



### LIVEN LVL Series

AGM (Absorbent Glass Material) technology with gas recombination. VRLA (Valve Regulated Lead Acid Battery). Maintenance-Free Sealed Lead Acid Battery. Battery with 12 years design life in float service.

Cycle use 1: Up to 260 cycles at 100% DOD.

Cycle use 2: Up to 500 cycles at 50% DOD.

### Applications:

- Telecommunications
- Uninterrupted Power Supplies
- Medical equipments
- Emergency backup power supply
- Alarm and security system
- Communication power supply
- DC power supply

### Dimensions:

|              |                    |
|--------------|--------------------|
| Length       | 407±1.5mm (16.0in) |
| Width        | 177±1.5mm (6.97in) |
| Height       | 225±1.5mm (8.86in) |
| Total Height | 225±1.5mm (8.86in) |

### Specifications:

|                                      |                                                                    |
|--------------------------------------|--------------------------------------------------------------------|
| Cells Per Unit                       | 6                                                                  |
| Voltage Per Unit                     | 12V                                                                |
| Nominal Capacity                     | 120Ah @10hour-rate to 1.80V per cell @25°C                         |
| Weight                               | Approx. 33.50Kg ±2% (73.85lbs)                                     |
| Internal Resistance                  | Approx. 4.5mΩ                                                      |
| Terminal                             | R8.0                                                               |
| Max. Discharge Current               | 1200A (5sec)                                                       |
| Design Life                          | 12 years (Float charging)<br>Eurobat (20°C): 10-12 years Long Life |
| Recommended Maximum Charging Current | 36.0A                                                              |
| Standby Use Voltage                  | 13.6V~13.8V @ 25°C<br>Temperature Compensation: -3mV/°C/Cell       |
| Cycle Use Voltage                    | 14.6V~14.8V @ 25°C<br>Temperature Compensation: -4mV/°C/Cell       |
| Operating Temperature Range          | Discharge: -15°C~50°C<br>Charge: -10°C~45°C<br>Storage: -15°C~50°C |
| Normal Operating Temperature Range   | 25°C±5°C                                                           |

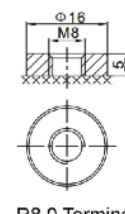
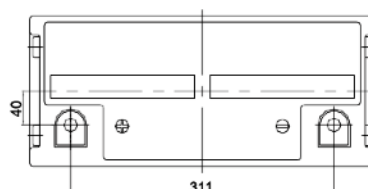
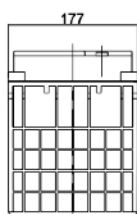
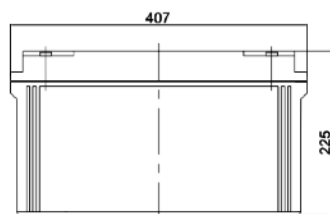
### Self Discharge

LIVEN 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 charge batteries before using.

### Container Material

A.B.S. UL94-HB, UL94-V0 Optional.

### Technical Drawings:



R8.0 Terminal

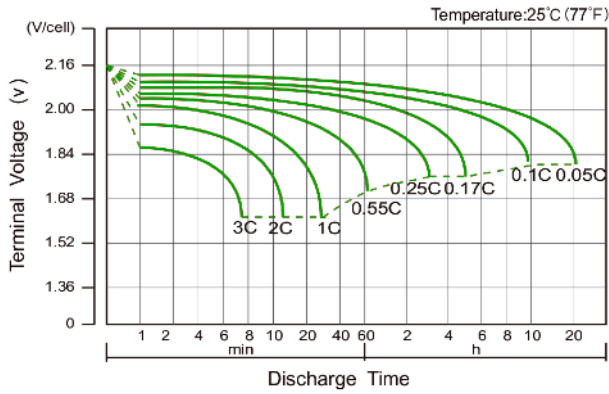
### Constant Current Discharge (CC, Unit: A) at 25°C (77°F)

