



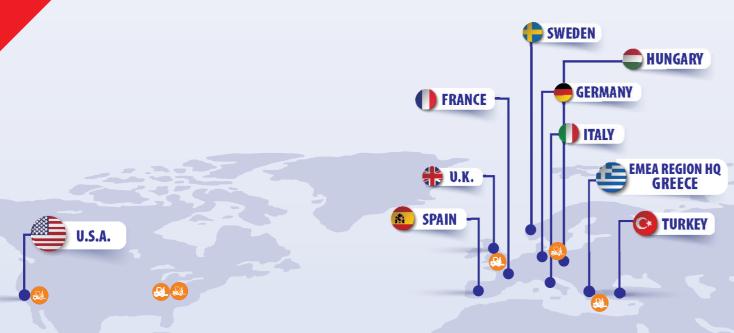


# **Series:**

- Pure Lead Standby
  PLH series
- AGM Front Terminal LPF series
- Pure Lead Carbon
  High Endurance
  PLH+C series
- High Temperature
  LHT series
- Tubular Gel
  OPzV series
- LiFeP04
  LFeLi series







**Leoch Battery UK LTD.,** a subsidiary of Leoch International Holdings Pte Ltd, was established in 2020 aiming to expand the globally renowned Leoch brand lead acid and lithium batteries in the UK and Ireland by working closely with major OE manufactures, distributors and service providers as well as B2B customers who use our batteries.

Leoch retains ten (10) 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 24GWH / year.





Manufacturing **Plants** 



Warehouses

**AUSTRALIA** 

## Manufacturing Plants (10)

- · China Zhaoqing
- China Jiangsu
- · China Anhui (3)
- Sri Lanka
- Malaysia (2)
- India
- Vietnam



- Athens, Greece
- Market Harborough, UK
- Paris, France
- Paderborn, Germany
- Bologna, Italy
- Madrid, Spain
- Ankara, Turkey
- · Johannesburg, S. Africa
- Stockholm, Sweden
- Budapest, Hungary

## APAC region (5)

- Shenzen, China
- Singapore
- · Bangalore, India
- Sydney, Australia
- · Bangkok, Thailand

Los Angeles, USA

# **Your Global Battery Partner**



Annual

Sales



**Plants** 



24 GWH Production Capacity

per Year



16 Subsidiaries and Sales Offices

Worldwide



Worldwide

14.000 **Employees** 



Production

Lines



💓 SOUTH AFRICA

3.000

Customers around the World

# ...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 hasslefree operation for a broad spectrum of telecom applications.

\* Please be aware of our terms and conditions before any purchase.



**Pure Lead Standby** 

**PLH series** 

-40°C~ +65°C

TEMPERATURE RANGE Up to 24 months at 25°C

SHELF LIFE

5 Years\*

WARRANTY

20 years (25°C)

\*Depending on the actual model and configuration set-up

**DESIGN LIFE** 



Leoch Pure Lead Standby 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**



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



Pure Lead design makes PLH series ideal for high temperature applications



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



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



Thin plates using a special pasting formula ensures long service life

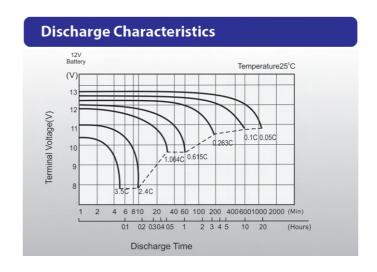


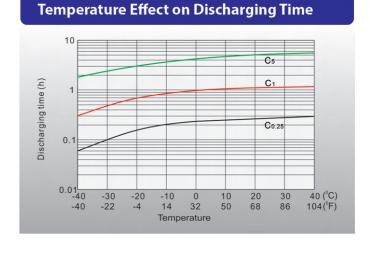
Premium ABS+PC jar & covers flame retardant to UL94-V0

