



LHR

Leoch High Rate Battery

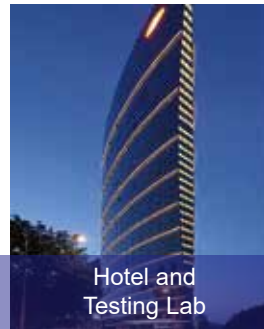
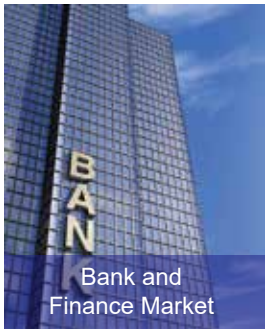


■ Characteristics

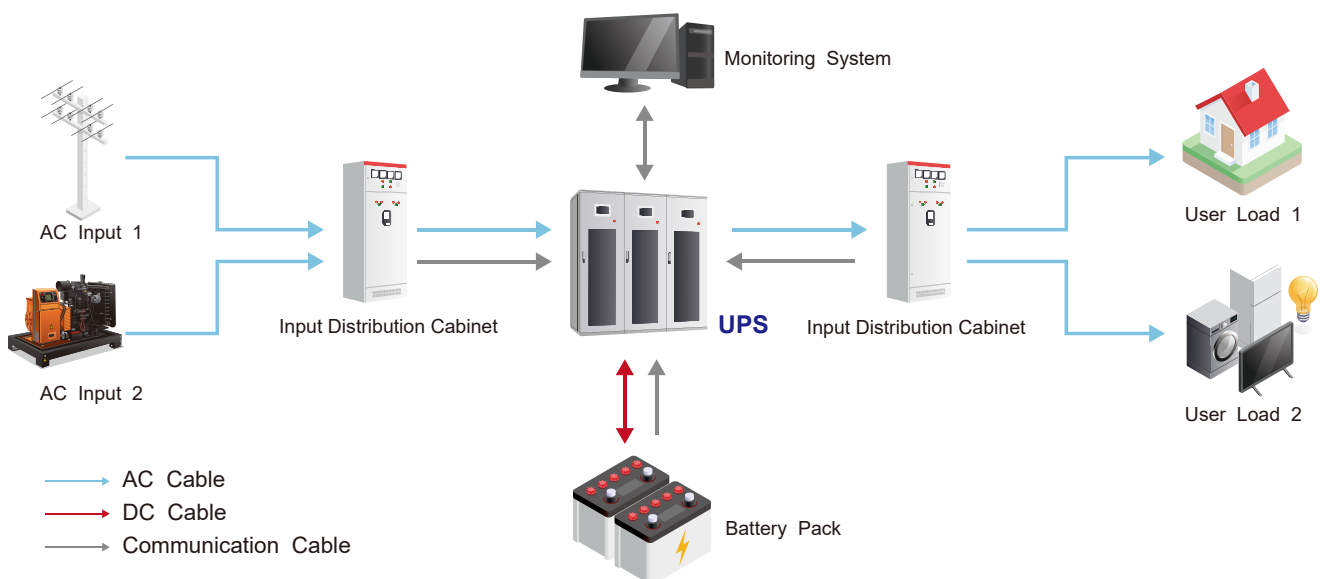
- Long design life.
- ABS material: UL 94 HB or V-0 optional.
- Wide temperature range:-20°C~55°C.
- Oxygen recombination efficiency: ≥98%.
- Valve Regulated Lead Acid (VRLA) Battery, Maintenance Free.
- PbCaSn alloy for plate grids: less gassing, less self-discharging.
- Unique vent valve design: control water losing, prevent air and spark entering.
- Special grid and plate manufacture technology, automatic manufacture line, raise the life and uniformity of battery.
- 3D structure: Optimized design of active material adhesion, fine mesh grid provides more surface area for high power output.
- Special paste formula, advanced welding technology to ensure excellent high power discharge capacity(W/15Mr, up 20%).



