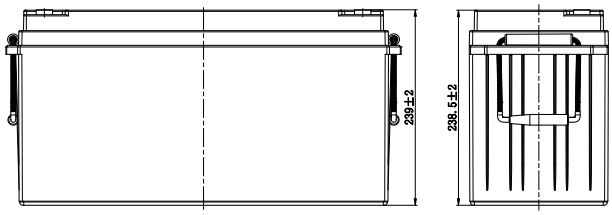
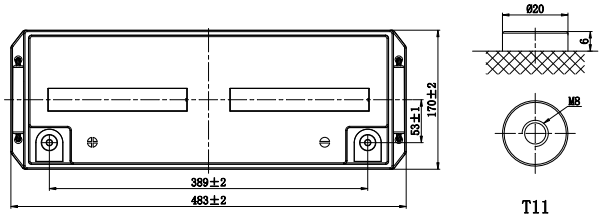
# LHR SERIES-HIGH RATE

LHR12510W (12V510W)

LEOCH BATTERY




T11

## CHARACTERISTICS

| Item | | Specifications |
|---|---|---|
| Rated Voltage | | 12V |
| Nominal Rate (25℃) | $W_{15}$,1.67V/cell | 510W/cell |
| Nominal Capacity (25℃) | $C_{10}$,1.80V/cell | 140Ah |
| Dimension | Length | 483mm (19.0inches) |
| | Width | 170mm (6.69inches) |
| | Container Height | 238.5mm (9.39inches) |
| | Total Height | 239mm (9.41inches) |
| Approx Weight | | 43.6kg (96.1lbs) |
| Terminal | | T11(M8) |
| Container Material | | ABS (UL94 HB or V-0 optional) |
| Short-circuit current | | 2800A |
| Internal Resistance (25℃) | | Approx 3.6 mΩ (Fully charged) |
| Operating Temp. Range | Discharge | -20~55℃ (-4~131°F) |
| | Charge | -20~40℃ (-4~104°F) |
| | Storage | -15~50℃ (5~122°F) |
| Nominal Operating Temp. Range | | 25±3℃ (77±5°F) |
| Max.Charging Current (25℃) | | 0.25C |
| Charge voltage (25℃) | Float Charge | Equalization Charge |
| | 2.25-2.30V/cell | 2.30-2.40V/cell |
| Temp. Coeffcient | -3mV/cell/℃ | -4mV/cell/℃ |
| Effect of temp. to Capacity | 40℃ (104°F) | 106% |
| | 25℃ (77°F) | 100% |
| | 0℃ (32°F) | 86% |
| Self Discharge | ⩽3% per month at 25°C (77°F) | |

## DISCHARGE TABLE

**Constant Current Discharge (Amperes) at 25°C (77°F)**

| F.V/Time | 5min | 10min | 15min | 20min | 30min | 45min | 1h | 1.5h | 2h | 3h | 4h | 5h | 8h | 10h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.85V/cell | 305.1 | 243.6 | 211.2 | 166.1 | 117.2 | 85.7 | 77.0 | 56.6 | 46.3 | 34.5 | 27.2 | 23.0 | 15.9 | 13.6 |
| 1.80V/cell | 347.0 | 276.5 | 239.3 | 187.7 | 132.1 | 91.6 | 79.6 | 58.3 | 49.0 | 35.6 | 28.3 | 24.0 | 16.3 | 14.0 |
| 1.75V/cell | 376.9 | 299.8 | 259.1 | 202.7 | 142.1 | 95.8 | 82.9 | 60.7 | 50.9 | 36.4 | 29.2 | 24.6 | 16.4 | 14.1 |
| 1.70V/cell | 402.9 | 319.7 | 275.2 | 214.9 | 150.6 | 99.3 | 86.5 | 63.2 | 52.1 | 37.2 | 29.9 | 25.2 | 16.7 | 14.2 |
| 1.67V/cell | 417.0 | 329.8 | 283.2 | 220.8 | 154.2 | 104.2 | 87.5 | 64.9 | 53.3 | 38.0 | 30.3 | 25.5 | 16.9 | 14.4 |
| 1.60V/cell | 431.7 | 341.1 | 292.0 | 226.5 | 158.0 | 110.0 | 89.1 | 67.1 | 54.4 | 38.9 | 31.0 | 26.0 | 16.9 | 14.5 |

