



IEEE/UL Battery  
Sizing by  
**MooreU**  
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# LHR Series-High Rate

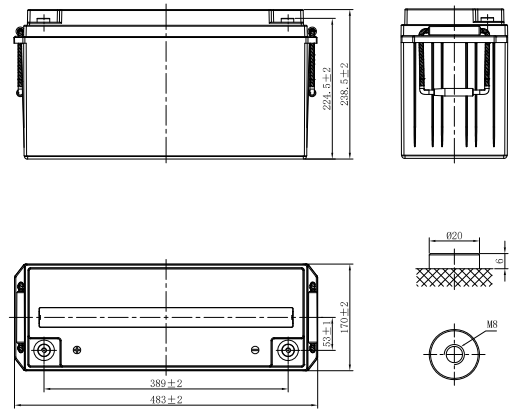
## LHR12510W(A)(12V510W)

### Specifications

Rated Voltage	12V	
Nominal Rate(W <sub>15</sub> , 1.67V/cell)	510W/cell	
Nominal Capacity(C <sub>10</sub> , 1.80V/cell)	130Ah	
Dimension	Length	483±2mm (19.0 inches)
	Width	170±2mm (6.69 inches)
	Container Height	238.5±2mm (9.39 inches)
	Total Height	238.5±2mm (9.39 inches)
Approx Weight	43.7kg (96.3 lbs)	
Terminal	M8	
Container Material	ABS: UL 94 HB or V-0 optional	
Rated Capacity(25°C)	130.0 Ah	C10(13.0A, 1.80V/cell)
	120.8 Ah	C8(15.1A, 1.80V/cell)
	114.5 Ah	C5(22.9A, 1.75V/cell)
	101.4 Ah	C3(33.8A, 1.75V/cell)
	82.7 Ah	C1(82.7A, 1.60V/cell)
Max. Discharge Current	1300A (5s)	
Internal Resistance(25°C)	Approx 3.6mΩ	
Operating Temp. Range	Discharge	-20 ~ 55°C (-4 ~ 131°F)
	Charge	-20 ~ 40°C (-4 ~ 104°F)
	Storage	-15 ~ 50°C (5 ~ 122°F)
Nominal Operating Temp. Range	25±3°C (77±5°F)	
Max.Charging Current(25°C)	32.5A	
Charge voltage(25°C)	Float	2.25 ~ 2.30V/cell    -3mV/cell/°C
	Equalization	2.30~2.40V/cell    -4mV/cell/°C
Effect of temp. to Capacity	40°C (104°F)	106%
	25°C (77°F)	100%
	0°C (32°F)	86%
Self Discharge	≤3%/month @ 25°C	



### Layout



### 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	115.1	88.3	71.5	52.5	43.0	32.0	25.3	21.4	14.8	12.6
1.80V/cell	347.0	276.5	239.3	187.7	129.8	93.8	74.0	54.1	45.5	33.1	26.2	22.2	15.1	13.0
1.75V/cell	377.3	300.2	259.3	202.9	139.7	99.4	77.0	56.4	47.2	33.8	27.1	22.9	15.2	13.1
1.70V/cell	402.9	319.7	275.2	214.9	148.0	105.0	80.4	58.7	48.4	34.5	27.8	23.4	15.5	13.1
1.67V/cell	417.0	329.8	283.2	220.8	151.5	107.3	81.2	60.3	49.5	35.3	28.1	23.7	15.7	13.3
1.60V/cell	431.7	341.1	292.0	226.5	155.2	110.2	82.7	62.3	50.5	36.2	28.8	24.2	15.7	13.4

### 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	219.9	169.8	138.4	101.8	83.6	62.5	49.6	42.2	29.4	25.1
1.80V/cell	637.4	512.6	447.3	353.3	246.0	179.1	142.3	104.4	88.1	64.3	51.3	43.6	29.9	25.8
1.75V/cell	681.0	547.6	477.9	377.5	262.8	188.7	147.5	108.2	91.1	65.5	52.8	44.7	30.1	25.9
1.70V/cell	715.1	575.1	501.8	396.5	276.0	198.0	153.1	112.2	92.8	66.7	53.9	45.6	30.5	26.0
1.67V/cell	726.8	584.5	510.0	402.9	280.5	201.3	153.9	114.5	94.7	67.8	54.4	46.1	30.8	26.4
1.60V/cell	736.9	592.6	517.1	408.5	284.4	204.6	155.6	117.6	95.9	69.2	55.4	46.8	30.9	26.5



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# LHR Series-High Rate

## LHR12510W(A)(12V510W)

### Applications

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

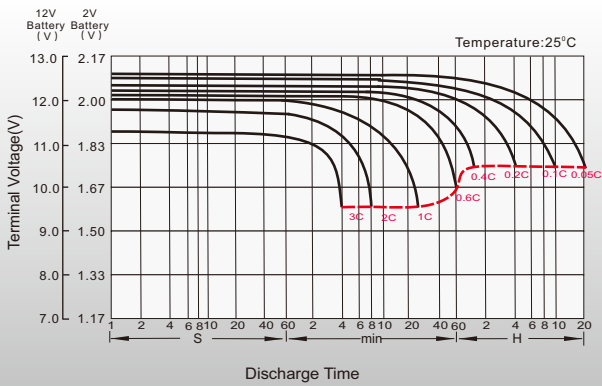
### General Features

- High quality AGM separator: extend cycle life and prevent micro short circuit
- PbCaSn alloy for plate grids: less gassing, less self-discharging
- Unique vent valve design: reduce water losing and prevent air/spark going inside