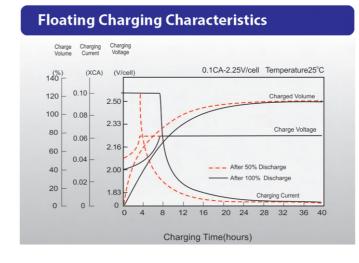
## **BATTERY SPECIFICATIONS**

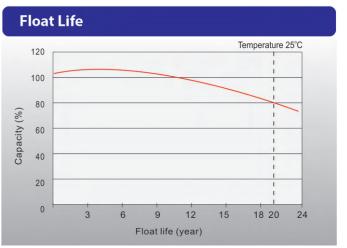
	Nominal	Rated Al Capacity			Appro	Approx.							
Model	Voltage (V)	10Hr @´ 1.80V/cell	Length		Width		Height		Total Height		Wei	ght	Terminal Type
	(1)	(AH)	mm	in.	mm	in.	mm	in.	mm	in.	kg	lbs	7,12
PLH40FT(A)	12	38	298.70	11.76	97.00	3.82	184.00	7.24	184.00	7.24	12.50	27.56	M6
PLH62FT(A)	12	62	298.70	11.76	97.00	3.82	267.00	10.51	267.00	10.51	19.50	42.99	M6
PLH90FT(A)	12	90	405.40	15.96	108.00	4.25	287.00	11.30	287.00	11.30	28.70	63.27	M6
PLH100FT(A)	12	100	405.40	15.96	108.00	4.25	287.00	11.30	287.00	11.30	30.80	67.90	M6
PLH110FT(A)	12	110	559.00	22.01	125.00	4.92	227.00	8.94	227.00	8.94	36.50	80.47	M6
PLH150FT(A)	12	150	559.00	22.01	125.00	4.92	277.00	10.91	277.00	10.91	48.00	105.82	M6
PLH170FT(A)	12	170	559.00	22.01	125.00	4.92	320.00	12.60	320.00	12.60	54.20	119.49	M6
PLH190FT(A)	12	190	559.00	22.01	125.00	4.92	320.00	12.60	320.00	12.60	57.60	126.98	M6
PLH210FT(A)	12	210	559.00	22.01	125.00	4.92	328.00	12.91	328.00	12.91	60.50	133.38	M6

## **PERFORMANCE CHARACTERISTICS**











## **AGM Front Terminal LPF** series

-15°C~ +50°C

**TEMPERATURE RANGE** 

Up to 6 months at 25°C

SHELF LIFE

3 Years\*

WARRANTY

12 years (25°C)

\*Depending on the actual model and configuration set-up

**DESIGN LIFE** 



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 for 19-inch or 23-inch telecom cabinets



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



Front terminal design makes the installation & maintenance "hassle free"



Thick plates using a special pasting formula ensures long service life



Shielded design terminal caps reduces risk of short circuits and improves safety



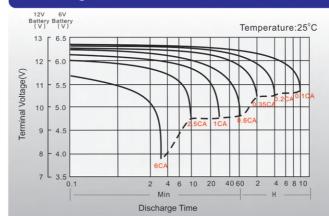
ABS case UL94-HB (UL94-V0 Optional) is used for increased container strength

## **BATTERY SPECIFICATIONS**

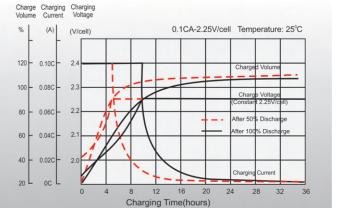
	Nominal Voltage (V)	Rated Capacity 10Hr @ 1.80V/cell (AH)	Approx. Dimensions									rox.	
Model			Length		Width		Height		Total Height		Weight		Terminal Type
			mm	in.	mm	in.	mm	in.	mm	in.	kg	lbs	.,,,,,
LPF12-40	12	40	277.00	109.06	106.00	41.73	222.00	87.40	222.00	87.40	14.60	32.19	T6(M6)
LPF12-50	12	50	390.00	153.54	105.00	41.34	200.00	78.74	200.00	78.74	18.50	40.79	T6(M6)
LPF12-55	12	55	277.00	109.06	106.00	41.73	222.00	87.40	222.00	87.40	17.30	38.14	T6(M6)
LPF12-70	12	70	564.00	222.05	114.00	44.88	187.00	73.62	187.00	73.62	25.50	56.22	T6(M6)
LPF12-75	12	75	564.00	222.05	114.00	44.88	187.00	73.62	187.00	73.62	26.00	57.32	T6(M6)
LPF12-90	12	90	394.00	155.12	110.00	43.31	285.00	112.20	285.00	112.20	31.00	68.34	T6(M6)
LPF12-100	12	100	394.00	155.12	110.00	43.31	286.00	112.60	286.00	112.60	31.00	68.34	T6(M6)
LPF12-100A	12	100	508.00	200.00	110.00	43.31	238.50	93.90	238.50	93.90	32.00	70.55	T13(M6)
LPF12-125	12	125	551.00	216.93	110.00	43.31	288.00	113.39	288.00	113.39	41.50	91.49	T6(M6)
LPF12-150	12	150	551.00	216.93	110.00	43.31	288.00	113.39	288.00	113.39	44.80	98.77	T6(M6)
LPF12-150V	12	150	550.00	216.54	125.00	49.21	281.50	110.83	281.50	110.83	50.60	111.55	T8(M6)
LPF12-170	12	170	550.00	216.54	125.00	49.21	281.50	110.83	281.50	110.83	51.00	112.44	T8(M6)
LPF12-190	12	190	560.00	220.47	126.00	49.61	320.00	125.98	320.00	125.98	57.00	125.66	T8(M6)
LPF12-200	12	200	560.00	220.47	126.00	49.61	320.00	125.98	320.00	125.98	61.00	134.48	T11(M8)

