

POWER TO CONNECT



Series:

- ▶ **AGM Front Terminal**
LPF series
- ▶ **Pure Lead Floating**
PLH series
- ▶ **Pure Lead Carbon
High Endurance**
PLH+C series
- ▶ **High Temperature**
LHT series
- ▶ **Tubular Gel**
OPzV series
- ▶ **Li-Ion 48V**
LFELi series





Leoch Batteries brand was founded in 1999 and has gained international recognition since then by having in its portfolio a very wide range of lead-acid and lithium batteries. Leoch presence through out EMEA region is rather significant having established **6 subsidiary companies**, aiming to work closely with major OE manufacturers, distributors, service providers as well as B2B customers.

Leoch retains eleven (11) regional manufacturing plants located in **PRC, Malaysia, Sri Lanka, India and Vietnam**, producing mainly reserve power batteries, SLI batteries and motive power batteries with an annual production capacity of over 24 GWH / year.

Your Global Battery Partner



...covering your needs for telecommunication

We manufacture a wide range of Premium Lead Acid and Lithium-Ion batteries to cover any telecommunications requirement. Aiming to deliver an unprecedented value to your needs, these solutions offer exceptional performance, long-life, high energy density, ease of installation and hassle-free operation for a broad spectrum of telecom applications.



AGM Front Terminal LPF series



- TEMPERATURE RANGE**
-15°C ~ +50°C
- SHELF LIFE**
Up to 6 months at 25°C
- WARRANTY**
3 Years
- DESIGN LIFE**
12 years (25°C)

Leoch Premium Front Terminal batteries, LPF series, are AGM Valve-Regulated Lead-Acid front terminal batteries that have been optimized for telecom applications. Engineered for long life floating applications such as Base Transceiver Stations, LPF batteries offer a 12-year life design and a front terminal design for easy installation and maintenance.

GENERAL FEATURES

- IDEAL DIMENSIONS**
19-INCH OR 23-INCH
Ideal for 19-inch or 23-inch telecom cabinets
- SAFETY**
Unique anti-explosion one-way vent valve design to minimize water loss and increase safety
- HASSLE FREE**
Front terminal design makes the installation & maintenance "hassle free"
- LONG SERVICE LIFE**
Thick plates using a special pasting formula ensures long service life
- SHIELDED DESIGN**
Shielded design terminal caps reduces risk of short circuits and improves safety
- ABS CASE**
ABS case UL94-HB (UL94-V0 Optional) is used for increased container strength

BATTERY SPECIFICATIONS

Model	Nominal Voltage (V)	Rated Capacity 10Hr @ 1.80V/cell (AH)	Approx. Dimensions								Approx. Weight		Terminal Type
			Length		Width		Height		Total Height		kg	lbs	
			mm	in.	mm	in.	mm	in.	mm	in.			
LPF12-40	12	40	277.00	10.91	106.00	4.17	222.00	8.74	222.00	8.74	14.60	32.19	M6
LPF12-50	12	50	390.00	15.35	105.00	4.13	200.00	7.87	200.00	7.87	18.50	40.79	M6
LPF12-55	12	55	277.00	10.91	106.00	4.17	222.00	8.74	222.00	8.74	17.30	38.14	M6
LPF12-70	12	70	564.00	22.20	114.00	4.49	187.00	7.36	187.00	7.36	25.50	56.22	M6
LPF12-75	12	75	564.00	22.20	114.00	4.49	187.00	7.36	187.00	7.36	26.00	57.32	M6
LPF12-90	12	90	394.00	15.51	110.00	4.33	285.00	11.22	285.00	11.22	31.00	68.34	M6
LPF12-100	12	100	394.00	15.51	110.00	4.33	286.00	11.26	286.00	11.26	31.00	68.34	M6
LPF12-100A	12	100	508.00	20.00	110.00	4.33	238.50	9.39	238.50	9.39	32.00	70.55	M6
LPF12-125	12	125	551.00	21.69	110.00	4.33	288.00	11.34	288.00	11.34	41.50	91.49	M6
LPF12-150	12	150	551.00	21.69	110.00	4.33	288.00	11.34	288.00	11.34	44.80	98.77	M6
LPF12-150V	12	150	550.00	21.65	125.00	4.92	281.50	11.08	281.50	11.08	50.60	111.55	M6
LPF12-170	12	170	550.00	21.65	125.00	4.92	281.50	11.08	281.50	11.08	51.00	112.43	M6
LPF12-180	12	180	550.00	21.65	125.00	4.92	280.00	11.02	280.00	11.02	51.20	112.88	M6
LPF12-190	12	190	560.00	22.05	126.00	4.96	320.00	12.60	320.00	12.60	57.00	125.66	M6

PERFORMANCE CHARACTERISTICS

Discharge Characteristics

Floating Charging Characteristics

Temperature Effect in Relation to Battery Capacity

Temperature Effect on Long Term Float Life



Pure Lead Floating PLH series



- TEMPERATURE RANGE**
-40°C ~ +65°C
- Up to 24 months at 25°C**
SHELF LIFE
- 5 Years**
WARRANTY
- 20 years (25°C)**
DESIGN LIFE

Leoch Pure Lead Floating front Terminal batteries, PLH series, are AGM Valve-Regulated Lead-Acid front terminal batteries that have been optimized for extreme long-life telecom applications. Engineered for high endurance telecom applications such as harsh conditions Base Transceiver Stations, PLH batteries offer long life design under extreme temperature ranges and fast charge performance.

