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LEOCH BATTERY

COMPANY PROFILE

Founded in 1999, LEOCH BATTERY (stock code: 00842.HK) is a leading provider of advanced battery power & energy management solutions, delivering reliable & efficient energy to industries, data centers, cities and infrastructure across the world.

Headquartered in Singapore, we operate 21 state-of-the-art manufacturing facilities and maintain a global network of 80+ service companies, serving clients in over 150 countries. Our team of 15,000 professionals, including 1,500+ R&D and technical experts, drives innovation and ensures the highest standards of quality and reliability.

Expertise in Battery Power & Smart Energy Solutions

At LEOCH, we deliver quality power solutions built to perform across industrial and commercial applications. Our expertise includes:

Battery Energy Storage Systems (BESS): Industrial, commercial, residential, grid-side, and renewable energy solutions.

Telecom & Data Centre Backup Power Solutions: Reliable & quality power for mission-critical network power, UPS and AI data center power applications.

Automotive Power Solutions: Start-stop, lighting and ignition batteries for ICE & EV cars, motorcycles, etc.

Motive Power Solutions: Golf cart, bicycle & tricycle, material handling and forklifts.

Battery Recycling: Sustainable recycling solutions for a greener future.

At LEOCH BATTERY, we are committed to innovation, reliability, and sustainability, ensuring that our clients and partners across the globe receive reliable and efficient power and smart energy solutions.

1500+
R&D and Engineers

21
Manufacturing Plants

6
Research Institutions

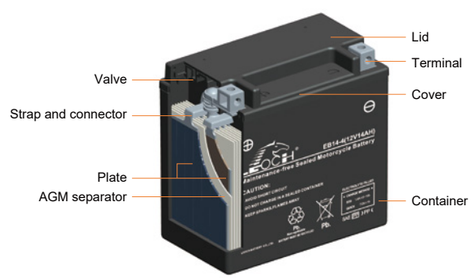
20+
Years of industrial Experience

60+
Industry Standards

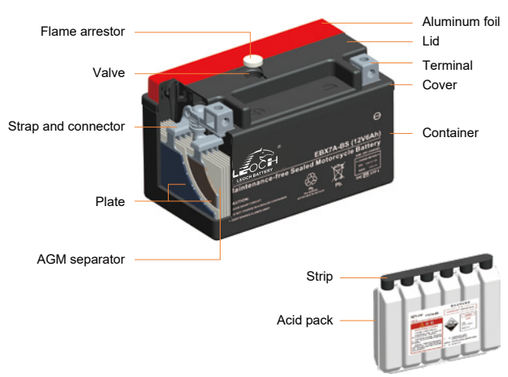
1000+
Patents

BATTERY FEATURES

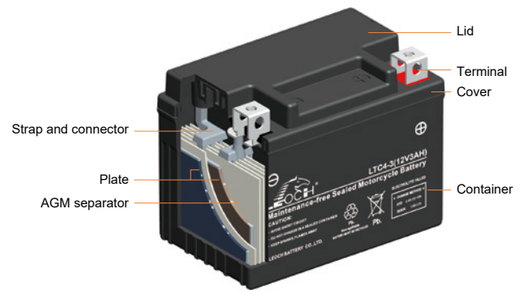
EB Series Maintenance Free Battery(PP)



EB Series Dry Charged VRLA Maintenance Free Battery(PP)



LT Series Maintenance Free Battery(ABS)



Maintenance-Free AGM/VRLA Battery

Leoch batteries are constructed with lead calcium alloy and absorbed glass mat technology to provide you with total maintenance-free operation. No spills,no leaks,no water to check. This design will provide you with the most powerful,hightest amp hour capacity, longest cycle-life product on the market. In addition,the fiberglass mat separators and high cell compression extend battery life by delivering superior vibration resistance from engine abuse or extreme road conditions.

TERMINAL CONFIGURATIONS

Terminal shapes vary from one battery to another. By identifying the correct replacement battery from the listing in this book, you are assured of the proper terminal configuration. For custom applications, refer to the following chart to identify terminal shape and corresponding batteries.