## PERFORMANCE CHARACTERISTICS

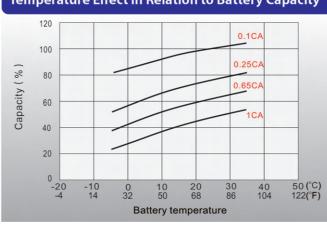
## **Discharge Characteristics**



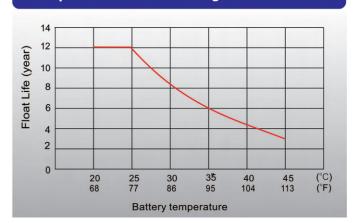
**Floating Charging Characteristics** 



## **Temperature Effect in Relation to Battery Capacity**



## **Temperature Effect on Long Term Float Life**





# Pure Lead Carbon High Endurance PLH+C series



TEMPERATURE RANGE Up to 24 months at 25°C

SHELF LIFE

up to 5 Years\*

WARRANTY

>1000 cycles

\*Depending on the actual model and configuration set-up

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 terminal caps reduce risk of short circuits and improves safety



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



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



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



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

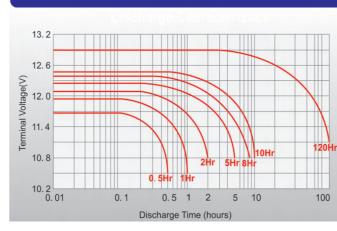
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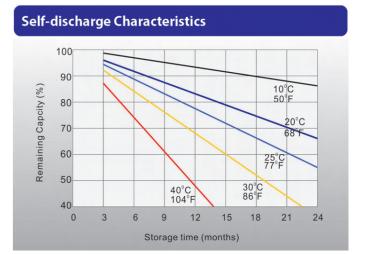
## **BATTERY SPECIFICATIONS**

	Nominal Voltage (V)	Cupucity	Approx. Dimensions									rox.	
Model			Length		Width		Height		Total Height		Weight		Terminal Type
( ' '		(AH)	mm	in.	mm	in.	mm	in.	mm	in.	kg	lbs	-76-
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	M6
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	M6
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	M6
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	M6
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	M6
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	M6

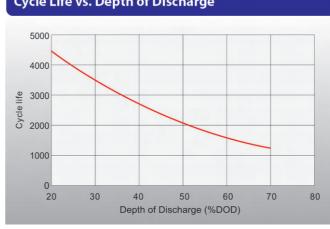
## **PERFORMANCE CHARACTERISTICS**

## **Discharge Characteristics**

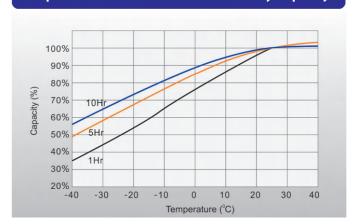




## Cycle Life vs. Depth of Discharge

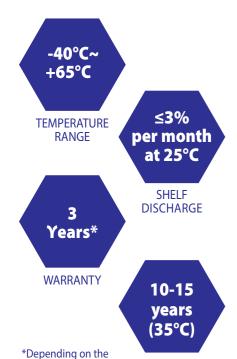


## Temperature Effect in Relation to Battery Capacity





# High Temperature LHT series





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**

**DESIGN LIFE** 



actual model and

configuration set-up

Ideal for high temperature communications and emergency power supply applications



High Temperature design paste formula, double sealing agent and separator to optimize performance under higher temperatures