GENERAL FEATURES

19-INCH OR 23-INCH IDEAL DIMENSIONS

Front terminal design makes PLH batteries ideal for 19-inch or 23-inch telecom cabinets

HIGH TEMPERATURE

Pure Lead design makes PLH series ideal for high temperature applications

DESIGN LIFE

True Pure Lead design and manufacturing offering Very Long Design Life in accordance to Eurobat (up to 20 years @ 20°C)

LONG SERVICE LIFE

Thin plates using a special pasting formula ensures long service life

SHIELDED DESIGN

Shielded design terminal caps and patented anti-explosion one-way vent valve design to minimize water loss and increased safety

ABS CASE

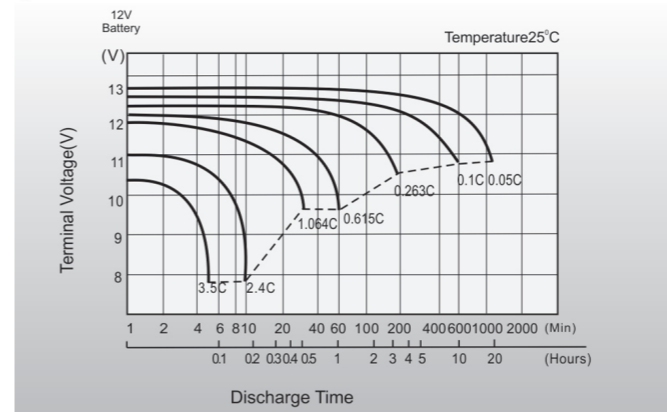
Premium ABS+PC jar & covers flame retardant to UL94-V0

BATTERY SPECIFICATIONS

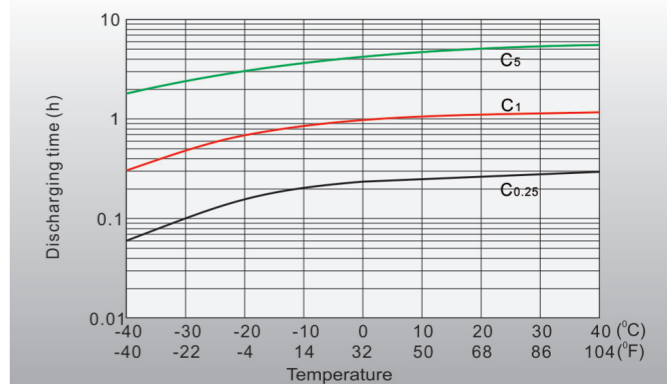
Model	Nominal Voltage (V)	Rated Capacity 10Hr @ 1.80V/cell (AH)	Approx. Dimensions								Approx. Weight	
			Length		Width		Height		Total Height		kg	lbs
			mm	in.	mm	in.	mm	in.	mm	in.		
PLH40FT(A)	12	38	298.70	11.76	97.00	3.82	184.00	7.24	184.00	7.24	12.50	27.60
PLH62FT(A)	12	62	298.70	11.76	97.00	3.82	267.00	10.51	267.00	10.51	19.50	43.00
PLH90FT(A)	12	90	405.40	15.96	108.00	4.25	287.00	11.30	287.00	11.30	28.70	63.30
PLH100FT(A)	12	100	405.40	15.96	108.00	4.25	287.00	11.30	287.00	11.30	30.80	67.90
PLH110FT(A)	12	110	559.00	22.01	125.00	4.92	227.00	8.94	227.00	8.94	36.50	80.50
PLH150FT(A)	12	150	559.00	22.01	125.00	4.92	277.00	10.91	277.00	10.91	48.00	105.80
PLH170FT(A)	12	170	559.00	22.01	125.00	4.92	320.00	12.60	320.00	12.60	54.20	119.50
PLH190FT(A)	12	190	559.00	22.01	125.00	4.92	320.00	12.60	320.00	12.60	57.60	127.00
PLH210FT(A)	12	210	559.00	22.01	125.00	4.92	328.00	12.91	328.00	12.91	60.50	133.40

