)

| F.V/Time | 5MIN | 10MIN | 15MIN | 30MIN | 1HR | 2HR | 3HR | 4HR | 5HR | 8HR | 10HR | 20HR |
|----------|------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| 9.60V | 4927 | 3630 | 3010 | 2091 | 1347 | 827.4 | 605.9 | 483.2 | 410.6 | 278.4 | 231.3 | 127.2 |
| 10.0V | 4830 | 3519 | 2962 | 2083 | 1344 | 823.1 | 604.6 | 482.6 | 409.6 | 277.0 | 229.8 | 125.0 |
| 10.2V | 4775 | 3426 | 2928 | 2072 | 1334 | 818.1 | 601.9 | 481.6 | 408.2 | 275.2 | 227.8 | 122.7 |
| 10.5V | 4398 | 3229 | 2826 | 2044 | 1322 | 812.2 | 599.6 | 477.1 | 403.3 | 272.9 | 225.6 | 120.4 |
| 10.8V | 4052 | 3011 | 2643 | 1978 | 1284 | 801.8 | 583.3 | 466.2 | 393.4 | 262.1 | 218.5 | 113.9 |
| 11.1V | 3600 | 2754 | 2406 | 1876 | 1229 | 772.0 | 558.1 | 443.7 | 376.5 | 251.0 | 211.9 | 107.2 |

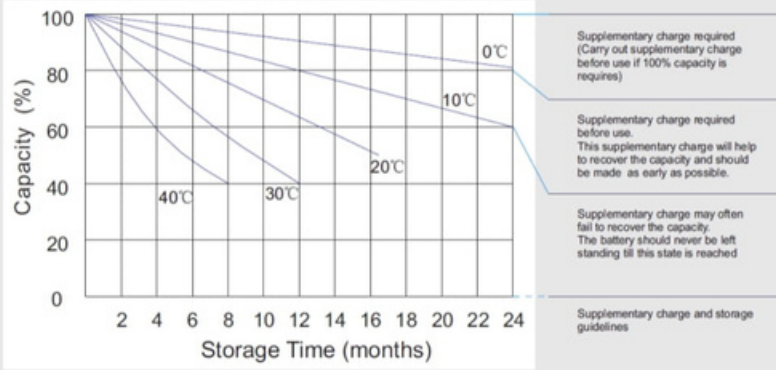
LIB12-200



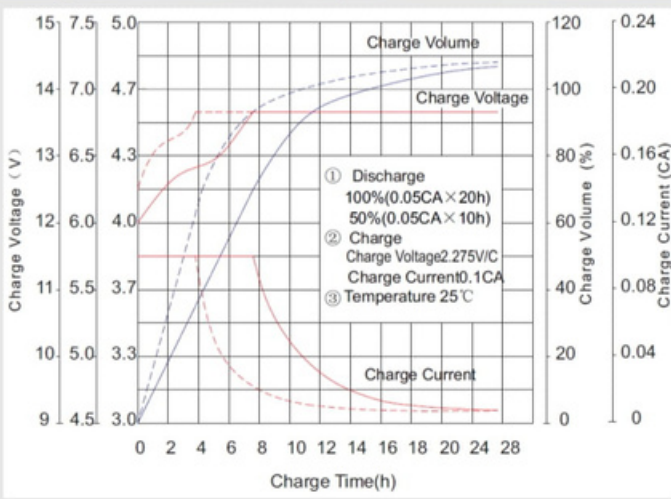
Life characteristics of cyclic use



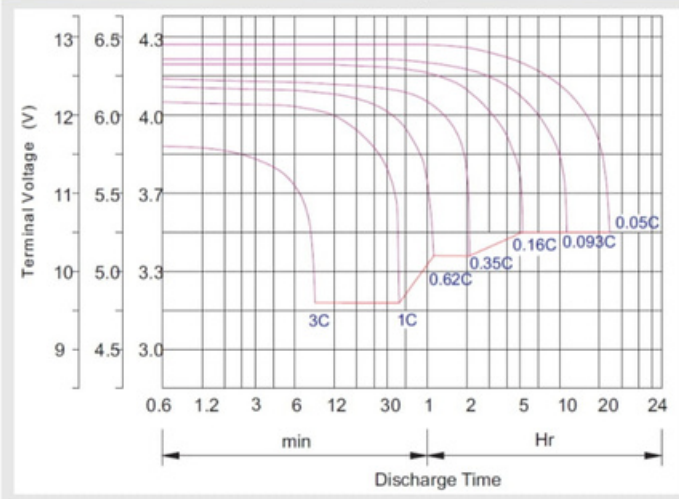
Storage characteristic



Charge characteristic curve for cyclic 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 3 months, if stored at 25°C.

Charging Method:

| | |
|------------------|--|
| Constant Voltage | -0.2Cx2h+2.4-2.45V/cellx24h, Max. Current 0.2C |
| Constant Current | -0.2Cx2h+0.1Cx12h |
| Fast | -0.2Cx2h+0.2Cx6h |

Maintenance & Cautions

| Cycle service |
|---|
| ※ Avoid battery over discharge, especially battery series connection use. |
| ※ Charge with recommended voltage, ensure battery can be full recharged. |
| In general, recharge capacity should be 1.1-1.15 times disc. capacity |
| ※ Effect of temperature on cycle charge voltage: -4mV/°C/Cell. |
| ※ There are a number of factors that will affect the length of cyclic service. |
| The most significant are 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. |

| 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 |