To be operated at reference temperatures of 35°C, 10°C higher than the reference temperature of conventional VRLA batteries (25°C)



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



Long life design of up to 10 years (12V) and 15 years (2V) at 35°C



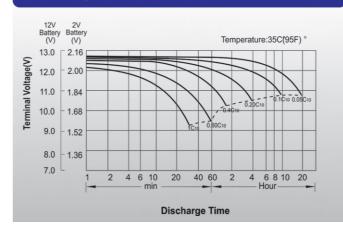
Premium ABS+PC jar & covers flame retardant to UL94-V0

## **BATTERY SPECIFICATIONS**

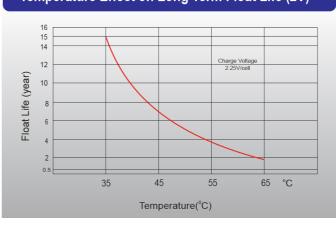
	Nominal Voltage (V)		Approx. Dimensions									rox.	
Model			Length		Width		Height		Total Height		Weight		Terminal Type
		(AH)	mm	in.	mm	in.	mm	in.	mm	in.	kg	lbs	71
LHT2-200	2	200	170.00	6.69	110.00	4.33	328.00	12.91	348.00	13.70	13.50	29.76	M8
LHT2-300	2	300	170.00	6.69	150.00	5.91	328.00	12.91	348.00	13.70	18.80	41.45	M8
LHT2-400	2	400	210.00	8.27	175.00	6.89	330.00	12.99	350.00	13.78	25.50	56.22	M8
LHT2-500	2	500	240.00	9.45	175.00	6.89	330.00	12.99	350.00	13.78	30.00	66.14	M8
LHT2-600	2	600	300.00	11.81	175.00	6.89	330.00	12.99	350.00	13.78	37.00	81.57	M8
LHT2-800	2	800	410.00	16.14	175.00	6.89	330.00	12.99	350.00	13.78	50.40	111.11	M8
LHT2-1000	2	1000	475.00	18.70	175.00	6.89	328.00	12.91	350.00	13.78	60.00	132.28	M8
LHT2-1500	2	1500	403.00	15.87	354.00	13.94	339.00	13.35	349.00	13.74	97.50	214.95	M8
LHT2-2000	2	2000	490.00	19.29	350.00	13.78	339.00	13.35	349.00	13.74	121.00	266.76	M8
LHT2-3000	2	3000	709.00	27.91	350.00	13.78	337.00	13.27	347.00	13.66	183.00	403.44	M8
LHT12-100	12	100	330.00	12.99	173.00	6.81	212.00	8.35	218.00	8.58	33.50	73.85	M8
LHT12-150	12	150	532.00	20.94	207.00	8.15	214.00	8.43	220.00	8.66	56.00	123.46	M8
LHT12-200	12	200	522.00	20.55	240.00	9.45	218.00	8.58	224.00	8.82	67.40	148.59	M8
LHTF12-100	12	100	394.00	15.51	110.00	4.33	286.00	11.26	286.00	11.26	31.50	69.44	M6
LHTF12-150	12	150	551.00	21.69	110.00	4.33	288.00	11.34	288.00	11.34	46.00	101.41	M6
LHTF12-200	12	200	560.00	22.05	126.00	4.96	320.00	12.60	320.00	12.60	59.500	131.17	M8

## **PERFORMANCE CHARACTERISTICS**

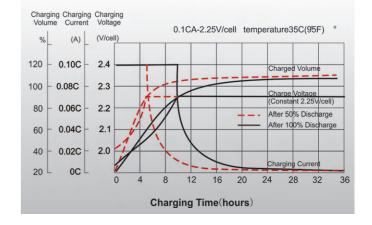
## **Discharge Characteristics**



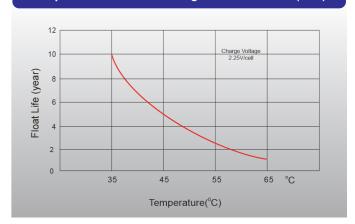
## Temperature Effect on Long Term Float Life (2V)



## Floating Charging Characteristics



## Temperature Effect on Long Term Float Life (12V)





# **Tubular Gel OPzV series**

-20°C~ +55°C

> TEMPERATURE RANGE

≤3% per month at 25°C

SHELF

3-5 Years\*

DISCHARGE

WARRANTY

Up to 20 years\* (25°C)