PERFORMANCE CHARACTERISTICS

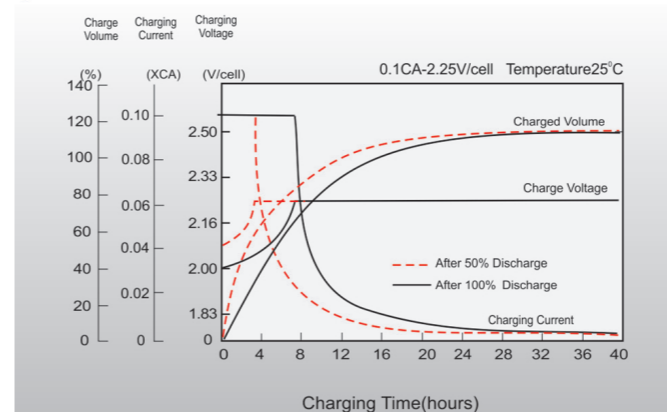
Discharge Characteristics



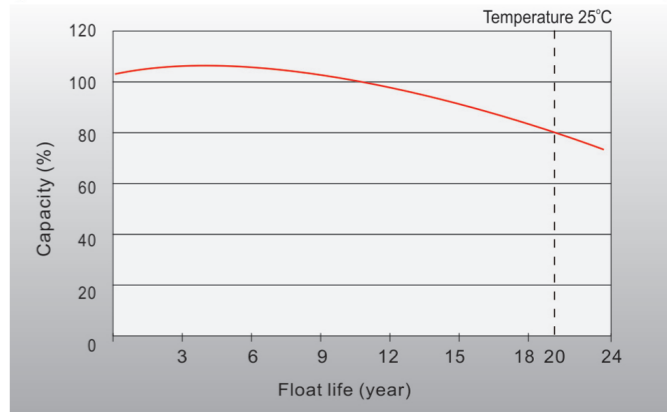
Temperature Effect on Discharging Time



Floating Charging Characteristics



Float Life





Pure Lead Carbon High Endurance PLH+C series



**-40°C~
+65°C**
TEMPERATURE RANGE

**Up to
24 months
at 25°C**
SHELF LIFE

**Up to
5
Years**
WARRANTY

**>1000
cycles**
NUMBER OF CYCLES
AT 60% DOD

Leoch Pure Lead Carbon Front Terminal batteries, PLH+C series, are AGM Valve-Regulated Lead-Acid front terminal batteries that have been optimized for hybrid telecom applications. Engineered for long life shallow cycling applications such as Hybrid and Renewable Energy powered Base Transceiver Stations. PLH+C batteries offer long life design and high cyclic performance.

GENERAL FEATURES

**19-INCH OR
23-INCH**
IDEAL DIMENSIONS
Front terminal design makes PLH+C batteries ideal for 19-inch or 23-inch telecom cabinets

SHIELDED DESIGN
Shielded design terminal caps reduce risk of short circuits and improves safety

DESIGN LIFE
True Pure Lead design and manufacturing offering Very Long Design Life in accordance to Eurobat (up to 20 years @ 20°C)

SAFETY
Unique anti-explosion one-way vent valve design to minimize water loss and increase safety

**PSoC
ENDURANCE**
Carbon additives for increased PSoC resilience and increased cycle life compared to floating Pure Lead Series (>1000cycles at 60% DoD)

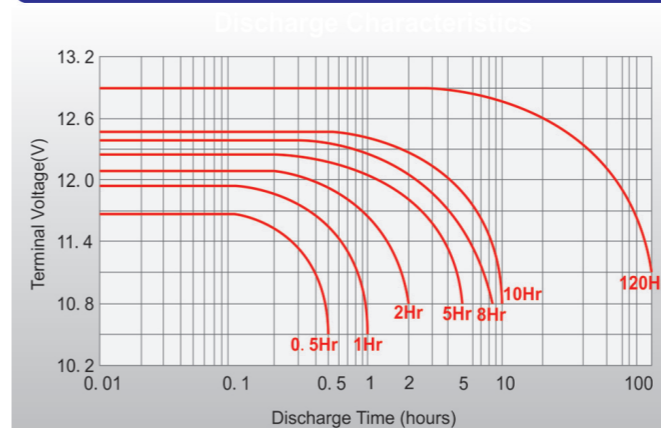
ABS CASE
Premium ABS+PC jar & covers flame retardant to UL94-V0

BATTERY SPECIFICATIONS

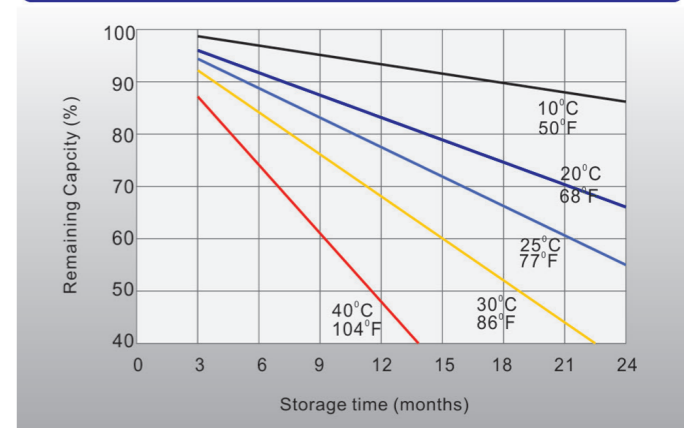
Model	Nominal Voltage (V)	Rated Capacity 10Hr @ 1.80V/cell (AH)	Approx. Dimensions								Approx. Weight	
			Length		Width		Height		Total Height		kg	lbs
			mm	in.	mm	in.	mm	in.	mm	in.		
PLH+C 40FT	12	38	298.70	11.76	97.00	3.82	184.00	7.24	184.00	7.24	12.50	27.56
PLH+C 100FT	12	100	405.40	15.96	108.00	4.25	287.00	11.30	287.00	11.30	30.80	67.90
PLH+C 100	12	100	341.50	13.44	175.00	6.89	213.00	8.39	215.00	8.46	31.20	68.78
PLH+C 170FT	12	170	559.00	22.01	125.00	4.92	320.00	12.60	320.00	12.60	54.20	119.49
PLH+C 190FT	12	190	559.00	22.01	125.00	4.92	320.00	12.60	320.00	12.60	57.60	126.98
PLH+C 210FT	12	210	559.00	22.01	125.00	4.92	328.00	12.91	328.00	12.91	60.50	133.38

