



HRL series HRL 12110W



Valve Regulated Lead Acid Battery

Maintenance-Free Sealed Lead Acid Battery.
Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99%.

General Design for Standby Power Applications

【Design Life】

Up to 10 Years in Standby Service at 25°C
Eurobat (20°C) : 10/12 YEARS LONG LIFE

【Operating Temperature Range】

Nominal Operating Temperature : 25°C (77°F)
Discharge : -15°C ~ 50°C (5°F~122°F)
Charge: -15°C ~ 40°C (5°F~104°F)
Storage: -15°C ~ 40°C (5°F~104°F)

【Float Charging Voltage】

13.5 ~ 13.8 VDC/Unit at 25°C (77°F)

【Equalization Charging Voltage】

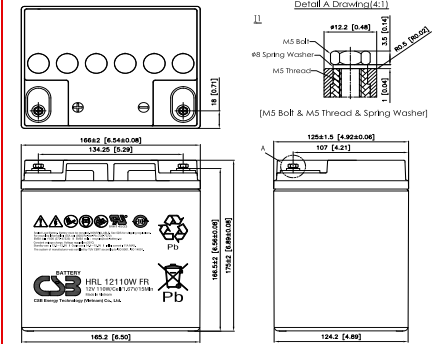
14.4 ~ 15.0 VDC/Unit at 25°C (77°F)

【Self Discharge】

Less than 10% after 90 days, can be stored up to 6 months at 25°C (77°F);
Fully recharging is required before usage, and charged sooner if stored at higher temperature than 25°C (77°F).

Specification Design according with IEC 61056-1/2:2012

| | | | |
|----------------------------|---|--------------|----------------|
| Nominal Voltage | 12V (6 cells per unit) | | |
| Nominal Capacity | 110W @15min-rate to 1.67V per cell @25°C (77°F) | | |
| Weight | Approx. 9.90 Kg (21.82 lbs) | | |
| Maximum Discharge Current | 225A (5sec) | | |
| Internal Resistance | Approx. 8.10 mΩ | | |
| Short Circuit Current | 884A | | |
| Maximum Charge Current | 11.0A | | |
| Terminal types | I1 thread lead alloy terminal to accept M5 bolt | | |
| Terminal tightening torque | 30.4±6.1 Kgf-cm / 26.4±5.3 Lbf-in / 3.0±0.6 N-m | | |
| Container Material | ABS (UL 94-HB) & Flame Retardant (94-V0) available upon request | | |
| Dimensions | Length (L) | 166.0±2.0 mm | 6.54±0.08 inch |
| | Width (W) | 125.0±1.5 mm | 4.92±0.06 inch |
| | Container Height (h) | 175.0±2.0 mm | 6.89±0.08 inch |
| | Overall Height (H) | 175.0±2.0 mm | 6.89±0.08 inch |



Constant Current Discharge Characteristics Unit: A (25°C, 77°F)

| F.V/Time | 2MIN | 4MIN | 5MIN | 6MIN | 8MIN | 10MIN | 15MIN | 20MIN | 30MIN | 45MIN | 60MIN | 90MIN |
|----------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 1.60V | 170 | 145 | 129 | 118 | 97.5 | 81.6 | 61.4 | 48.0 | 33.6 | 25.7 | 21.3 | 14.9 |
| 1.67V | 151 | 129 | 117 | 108 | 91.1 | 77.5 | 59.6 | 47.0 | 33.2 | 25.3 | 20.8 | 14.7 |
| 1.70V | 141 | 121 | 111 | 103 | 88.3 | 75.7 | 58.6 | 46.3 | 32.7 | 24.8 | 20.4 | 14.5 |
| 1.75V | 125 | 108 | 99.6 | 93.2 | 82.7 | 72.2 | 56.1 | 44.7 | 32.3 | 24.4 | 20.0 | 14.4 |
| 1.80V | 109 | 94.0 | 88.2 | 83.7 | 76.4 | 68.7 | 53.7 | 42.5 | 31.9 | 24.0 | 19.6 | 14.2 |
| 1.85V | 89.3 | 78.7 | 75.9 | 73.6 | 69.2 | 64.4 | 51.0 | 40.8 | 29.7 | 22.4 | 18.30 | 14.0 |

Constant Power Discharge Characteristics Unit: W (25°C, 77°F)

| F.V/Time | 2MIN | 4MIN | 5MIN | 6MIN | 8MIN | 10MIN | 15MIN | 20MIN | 30MIN | 45MIN | 60MIN | 90MIN |
|----------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 1.60V | 1806 | 1541 | 1385 | 1270 | 1053 | 888 | 682 | 554 | 385 | 297 | 247 | 174 |
| 1.67V | 1624 | 1386 | 1263 | 1171 | 988 | 852 | 665 | 535 | 377 | 292 | 243 | 173 |
| 1.70V | 1530 | 1316 | 1197 | 1107 | 956 | 827 | 655 | 526 | 372 | 287 | 239 | 171 |
| 1.75V | 1358 | 1190 | 1093 | 1020 | 900 | 796 | 636 | 510 | 361 | 280 | 234 | 170 |
| 1.80V | 1177 | 1054 | 990 | 941 | 851 | 764 | 610 | 495 | 352 | 274 | 229 | 168 |
| 1.85V | 995 | 918 | 882 | 854 | 793 | 733 | 589 | 478 | 337 | 260 | 217 | 167 |

Please refer to the official site for the latest rating confirmation. URL: www.csb-battery.com

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Recognized under UL 1989,
and certified by ISO 9001, 14001, 45001, 50001.



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