\*Depending on the actual model and configuration set-up

DESIGN LIFE





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 including 2V cells, 12V top terminal and unique 12V front terminal blocks



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



For cyclic applications offering up to 2000 cycles at 60% DoD (2V) or up to 1600 cycles at 60% DoD (12V)



Complete maintenance free design throughout the battery's life (in accordance to the provided product and user's manual)



Design life of up to 20 years



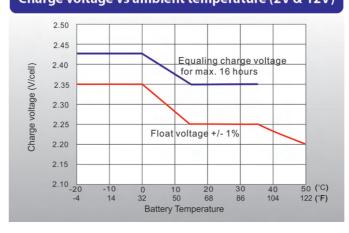
ABS case UL94-HB (UL94-V0 Optional) is used for increased container strength

## **BATTERY SPECIFICATIONS**

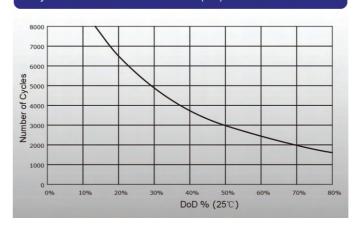
	Nominal	Rated Capacity	Approx. Dimensions									Approx.	
Model	Voltage (V)	e 10Hr@ 1.80V/cell	Length		Width		Height		Total Height		Weight		Terminal Type
		(AH)	mm	in.	mm	in.	mm	in.	mm	in.	kg	lbs	. 7   -
4 OPzV200	2	200	103.00	4.06	206.00	8.11	355.00	13.98	390.00	15.35	18.80	41.50	M8
5 OPzV250	2	250	124.00	4.88	206.00	8.11	355.00	13.98	390.00	15.35	22.40	49.40	M8
6 OPzV300	2	300	145.00	5.71	206.00	8.11	355.00	13.98	390.00	15.35	26.40	58.20	M8
5 OPzV350	2	350	124.00	4.88	206.00	8.11	471.00	18.54	506.00	19.92	29.00	63.90	M8
6 OPzV420	2	420	145.00	5.71	206.00	8.11	471.00	18.54	506.00	19.92	34.50	76.10	M8
7 OPzV490	2	490	166.00	6.54	206.00	8.11	471.00	18.54	506.00	19.92	39.00	86.00	M8
6 OPzV600	2	600	145.00	5.71	206.00	8.11	646.00	25.43	681.00	26.81	48.00	105.80	M8
8 OPzV800	2	800	191.00	7.52	210.00	8.27	646.00	25.43	681.00	26.81	65.10	143.50	M8
10 OPzV1000	2	1000	233.00	9.17	210.00	8.27	646.00	25.43	681.00	26.81	78.50	173.10	M8
12 OPzV1200	2	1200	275.00	10.83	210.00	8.27	646.00	25.43	681.00	26.81	93.00	205.10	M8
12 OPzV1500	2	1500	275.00	10.83	210.00	8.27	796.00	31.34	831.00	32.72	115.00	253.60	M8
16 OPzV2000	2	2000	399.00	15.71	214.00	8.27	772.00	30.39	807.00	31.77	155.00	341.80	M8
20 OPzV2500	2	2500	487.00	19.17	212.00	8.34	772.00	30.39	807.00	31.77	196.00	432.20	M8
24 OPzV3000	2	3000	576.00	22.68	212.00	8.34	772.00	30.39	807.00	31.77	232.00	511.50	M8
12V3OPzV100FT	12	100	551.00	21.69	110.00	4.33	274.00	10.79	287.00	11.30	41.10	90.60	M6
12V10OPzV200	12	200	522.00	20.55	268.00	14.49	220.00	8.66	226.00	8.90	70.50	155.40	M8

## **PERFORMANCE CHARACTERISTICS**

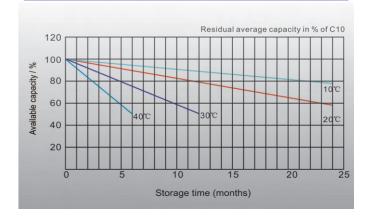
## Charge voltage vs ambient temperature (2V & 12V)



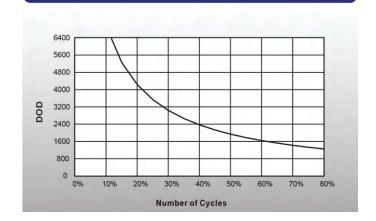
## Cycle Life in Relation to DOD (2V)