PERFORMANCE CHARACTERISTICS

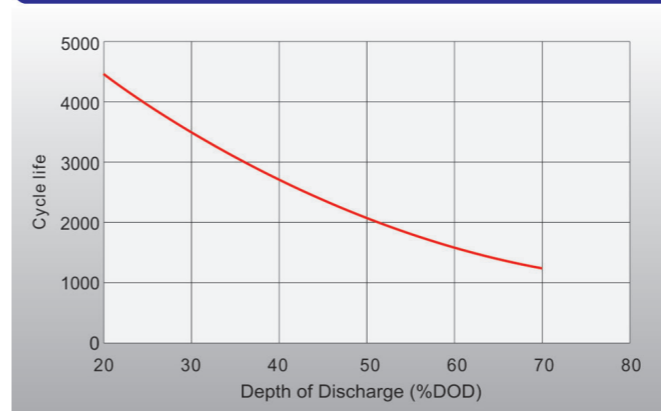
Discharge Characteristics



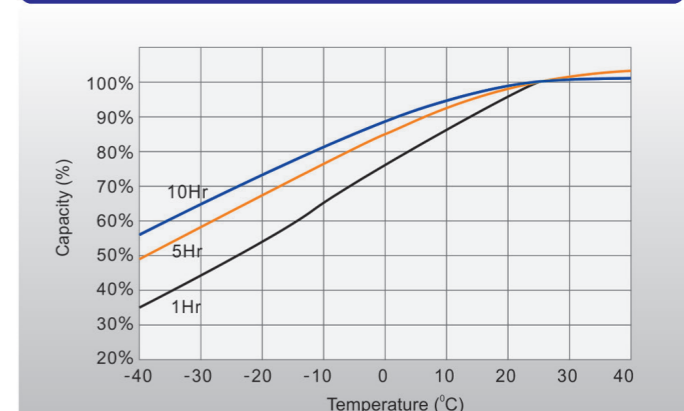
Self-discharge Characteristics



Cycle Life vs. Depth of Discharge

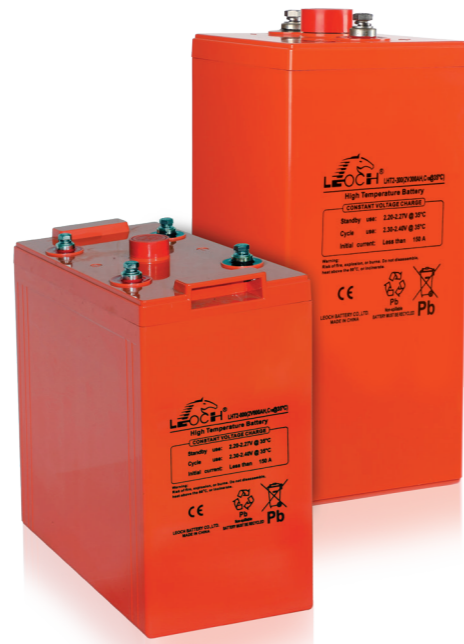


Temperature Effect in Relation to Battery Capacity





High Temperature LHT series



- TEMPERATURE RANGE**
-40°C ~ +65°C
- SHELF DISCHARGE**
≤3% per month at 25°C
- WARRANTY**
3 Years
- DESIGN LIFE**
10-15 years (35°C)

Leoch High Temperature batteries, LHT series, are High Temperature AGM Valve-Regulated Lead-Acid batteries that have been optimized for high temperature telecom applications. Engineered for high temperature applications to reduce CAPEX & OPEX for the end-user, LHT(F) batteries offer a long life design at 35°C where conventional AGM batteries last half of the life duration of LHT(F) batteries, a front and top terminal design and extended warranty under high temperatures that offer "peace of mind" during usage.

