



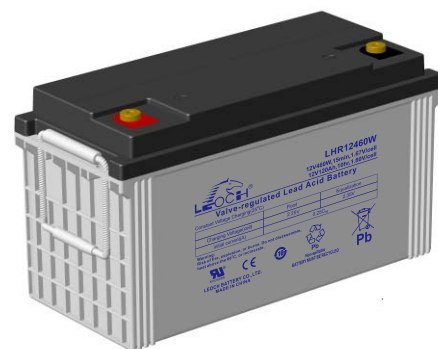
# LHR Series-High Rate

## LHR12460W(12V460W)

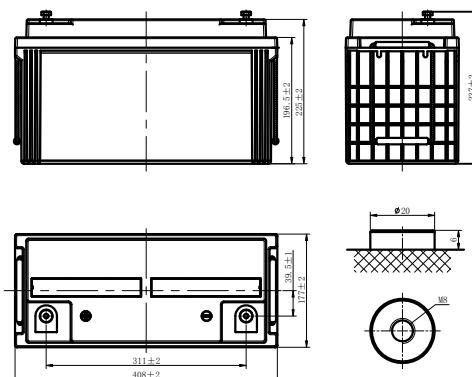


### Specifications

Rated Voltage	12V	
Nominal Rate ( $W_{15}, 1.67V/cell$ )	460W	
Nominal Capacity( $C_{10}, 1.80V/cell$ )	120Ah	
Dimension	Length	408±2mm (16.06 inches)
	Width	177±2mm (6.97 inches)
	Container Height	225±2mm (8.85 inches)
	Total Height	225±2mm (8.85 inches)
Approx. Weight	37.3 Kg (82.2 lbs)	
Terminal	M8	
Container Material	ABS(UL94 V-0)	
Rated Capacity (25°C)	120.0 Ah	(10hr, 12.0A, 1.80V/cell)
	111.2 Ah	(8hr, 13.9A, 1.80V/cell)
	105.5 Ah	(5hr, 21.1A, 1.75V/cell)
	96.0 Ah	(3hr, 32.0A, 1.75V/cell)
	77.4 Ah	(1hr, 77.4A, 1.67V/cell)
Max. Discharge Current	1200A	
Internal Resistance (25°C)	Approx. 3.6mΩ	
Operating Temp. Range	Discharge	-20 ~ 55°C (4 ~ 131°F)
	Charge	0 ~ 40°C (32 ~ 104°F)
	Storage	-15 ~ 50°C (5 ~ 122°F)
Nominal Operating Temp. Range	25±3°C (77±5°F)	
Max. Charging Current(25°C)	30A	
Charge voltage(25°C)	Float	13.5V
	Temp. Coefficient	-3mV/cell/°C
	Equalization	14.1~14.4V
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	275.2	219.7	190.5	149.8	105.7	84.7	66.4	49.3	39.7	29.5	23.4	19.8	13.7	11.7
1.80V/cell	312.9	249.4	215.8	169.3	119.2	89.7	70.7	52.4	42.0	30.9	24.2	20.5	13.9	12.0
1.75V/cell	339.9	270.4	233.7	182.8	128.2	93.3	73.5	54.4	43.6	32.0	25.0	21.1	14.1	12.1
1.70V/cell	363.4	288.3	248.2	193.9	135.9	96.3	75.4	55.8	44.6	32.7	25.6	21.6	14.3	12.1
1.67V/cell	376.1	297.5	255.4	199.1	139.1	98.9	77.4	57.2	45.7	33.3	26.0	21.9	14.5	12.3
1.60V/cell	389.4	307.6	263.3	204.3	142.5	100.7	78.8	58.3	46.6	34.2	26.6	22.3	14.5	12.4

### 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	513.9	413.3	360.6	284.9	202.0	162.8	128.4	95.6	77.2	57.7	45.8	38.9	27.1	23.2
1.80V/cell	574.9	462.3	403.4	318.7	225.9	171.4	135.9	101.0	81.3	60.1	47.3	40.3	27.6	23.8
1.75V/cell	613.5	493.4	430.6	340.1	241.1	177.3	140.7	104.5	84.1	62.0	48.8	41.3	27.8	23.9
1.70V/cell	645.0	518.7	452.6	357.6	253.5	181.6	143.6	106.6	85.7	63.1	49.7	42.1	28.2	24.0
1.67V/cell	655.5	527.2	460.0	363.4	257.6	185.5	146.6	108.8	87.4	64.2	50.2	42.5	28.4	24.4
1.60V/cell	664.7	534.5	466.4	368.5	261.2	187.0	148.2	110.0	88.6	65.4	51.1	43.2	28.5	24.5