| F.V./ Time | 10min | 15min | 30min | 1h   | 2h   | 3h   | 4h   | 5h   | 8h   | 10h  | 20h  |
|------------|-------|-------|-------|------|------|------|------|------|------|------|------|
| 1.60V      | 278.2 | 218.7 | 131.4 | 73.3 | 43.7 | 33.8 | 26.6 | 22.6 | 15.2 | 12.7 | 6.62 |
| 1.65V      | 262.9 | 209.1 | 126.2 | 70.8 | 42.3 | 32.8 | 25.9 | 22.1 | 15.0 | 12.5 | 6.52 |
| 1.70V      | 242.0 | 195.8 | 120.6 | 68.5 | 40.9 | 31.9 | 25.2 | 21.5 | 14.8 | 12.3 | 6.44 |
| 1.75V      | 221.6 | 182.2 | 115.3 | 66.0 | 39.5 | 31.0 | 24.5 | 20.9 | 14.6 | 12.2 | 6.36 |
| 1.80V      | 200.6 | 168.3 | 110.2 | 63.5 | 38.1 | 30.0 | 23.8 | 20.4 | 14.4 | 12.0 | 6.30 |
| 1.85V      | 163.9 | 139.6 | 94.9  | 56.9 | 34.9 | 27.7 | 22.1 | 19.0 | 13.5 | 11.3 | 5.98 |

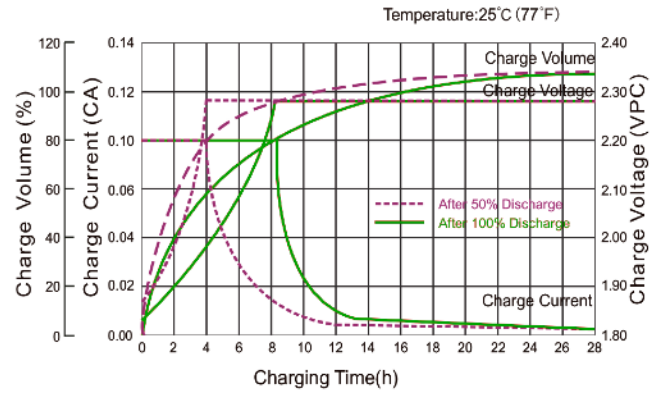
### Constant Power Discharge (CP, Unit: W/Battery) at 25°C (77°F)

| F.V./ Time | 10min  | 15min  | 30min  | 1h    | 2h    | 3h    | 4h    | 5h    | 8h    | 10h   | 20h  |
|------------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|------|
| 1.60V      | 2837.4 | 2293.8 | 1432.2 | 826.8 | 496.8 | 387.6 | 306.6 | 261.6 | 178.2 | 149.4 | 78.0 |
| 1.65V      | 2733.0 | 2226.0 | 1389.6 | 802.8 | 483.0 | 377.4 | 299.4 | 256.2 | 176.4 | 147.6 | 77.4 |
| 1.70V      | 2562.6 | 2115.6 | 1341.0 | 781.8 | 469.8 | 369.0 | 292.2 | 250.2 | 174.6 | 145.8 | 76.2 |
| 1.75V      | 2388.0 | 1997.4 | 1295.4 | 757.8 | 455.4 | 359.4 | 285.6 | 244.8 | 172.2 | 144.0 | 75.6 |
| 1.80V      | 2199.0 | 1870.8 | 1250.4 | 732.6 | 441.6 | 349.8 | 278.4 | 239.4 | 169.8 | 142.2 | 75.0 |
| 1.85V      | 1829.4 | 1574.4 | 1087.8 | 661.2 | 406.8 | 324.6 | 259.8 | 223.8 | 159.6 | 134.4 | 70.8 |