GENERAL FEATURES

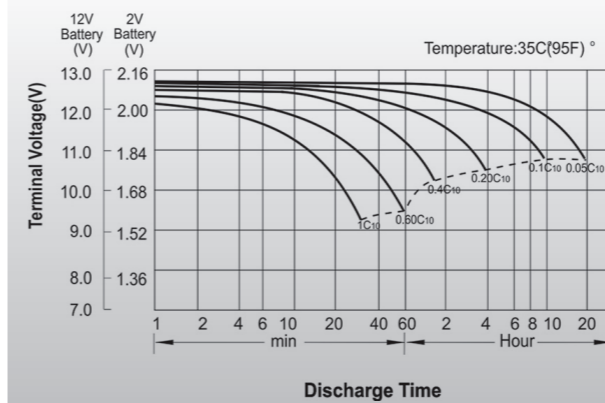
- EMERGENCY POWER**
Ideal for high temperature communications and emergency power supply applications
- HIGH TEMPERATURE**
High Temperature design paste formula, double sealing agent and separator to optimize performance under higher temperatures
- HIGHER THAN VRLA TEMPERATURES**
To be operated at reference temperatures of 35°C, 10°C higher than the reference temperature of conventional VRLA batteries (25°C)
- SAFETY**
Unique anti-explosion one-way vent valve design to minimize water loss and increase safety
- LONG LIFE**
Long life design of up to 10 years (12V) and 15 years (2V) at 35°C
- ABS CASE**
Premium ABS+PC jar & covers flame retardant to UL94-V0

BATTERY SPECIFICATIONS

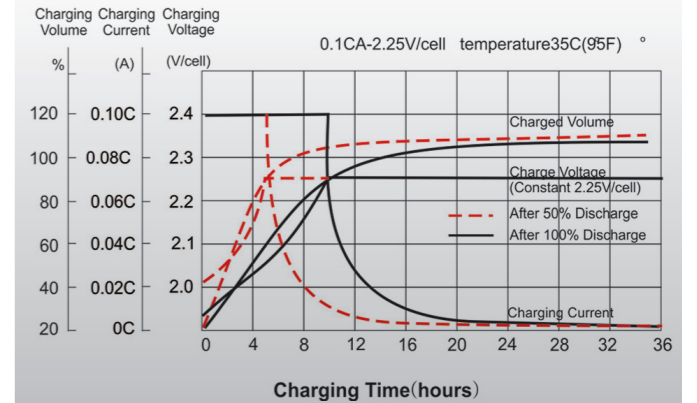
Model	Nominal Voltage (V)	Rated Capacity 10Hr @ 1.80V/cell (AH)	Approx. Dimensions								Approx. Weight		Terminal Type
			Length		Width		Height		Total Height		kg	lbs	
			mm	in.	mm	in.	mm	in.	mm	in.			
LHT2-200	2	200	170.00	66.93	110.00	43.31	328.00	129.13	348.00	137.01	13.50	29.76	T11(M8)
LHT2-300	2	300	170.00	66.93	150.00	59.06	328.00	129.13	348.00	137.01	18.80	41.45	T11(M8)
LHT2-500	2	500	240.00	94.49	175.00	68.90	330.00	129.92	350.00	137.80	30.00	66.14	T11(M8)
LHT2-800	2	800	410.00	161.42	175.00	68.90	330.00	129.92	350.00	137.80	50.40	111.11	T11(M8)
LHT2-1000	2	1000	475.00	187.01	175.00	68.90	328.00	129.13	350.00	137.80	60.00	132.28	T11(M8)
LHT2-1500	2	1500	403.00	158.66	354.00	139.37	339.00	133.46	349.00	137.40	97.50	214.95	T11(M8)
LHT2-2000	2	2000	490.00	192.91	350.00	137.80	339.00	133.46	349.00	137.40	121.00	266.76	T11(M8)
LHT2-3000	2	3000	709.00	279.13	350.00	137.80	337.00	132.68	347.00	136.61	183.00	403.45	T11(M8)
LHT12-100	12	100	330.00	129.92	173.00	68.11	212.00	83.46	218.00	85.83	33.50	73.85	T11(M8)
LHT12-150	12	150	532.00	209.45	207.00	81.50	214.00	84.25	220.00	86.61	56.00	123.46	T11(M8)
LHT12-200	12	200	522.00	205.51	240.00	94.49	218.00	85.83	224.00	88.19	67.40	148.59	T11(M8)
LHTF12-100	12	100	394.00	155.12	110.00	43.31	286.00	112.60	286.00	112.60	31.50	69.45	T6(M6)
LHTF12-150	12	150	551.00	216.93	110.00	43.31	288.00	113.39	288.00	113.39	46.60	102.74	T6(M6)
LHTF12-200	12	200	560.00	220.47	126.00	49.61	320.00	125.98	320.00	125.98	59.50	131.17	T11(M8)