**Constant Power Discharge (Watts/cell) at 25°C (77°F)**

| F.V/Time | 5min | 10min | 15min | 20min | 30min | 45min | 1h | 1.5h | 2h | 3h | 4h | 5h | 8h | 10h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.85V/cell | 569.8 | 458.2 | 399.8 | 315.9 | 223.9 | 164.9 | 149.0 | 109.7 | 90.0 | 67.3 | 53.4 | 45.4 | 31.6 | 27.1 |
| 1.80V/cell | 637.4 | 512.6 | 447.3 | 353.3 | 250.5 | 175.0 | 153.2 | 112.4 | 94.8 | 69.2 | 55.2 | 47.0 | 32.2 | 27.8 |
| 1.75V/cell | 680.2 | 547.1 | 477.4 | 377.1 | 267.3 | 182.0 | 158.8 | 116.5 | 98.1 | 70.5 | 56.9 | 48.2 | 32.4 | 27.9 |
| 1.70V/cell | 715.1 | 575.1 | 501.8 | 396.5 | 281.0 | 187.2 | 164.9 | 120.8 | 100.0 | 71.8 | 58.0 | 49.1 | 32.9 | 28.1 |
| 1.67V/cell | 726.8 | 584.5 | 510.0 | 402.9 | 285.6 | 195.4 | 165.7 | 123.3 | 102.0 | 73.1 | 58.6 | 49.6 | 33.2 | 28.4 |
| 1.60V/cell | 736.9 | 592.6 | 517.1 | 408.5 | 289.6 | 204.3 | 167.6 | 126.6 | 103.3 | 74.5 | 59.6 | 50.4 | 33.3 | 28.6 |

# LHR SERIES-HIGH RATE

LHR12510W (12V510W)

LEOCH BATTERY

## APPLICATIONS

- UPS
- Hospitals and Testing Laboratories
- Emergency Power Supply
- Industrial Process Control Facilities
- Banks and Financial Markets
- Data and Network Operation Centers

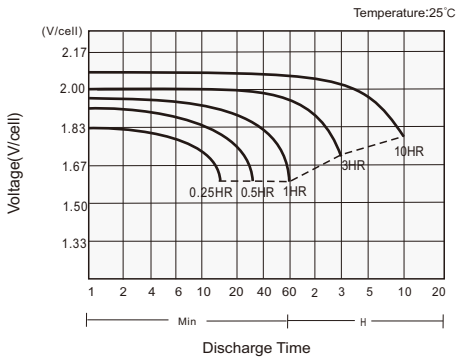
## GENERAL FEATURES

- 12 years design life (25°C)
- Excellent high current performance - optimised for short discharge time
- Advanced AGM technology for superior high-rate power
- Long Life Alloy - minimizing grid growth, reducing gassing, and extending battery life
- Epoxy-sealed posts eliminate leaks
- Optimal energy density - saves floor space

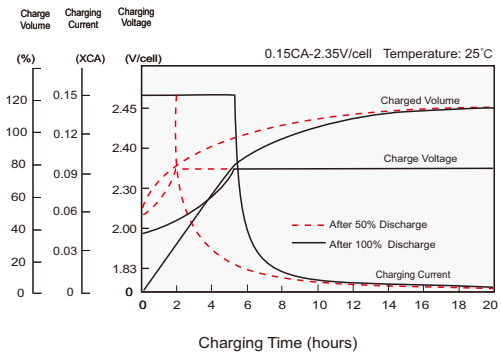
## STANDARDS

- Compliance with IEC 60896 standards
- Classified as "Long Life" according to Eurobat
- CE,UL Approved
- Manufactured in Leoch®IATF 16949, ISO 45001,ISO 9001 and ISO 14001 certified production facilities

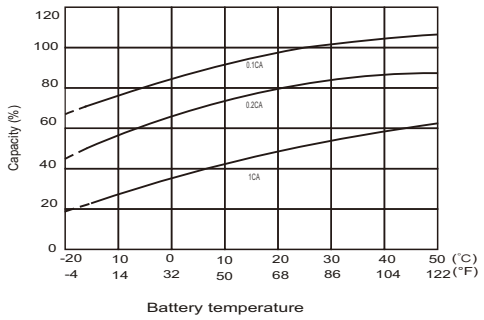
## Discharge Characteristics



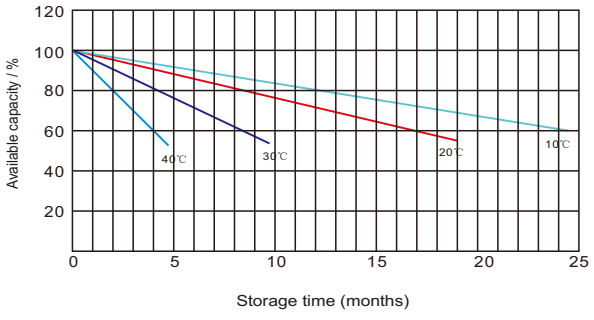

## Charging Characteristics




## Effects of Temperature on Capacity




## Self Discharge Characteristics





**Leoch International Technology Ltd.**
www.leoch.com

**Leoch Batteries Pte Ltd**
www.leoch.sg

**Leoch Battery Corporation**
www.leochamericas.com

**Leoch Europe S.A.**
www.leoch.eu



Data above is recommended and the picture is only for battery effect display, Leoch reserve the final right of explanation.
© LEOCH. All rights reserved.Trademarks and logos are the property of LEOCH and its affiliates unless otherwise noted.Subject to revisions without prior notice. E&OE.



Publication No.:LB-LHR12510W-PD-EN-V2.0-20250326