■ Applications



■ UPS Application



LHR Specifications-12V series

Model	Rated Voltage (V)	Rated Capacity		Dimensions(mm)				Terminal	Weight (Kg)
		W ₁₅ (W/cell) @1.67V/cell	C ₁₀ (Ah) @1.80V/cell	L	W	H	TH		
LHR619W(A)	6	19	4.68	70	47	100	106	T1/T2	0.77
LHR621W(A)	6	21	5.06	70	47	100	106	T1/T2	0.80
LHR1217W(A)	12	17	4.21	90	70	101	107	T1/T2	1.45
LHR1219W(A)	12	19	4.68	90	70	101	107	T1/T2	1.52
LHR1221W(A)	12	21	5.06	90	70	101	107	T1/T2	1.58
LHR1224W(A)	12	24	6.56	151	65	93.5	99.5	T1/T2	2.13
LHR1226W(A)	12	26	6.56	151	65	93.5	99.5	T1/T2	2.17
LHR1228W(A)	12	28	7.02	151	65	93.5	99.5	T1/T2	2.24
LHR1232W(A)	12	32	7.49	151	65	93.5	99.5	T1/T2	2.31
LHR1234W(A)	12	34	7.49	151	65	93.5	99.5	T1/T2	2.35
LHR1236W(A)	12	36	8.43	151	65	93.5	99.5	T1/T2	2.46
LHR1224W	12	24	5.3	90	70	101	107	T1/T2	1.88
LHR1226W	12	26	6.51	151	65	93.5	99.5	T1/T2	2.08
LHR1230W	12	30	7	151	65	93.5	99.5	T1/T2	2.38
LHR1235W	12	35	7.8	151	65	93.5	99.5	T1/T2	2.5
LHR1236W	12	36	7.49	151	65	93.5	99.5	T1/T2	2.7
LHR1242W	12	42	8.43	151	65	94.5	100.5	T1/T2	2.8
LHR1255W	12	55	13	151	98	95	101	T1/T2	3.78
LHR1285W	12	85	18.6	181.5	76.5	167.5	167.5	T12-I/T12(M5)	6
LHR12120W	12	120	38	197	165	170	170	T6(M6)	11.6
LHR12160W	12	160	45	197	165	170	170	T6(M6)	14.2
LHR12185W	12	185	55	229	138	205	211	T6(M6)	16.2
LHR12215W	12	215	65	348	167	178	178	T6(M6)	19.2
LHR12255W	12	255	70	348	167	178	178	T6(M6)	21.4
LHR12300W	12	300	75	256	173	213	216	T11(M8)	23.7
LHR12330W(A)	12	330	80	293	173	213	216	T11(M8)	26.7
LHR12350W	12	350	85	293	173	213	216	T11(M8)	27.4
LHR12360W	12	360	100	330	173	213	216	T11(M8)	30
LHR12370W	12	370	100	330	173	212	220	T11(M8)	30.7
LHR12400W	12	400	100	330	173	213	216	T11(M8)	31.2
LHR12430W	12	430	100	330	173	213	216	T11(M8)	32
LHR12460W	12	460	120	408	177	225	225	T11(M8)	37.5
LHR12480W	12	480	115	379	174	214	217	T11(M8)	40.5
LHR12510W	12	510	140	483	170	238.5	239	T11(M8)	43.6
LHR12560W	12	560	140	483	172	220	226	T11(M8)	45.5
LHR12600W(A)	12	600	145	483	172	220	226	T11(M8)	47.5
LHR12605W	12	605	170	532	207	214	220	T11(M8)	54.8
LHR12650W	12	650	170	522	207	214	220	T11(M8)	56
LHR12705W	12	705	180	522	207	220	226	T11(M8)	57.3
LHR12750W	12	750	190	522	207	220	226	T11(M8)	59.7
LHR12800W	12	800	210	522	240	220	226	T11(M8)	66.8
LHR12820W(A)	12	820	215	522	240	218	224	T11(M8)	69
LHR12845W	12	845	215	522	240	220	226	T11(M8)	68.8
LHR12890W	12	890	235	496	259	227	233	T11(M8)	77
LHR12950W	12	950	230	521	268	220	226	T11(M8)	77.5
LHR121000W	12	1000	250	521	268	220	226	T11(M8)	79.5