PERFORMANCE CHARACTERISTICS

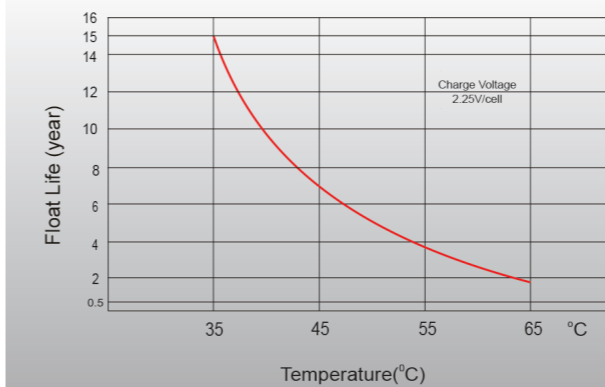
Discharge Characteristics



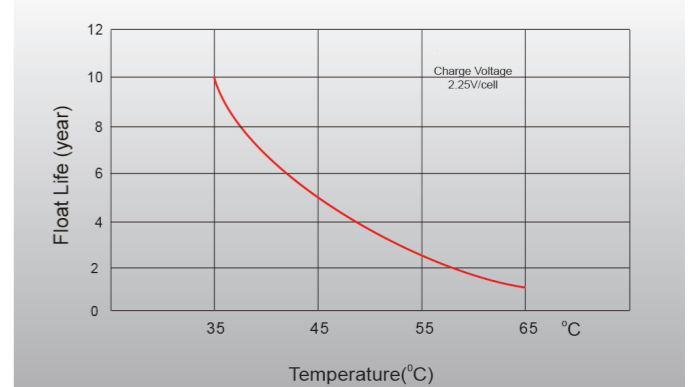
Floating Charging Characteristics



Temperature Effect on Long Term Float Life (2V)



Temperature Effect on Long Term Float Life (12V)





Tubular Gel OPzV series



- TEMPERATURE RANGE**
-20°C ~ +55°C
- SHELF DISCHARGE**
≤3% per month at 25°C
- WARRANTY**
3-5 Years*
- DESIGN LIFE**
Up to 20 years* (25°C)

*model dependent

Leoch Tubular Gel batteries, OPzV series, are Gel Valve-Regulated Lead-Acid batteries using tubular plates that have been optimized for cyclic applications. Engineered for long-life cyclic applications such as Renewable Energy Stations, OPzV batteries are manufactured in a wide variety and offer up to 20-year life design with high cyclic abilities.

GENERAL FEATURES

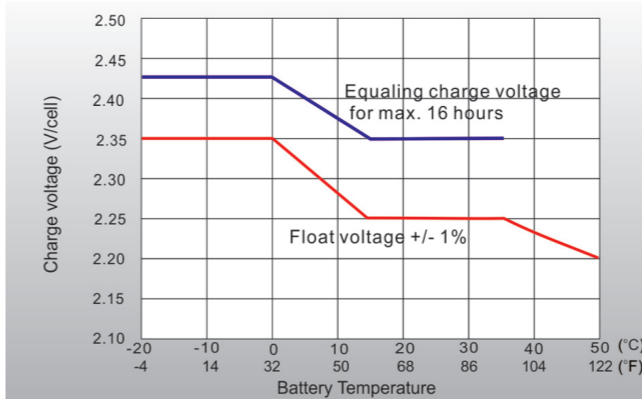
- WIDE RANGE**
Wide range including 2V cells, 12V top terminal and unique 12V front terminal blocks
- SAFETY**
Unique anti-explosion one-way vent valve design to minimize water loss and increase safety
- HIGHER THAN VRLA TEMPERATURES**
For cyclic applications offering up to 2000 cycles at 60% DoD (2V) or up to 1600 cycles at 60% DoD (12V)
- MAINTENANCE FREE**
Complete maintenance free design throughout the battery's life (in accordance to the provided product and user's manual)
- LONG LIFE**
Design life of up to 20 years
- ABS CASE**
ABS case UL94-HB (UL94-V0 Optional) is used for increased container strength

BATTERY SPECIFICATIONS

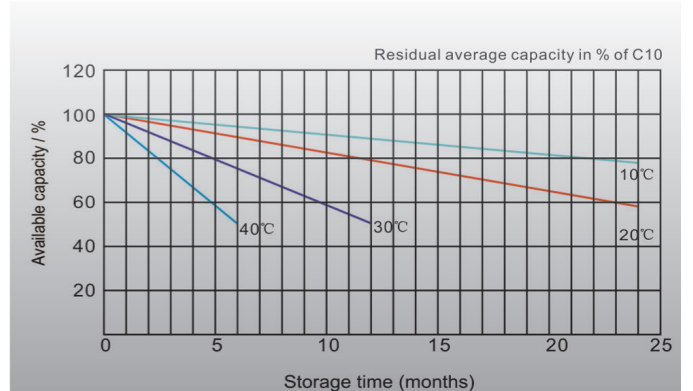
Model	Nominal Voltage (V)	Rated Capacity 10Hr @ 1.80V/cell (AH)	Approx. Dimensions								Approx. Weight		Terminal Type
			Length		Width		Height		Total Height		kg	lbs	
			mm	in.	mm	in.	mm	in.	mm	in.			
40PzV200	2	200	103,00	40,55	206,00	81,10	355,00	139,76	390,00	153,54	18,80	41,45	M8
50PzV250	2	250	124,00	48,82	206,00	81,10	355,00	139,76	390,00	153,54	22,40	49,38	M8
60PzV300	2	300	145,00	57,09	206,00	81,10	355,00	139,76	390,00	153,54	26,40	58,20	M8
50PzV350	2	350	124,00	48,82	206,00	81,10	471,00	185,43	506,00	199,21	29,00	63,93	M8
60PzV420	2	420	145,00	57,09	206,00	81,10	471,00	185,43	506,00	199,21	34,50	76,06	M8
70PzV490	2	490	166,00	65,35	206,00	81,10	471,00	185,43	506,00	199,21	39,00	85,98	M8
60PzV600	2	600	145,00	57,09	206,00	81,10	646,00	254,33	681,00	268,11	48,00	105,82	M8
80PzV800	2	800	191,00	75,20	210,00	82,68	646,00	254,33	681,00	268,11	65,10	143,52	M8
100PzV1000	2	1000	233,00	91,73	210,00	82,68	646,00	254,33	681,00	268,11	78,50	173,06	M8
120PzV1200	2	1200	275,00	108,27	210,00	82,68	646,00	254,33	681,00	268,11	93,00	205,03	M8
120PzV1500	2	1500	275,00	108,27	210,00	82,68	796,00	313,39	831,00	327,17	115,00	253,53	M8
160PzV2000	2	2000	399,00	157,09	214,00	84,25	772,00	303,94	807,00	317,72	155,00	341,72	M8
200PzV2500	2	2500	487,00	191,73	212,00	83,46	772,00	303,94	807,00	317,72	196,00	432,11	M8
240PzV3000	2	3000	576,00	226,77	212,00	83,46	772,00	303,94	807,00	317,72	232,00	511,47	M8

