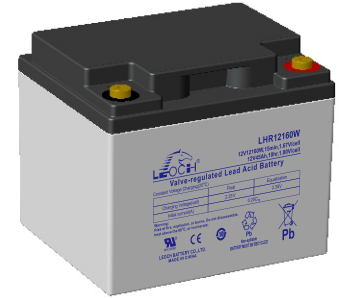


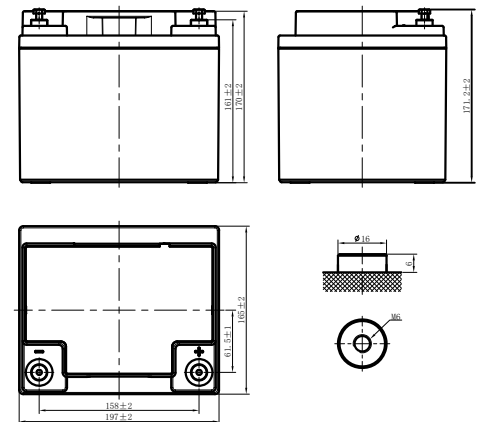
## LHR Series High Rate LHR12160W(12V160W)

### Specifications

Rated Voltage	12V	
Nominal Rate ( $W_{15}, 1.67V/cell$ )	160W	
Nominal Capacity( $C_{10}, 1.80V/cell$ )	45Ah	
Dimension	Length	197±2mm (7.76 inches)
	Width	165±2mm (6.50 inches)
	Container Height	170±2mm (6.69 inches)
	Total Height	170±2mm (6.69 inches)
Approx. Weight	14.2 Kg (31.3 lbs)	
Terminal	M6	
Container Material	ABS(UL94 V-0)	
Rated Capacity (25°C)	45.0 Ah	(10hr, 4.50A, 1.80V/cell)
	41.8 Ah	(8hr, 5.23A, 1.80V/cell)
	39.6 Ah	(5hr, 7.92A, 1.75V/cell)
	36.0 Ah	(3hr, 12.0A, 1.75V/cell)
	29.0 Ah	(1hr, 29.0A, 1.67V/cell)
Max. Discharge Current	540A	
Internal Resistance (25°C)	Approx. 9.0mΩ	
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)	11.25A	
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	95.7	76.4	66.3	52.1	36.8	31.8	24.9	18.5	14.9	11.1	8.76	7.41	5.12	4.38
1.80V/cell	108.8	86.7	75.1	58.9	41.5	33.7	26.5	19.6	15.7	11.6	9.08	7.70	5.23	4.50
1.75V/cell	118.2	94.1	81.3	63.6	44.6	35.0	27.6	20.4	16.3	12.0	9.38	7.92	5.28	4.52
1.70V/cell	126.4	100.3	86.3	67.4	47.3	36.1	28.3	20.9	16.7	12.2	9.61	8.10	5.36	4.55
1.67V/cell	130.8	103.5	88.8	69.3	48.4	37.1	29.0	21.5	17.1	12.5	9.74	8.21	5.42	4.62
1.60V/cell	135.4	107.0	91.6	71.0	49.6	37.8	29.5	21.9	17.5	12.8	10.0	8.37	5.45	4.64

### 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	178.8	143.8	125.4	99.1	70.2	61.1	48.2	35.8	28.9	21.6	17.2	14.6	10.2	8.70
1.80V/cell	200.0	160.8	140.3	110.9	78.6	64.3	51.0	37.9	30.5	22.5	17.8	15.1	10.3	8.94
1.75V/cell	213.4	171.6	149.8	118.3	83.9	66.5	52.8	39.2	31.5	23.3	18.3	15.5	10.4	8.96
1.70V/cell	224.4	180.4	157.4	124.4	88.2	68.1	53.8	40.0	32.1	23.7	18.6	15.8	10.6	9.02
1.67V/cell	228.0	183.4	160.0	126.4	89.6	69.6	55.0	40.8	32.8	24.1	18.8	15.9	10.7	9.14
1.60V/cell	231.2	185.9	162.2	128.2	90.9	70.1	55.6	41.3	33.2	24.5	19.2	16.2	10.7	9.18

## LHR Series High Rate LHR12160W(12V160W)

### Applications

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

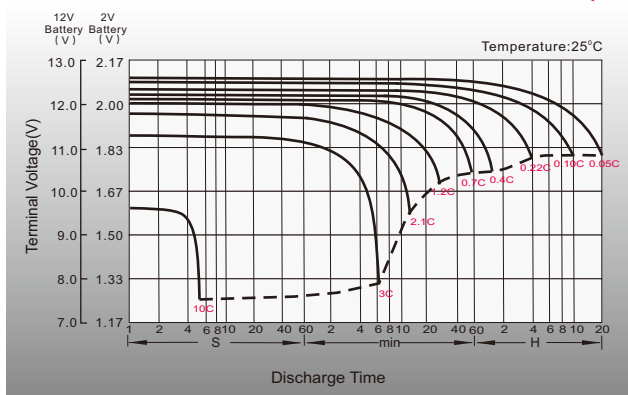
### General Features

- 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

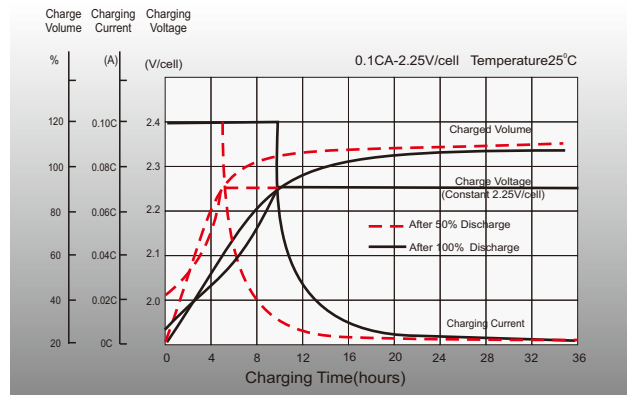
### Standards

- 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

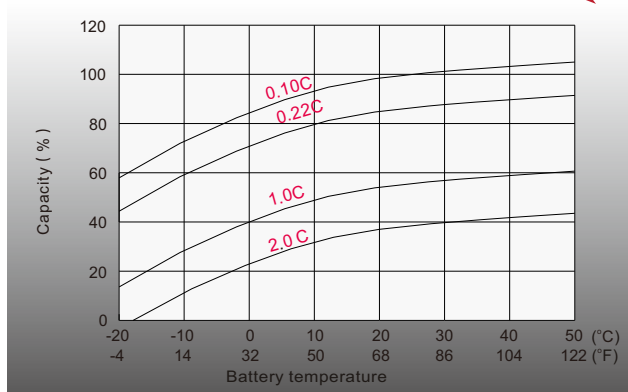
### Discharge Characteristics



### Float Charging Characteristics



### Temperature Effects in Relation to Battery Capacity



### Temperature Effects on Long Term Float Life