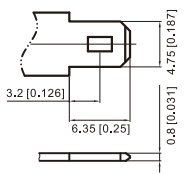
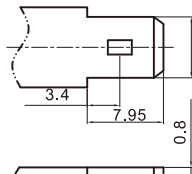
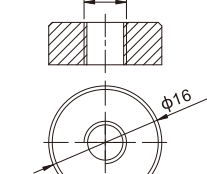
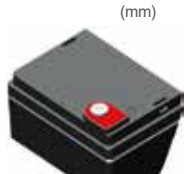
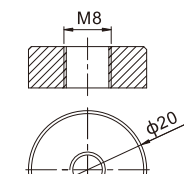
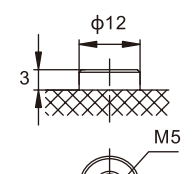
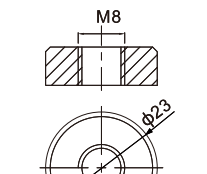
LHR Specifications-12V FT series

Model	Rated Voltage (V)	Rated Capacity		Dimensions(mm)				Terminal	Weight (Kg)
		W_{15} (W/cell) @1.67V/cell	C_{10} (Ah) @1.80V/cell	L	W	H	TH		
LHR12390FT	12	390	95	508	110	235	239.5	T6-A(M8)	34.0
LHR12550FT	12	550	140	551	110	288	292.5	T6-A(M8)	47.9
LHR12600FT	12	600	150	550	125	281.5	285	T11(M8)	51.5
LHR12700FT	12	700	180	560	125	318	321.5	T11(M8)	60
LHR12750FT	12	750	190	560	125	318	321.5	T11(M8)	64

LHR Specifications-2V series

Model	Rated Voltage (V)	Rated Capacity		Dimensions(mm)				Terminal	Weight (Kg)
		W_{15} (W/cell) @1.67V/cell	C_{10} (Ah) @1.80V/cell	L	W	H	TH		
LHR500W	2	500	150	170	98	250	214	T7(M8)	8.4
LHR750W	2	750	250	171	111	328	344	T18(M8)	14.9
LHR1000W	2	1000	300	171	150	328	344	T18(M8)	20.2
LHR1250W	2	1250	400	210	175	330	346	T18(M8)	27.1
LHR1520W	2	1520	500	210	175	330	346	T18(M8)	29.7
LHR2000W	2	2000	600	240	175	330	346	T18(M8)	36.1
LHR2400W	2	2400	800	303	181	350	365	T18(M8)	48.5
LHR2500W	2	2500	720	300	175	330	345	T18(M8)	45.5
LHR2900W	2	2900	900	410	175	330	345	T18(M8)	57.3