PERFORMANCE CHARACTERISTICS

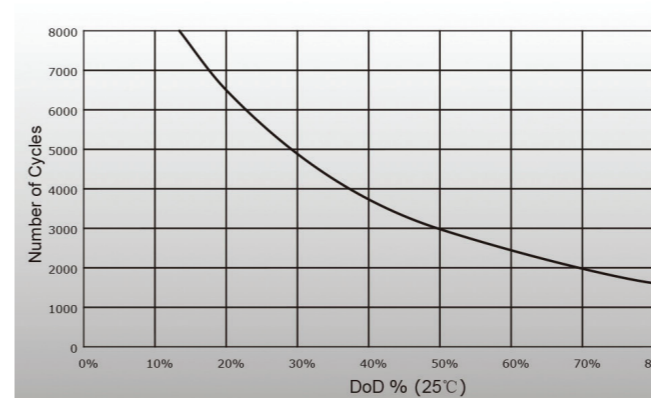
Charge voltage vs ambient temperature (2V & 12V)



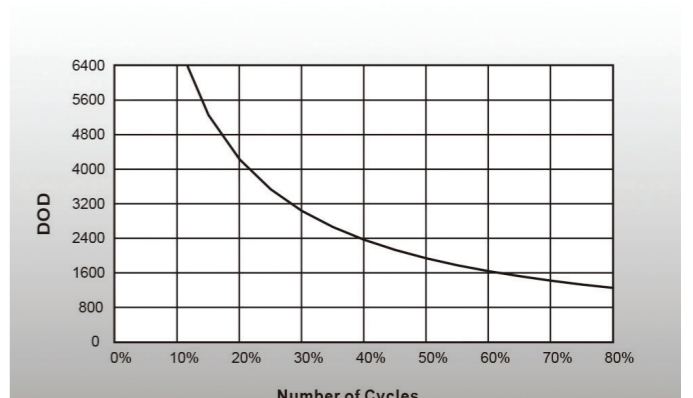
General Relation of Capacity vs Storage Time (2V & 12V)



Cycle Life in Relation to DOD (2V)



Cycle Life in Relation to DOD (12V)





Li-Ion 48V LFeLi series



- 20°C ~ +60°C**
TEMPERATURE RANGE
- 24 months**
SHELF LIFE
- 5 Years**
WARRANTY
- Up to 20 years***
DESIGN LIFE

*model dependent

Lithium-Ion batteries offer extreme cyclic abilities compared to lead-acid batteries. For extreme demanding telecom applications Leoch has developed 48V Lithium-Ion (LiFePo₄) modules to replace front terminal 48V strings of lead acid batteries. Offering more than 5000 cycles at 60% DoD, 19-inch rack mounting design facilitate easy replacement in existing installations and easy maintenance.

GENERAL FEATURES

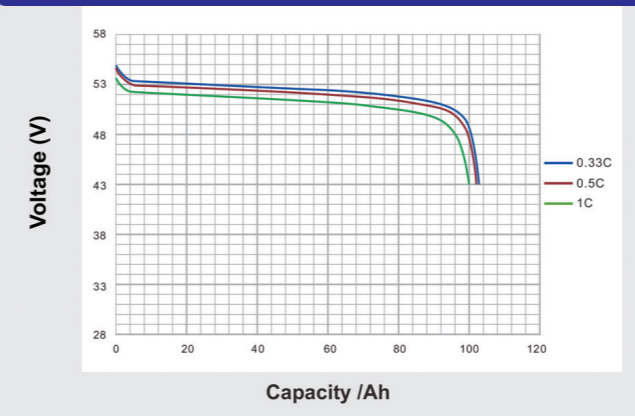
- ECO FRIENDLY**
Environmentally friendly without any heavy metals inside
- LITHIUM TECHNOLOGY**
Lithium Ion Phosphate chemistry has a high thermal runaway threshold being one of the safest market lithium technology
- DEPTH OF DISCHARGE**
Extreme Cycle Life, up to 3500 cycles at 100% DoD to reduce CAPEX & OPEX in demanding telecom, switchgear or hybrid applications
- BMS**
Advanced BMS communication protocols (Modbus, Canbus, RS232, RS485) and bespoke solutions upon request (SNMP, Anti-Theft & Tracking Systems availability)
- LCD SCREEN**
LCD screen available for on-site tool-free monitoring. Advanced BMS with a multitude of safety and communication options available.
- SHIELDED DESIGN**
Passive cooling and electromagnetic shielded design