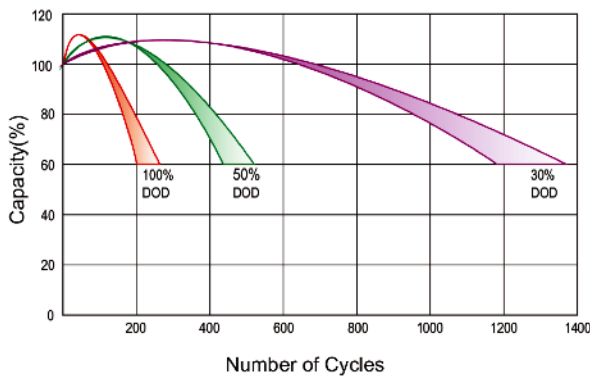
Discharge Characteristics Curve



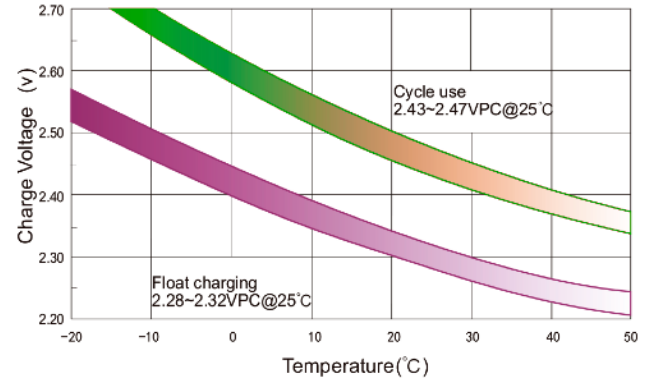
Charge Characteristic Curve For Standby Use



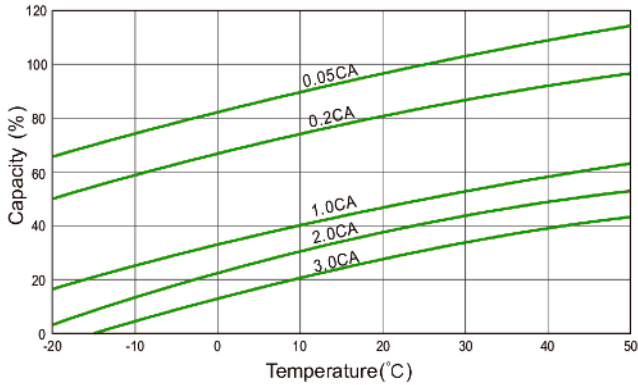
Cycle Life In Relation To Depth Of Discharge



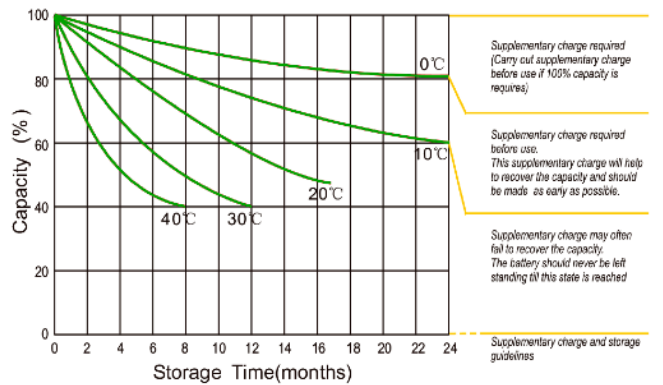
Relationship Between Charging Voltage And Temperature



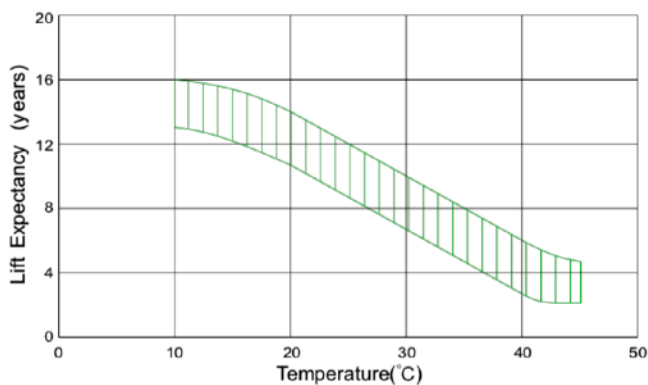
Temperature Effects On Capacity



Storage Characteristics



Effect Of Temperature On Long Term Life



Life Characteristics Of Standby Use