Terminal

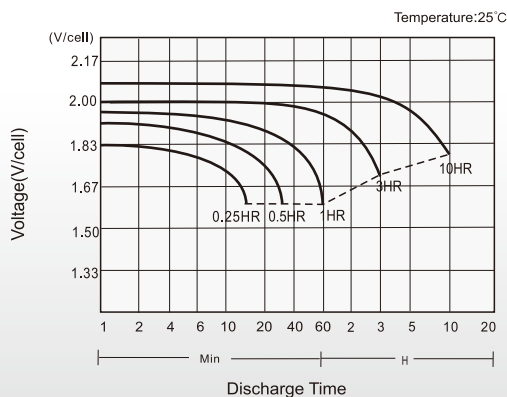
T1  	T2  	T6  
T11  	T12  	T18  

Compliant Standards

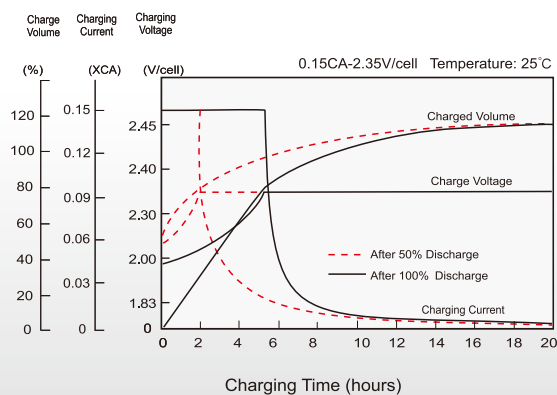
- IEC60896-21/22
- GB/ T 19639
- JIS C 8702
- UL 94 and UL1989
- GB/ T 19638
- JIS C 8704

Characteristics curves

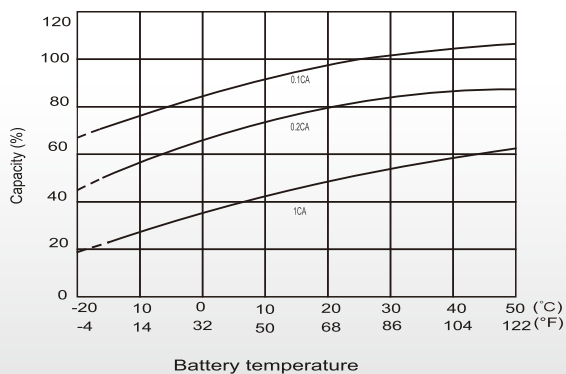
Discharge Characteristics



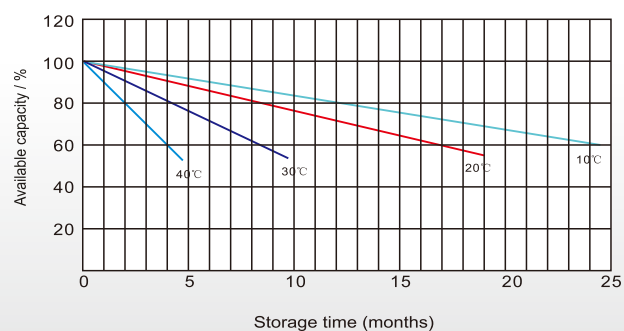
Charging Characteristics



Effects of Temperature on Capacity



Self Discharge Characteristics





UPS Configuration

Constant power calculation:

$$W_{(w/cell)} = P_L \div (V \div 2 \times \eta)$$

P_L ——Load Power(=UPS rated capacity $V_a \times$ power factor $\cos\phi$) , unit: W/cell

V ——Rated voltage of battery pack, unit: V

η —— Inversion Efficiency

Notes:

- 1.The rated capacity of UPS commonly used KVA representation, for example: 160kVA, $P_L = 160 \times 1000 \times \cos\phi$;
2. " $V \div 2$ " is the number of cells for per battery pack (for example: The 12V battery is composed of 6 cells, rated voltage per cell is 2V);
3. According to the value of W , find the constant power discharge parameters from the specs to determine the battery model.



Product Description

Structure	
Positive Plate	Lead calcium mesh reduce corrosion and extend life
Negative Plate	Equilibrium lead calcium mesh, optimized recombination efficiency
AGM Separator	High strength, low resistance, micro porous glass fiber makes the electrolyte completely absorbed by the structure
Connector	Lead/Copper connector provide better conductivity
Case/Cover Material	ABS (UL 94 HB or V-0)

Operating Temperature Range(OTR)	
Recommended Temperature	(25±3)°C
Discharging	-20~55°C
Charging	-20~40°C
Storage	-15~50°C

Performance	
Max. Charging Current	≤ 0.25CA
Float Charging Voltage	2.25~2.30V/cell, Temp.Coefficient: -3mV/°C/cell(@ 25°C)
Equalization Charge Voltage	2.30~2.40V/cell, Temp.Coefficient: -4mV/°C/cell(@ 25°C)
Self-discharge Rate	≤ 3%/month @25°C

ISO14001

ISO9001

ISO45001



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