BATTERY SPECIFICATIONS

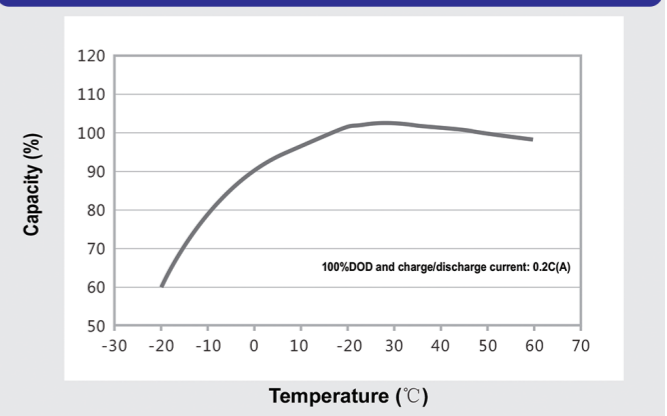
Model	Nominal Voltage (V)	Rated Capacity 10Hr @ 2.70V/cell (AH)	Approx. Dimensions								Approximate Weight		Remarks
			Length		Width		Height		Total Height		kg	lbs	
			mm	in.	mm	in.	mm	in.	mm	in.			
LFeLi-4810S	48V	10	442.00	17.40	290.00	11.42	44.00	1.73	44.00	1.73	9.50	20.94	No parallel connectivity available
LFeLi-4820S	48V	20	442.00	17.40	330.00	12.99	88.00	3.46	88.00	3.46	15.50	34.17	No parallel connectivity available
LFeLi-4850C	48V	50	443.00	17.40	442.00	17.40	132.00	5.20	132.00	5.20	32.00	70.55	Parallel connectivity available
LFeLi-4850T	48V	50	442.00	17.40	442.00	17.40	132.00	5.20	132.00	5.20	32.00	70.55	Parallel connectivity available
LFeLi-4875C	48V	75	440.00	17.40	399.00	15.71	177.00	6.97	177.00	6.97	42.00	92.59	Parallel connectivity available
LFeLi-48100F	48V	100	442.00	19.69	230.00	9.06	260.00	10.24	260.00	10.24	42.00	92.59	Parallel connectivity available
LFeLi-48100T	48V	100	500.00	17.40	431.00	16.97	177.50	6.99	177.50	6.99	43.00	94.80	Parallel connectivity available
LFeLi-48150T	48V	150	442.00	17.40	495.00	19.49	177.00	6.97	177.00	6.97	65.00	143.30	Parallel connectivity available
LFeLi-48200T	48V	200	442.00	17.40	560.00	22.05	244.00	9.61	244.00	9.61	82.00	180.78	Parallel connectivity available

PERFORMANCE CHARACTERISTICS

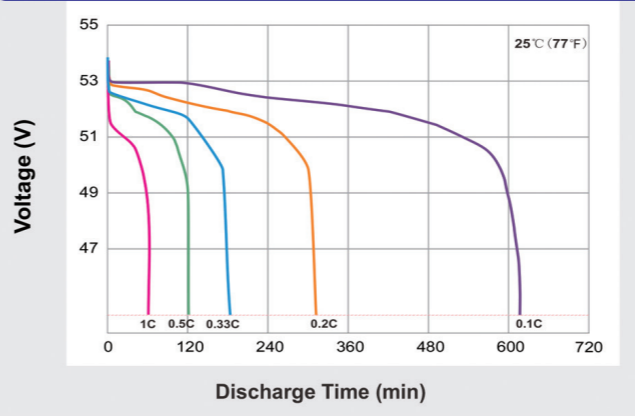
Discharge Capacity in relation to Discharge Rate



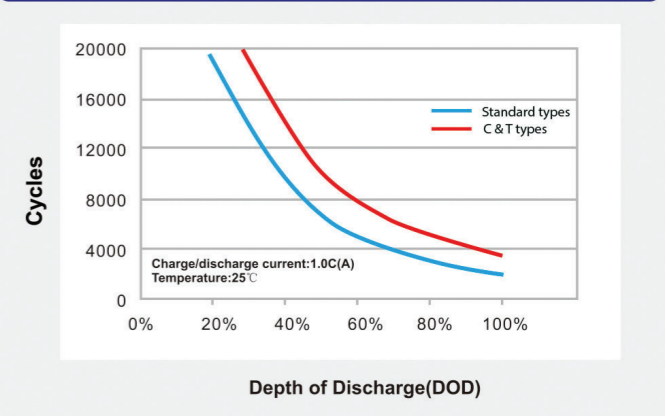
Temperature Effect in relation to Battery Capacity



Discharge Time in relation to Discharge Rate



Depth of Discharge vs Cycle Life



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