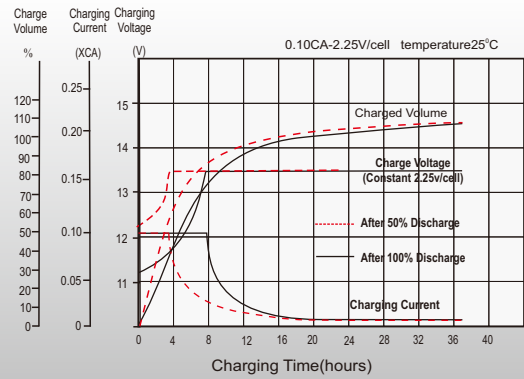
### Standards

- Compliance with IEC 60896 and YD/T 3427 standards
- Manufactured in Leoch@IATF16949, ISO 45001, ISO 9001 and ISO 14001 certified production facilities

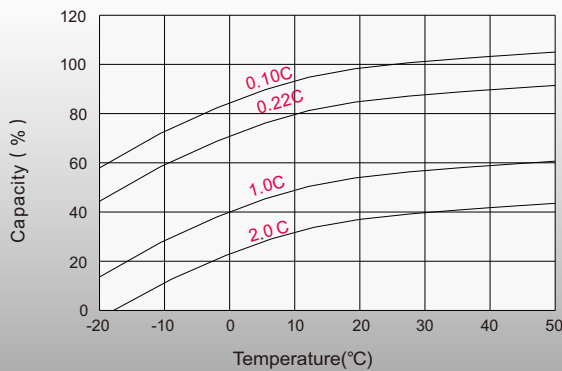
### Discharge Characteristics



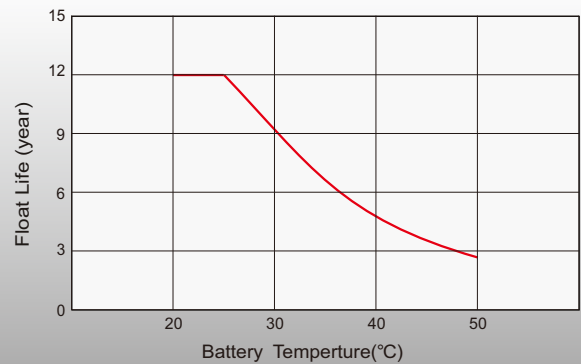
### Float Charging Characteristics



### Temperature Effects in Relation to Battery Capacity



### Temperature Effects on Long Term Float Life



## Sales Offices Worldwide

#### China Sales Office

5th Floor, Xinbaohui Bldg., Nanhai Blvd.,  
Nanshan, Shenzhen, China. 518052  
Tel: +86-755-86036060 (100 lines)  
Fax: +86-755-26067269  
E-mail: export@leoch.com

#### HongKong Sales Office

Workshop C, 33/F, TML Tower, No. 3 Hoi Shing Road,  
Tsuen Wan, New Territories, Hong Kong  
Tel: +852 35786666  
Fax: +44 1452 690125  
E-mail: sales.hk@leoch.com

#### Singapore Sales Office

No. 1 Tech Park Crescent,  
Singapore 638131  
Tel: +65 68636078  
Fax: +65 6863 6079  
Email: sales.sg@Leoch.com

#### Australia Sales Office

2/29 Tarlington Place, Smithfield. NSW 2164  
Australia  
Tel: 02 9756 0950  
E-mail: sales.au@leoch.com

#### North America Sales Office

19751 Descartes  
Foothill Ranch, CA 92610, USA  
Tel: 949-588-5853  
Fax: 949-588-5966  
E-mail: sales@leoch.us  
Http://www.leoch.us

#### UK Sales Office

9B Wheatstone Court, Waterwells, Business Park,  
Gloucester, GL2-2AQ, UK United Kingdom  
Tel: +44(0) 1452 729428 / 1452 729696  
Fax: +44 1452 690125  
E-mail: Sales.Europe@leoch.com  
Http://www.leoch.eu

#### EMEA Sales Office

1 Deligiorgi St., 121 31 Athens,  
Greece  
Tel: +30 210 5760318 (2 lines)  
E-mail: support\_EMEA@leoch.com  
Http://www.leoch.eu

#### India Sales Office

Shed no. A-53(b), 2nd Stage of Peenya Industrial Area,  
Bangalore North Taluk, Bangalore-560058, India  
Tel: +91-80-23440018/23440019  
Fax: +91-80-23440017  
E-mail: indiasales@leoch.com



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