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



## Cycle Life in Relation to DOD (12V)





## LiFePO4 LFeLi series



TEMPERATURE RANGE 24 months

SHELF LIFE

5 Years\*

WARRANTY

Up to 20 years\*

\*Depending on the actual model and configuration set-up

**DESIGN LIFE** 



Leoch Lithium iron phosphate batteries (LiFePo<sub>4</sub>) offer extreme cyclic abilities compared to lead-acid batteries. For extreme demanding telecom applications Leoch has developed 48V Lithium-lon (LiFePo<sub>4</sub>) 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**



Environmentally friendly without any heavy metals inside



Lithium Iron Phosphate chemistry has a high thermal runaway threshold being one of the safest market lithium technology



Extreme Cycle Life, up to 3500 cycles at 100% DoD to reduce CAPEX & OPEX in demanding telecom, switchgear or hybrid applications



Advanced BMS communication protocols (Modbus, Canbus, RS232, RS485) and bespoke solutions upon request (SNMP, Anti-Theft & Tracking Systems availability)



LCD screen available for on-site tool-free monitoring. Advanced BMS with a multitude of safety and communication options available.

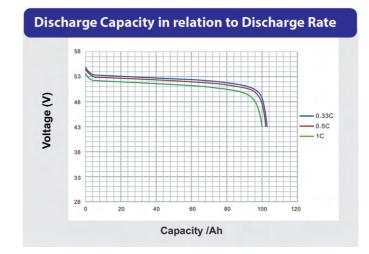


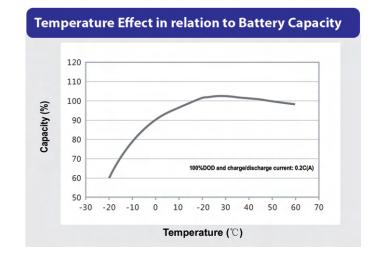
Passive cooling and electromagnetic shielded design

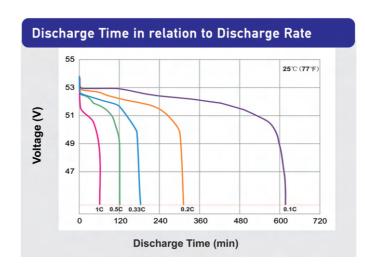
## **BATTERY SPECIFICATIONS**

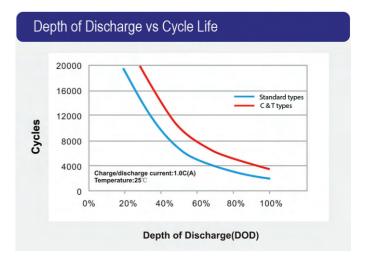
	Nominal	age 10Hr@	Approx. Dimensions							rox.		
Model	Voltage (V)		Length		Width		Height		Weight		Remarks	
	(•,	(AH)	mm	in.	mm	in.	mm	in.	kg	lbs		
LFeLi-4810S	48	10	442.00	17.40	290.00	11.42	44.00	1.73	9.5	20.94	No parallel conectivity available	
LFeLi-4820TB	48	20	442.00	17.40	330.00	12.99	88.00	3.46	12.00	26.46	No parallel conectivity available	
LFeLi-4830A	51.2	30	436.00	17.17	400.00	15.75	132.50	5.20	20.00	44.09	Parallel conectivity available	
LFeLi-4840TS	48	40	442.00	17.40	450.00	17.72	88.00	3.46	25.00	55.12	Parallel conectivity available	
LFeLi-4850TB	48	50	442.00	17.40	442.00	17.40	132.00	5.20	32.00	70.55	Parallel conectivity available	
LFELI-4875TB	48	100	442.00	17.40	400.00	15.75	177.00	6.97	41.00	90.39	Parallel conectivity available	
LFELI-48100TB	48	100	442.00	17.40	450.00	17.72	132.00	5.20	41.00	90.39	Parallel conectivity available	
LFELI-48150TB	48	150	442.00	17.40	520.00	20.47	198.00	7.80	65.00	143.3	Parallel conectivity available	
LFeLi-48200TB	48V	200	442.00	17.40	550.00	21.65	244.00	9.61	83.00	182.98	Parallel conectivity available	

## **PERFORMANCE CHARACTERISTICS**









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