# LHR Series-High Rate

## LHR12460W(12V460W)



### Applications

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

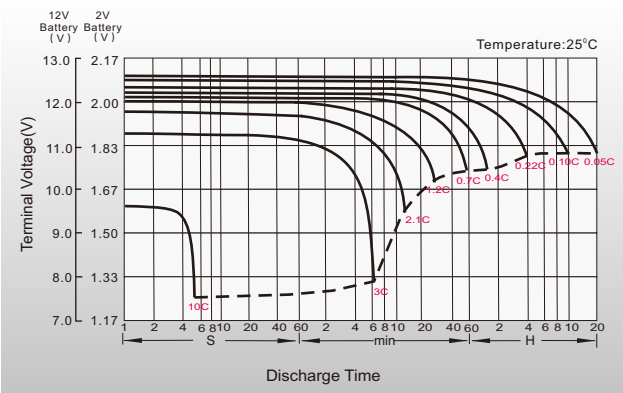
### General Features

- ABS material: UL94 V-0
- Oxygen recombination efficiency:  $\geq 98\%$
- High quality AGM separator: extend cycle life and prevent micro short circuit
- Unique vent valve design: reduce water losing and prevent air/spark going inside
- PbCaSn alloy for plate grids: less gassing, less self-discharging

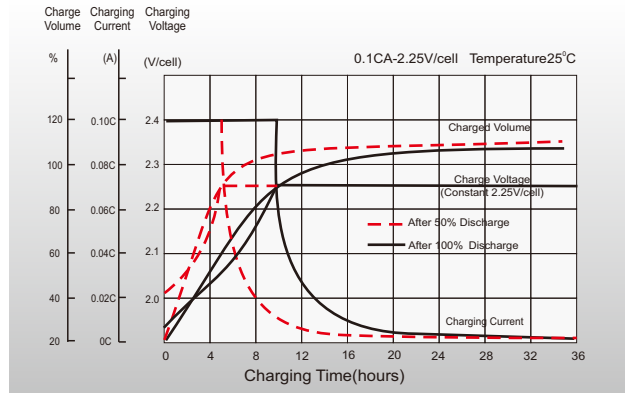
### Standards

- Compliance with IEC 60896 standards
- Classified as "Long Life" according to Eurobat
- CE, UL Certified
- Manufactured in Leoch@IATF16949, OHSAS 18001, ISO 9001 and ISO 14001 certified production facilities

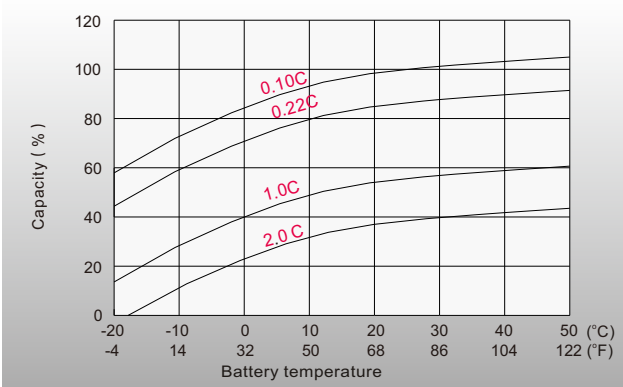
### Discharge Characteristics



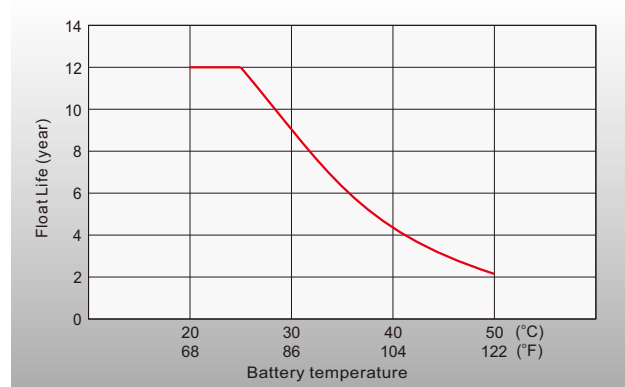
### Float Charging Characteristics



### 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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