TERMINAL					BATTERY TYPE
TYPE	SKETCH	FRONT	SIDE	TOP	
A					EBX30L-BS、LT4A-3、 EBZ6.5-3、EB7B-4-1、EBZ7-3-1、EBZ7-3-2、EB8-3-1、EB8-4-1、EB9A-4-1、EB9B-4-1、EBZ10-4-1、EBZ10-4-2、EB12A-4-1、EB12B-4-1、EBZ12-4-1、EB14B-4-1、EBZ14-4-1、EBZ14-4-2、EB16B-3-1、 EB16B-4-1、EB16B-3-1-PW、EB24-3-1、EB30-3-1、EB30-3-1-PW、EB12E-3-1、EB12E-4-1、EB30-3-I、HPG4A-3、HPGZ7-3-2、HPG9B-4-1、HPGZ10-4-2、HPG12-4-1、HPG12B-4-1、HPG14B-4-1、HPGZ14-4-2、HPG24-3-1、HPG30-3-1
					EBX4L-BS-I、EBZ4.5L-BS、 EBX5L-BS、EBX7L-BS、 EB7B-BS、 EBZ7L-BS、EBX9-BS、 EB9A-BS、 EB9B-BS、EBZ10-BS、EBZ12-BS、 EBZ14-BS、EBX12-BS、EB12A-BS、EB12B-BS、EBX14L-BS、EBX14-BS、EB14B-BS、EBX14AHL-BS、EBX14AH-BS、EBX16-BS、EBX20L-BS、EBX20-BS、EBX20CH-BS、EB4-3-I、EB5-3-2、EBZ4.5-3、EB5-3、EB7-3、EB7A-4-I、EB7A-4-QT、EBZ8-3、EB10-3、EB12-4-P、EB14-4、EB14A-3、EB14A-4、EB14A-4-PW、EB16-4、EB20-3、EB20H-3-P1、EB20CH-4、EBC12-4、EBC20-3、EB14C-3-P 、EB14C-4-I、EB14C-4-P、EB12-4-1、EB9-4-1、EBX7A-BS-I、EB10A-BS、EBX20H-BS-P、EBX20HL-BS-P、HPG7B-4-1、HPG9-4-1、HPG10-3-1、HPG12-4-1、HPG14-4-1、HPG14A-3-1、HPG16-4-1、HPG20H-3-1、HPG20H-4-1、HPG20CH-4-1、EB16-4-1
					LT4-3-2、LT5-3-2、LT7-3-2、LT6-3-2、LT7A-4(N)、HPG4-3-2、HPG5-3-2、HPG7-3-2
B					EB5AL-BS、LT3-3、LT5A-3-1、LT7D-3、LT7D-4、LT7E-3、LT7E-4、LT9A-3、LT9A-4、EB12E-3、EB12E-4、HPG5A-3-1、HPG9A-3、HPG9A-4、HPG12E-3
					LT6.5-3、HPG6.5-3
					EB9A-BS-1

TERMINAL					BATTERY TYPE
TYPE	SKETCH	FRONT	SIDE	TOP	
G					EB22-3、EB24A-3、EB24A-4、HPG22-3、HPG30A-3(J)
					EB9A-BS-1
I					LTR4A-BS、 LTR4A-5、HPG4A-5
J					LT4B-BS、LT4B-5
K					B14-4
M					MB14-4
N					MX15-3-1、MX15-4-1
					MX9-4-3、MX12-4-3、MX14-3-3、MX14-4-3、MX16-3-3、MX16-4-3、MX18-3-3、MX20-3-3、MX20-4-3、MX30-3-3、HPGMX20-3-3、HPGMX30-3-3
O					EB12D-4、EB14D-4、EB12D-4-1、EB14D-4-1
P					EB7E-4
R					MX14-3-P、MX14-4-P、MX20-3-4、MX30-3-P、MX20-4-4、MX20-4-P1、MX20-3-P1

*Includes terminal adaptor for converting to side mount.

**Includes terminal adaptor for converting to top mount.

DESIGNATION OF BATTERY TYPE NUMBERS

Examples:

Dry Charged VRLA (AGM) Maintenance Free Battery Part Number								
	LT	X	7			L	—	B
	LT	X	20		H	L	—	B
	LT	X	14	A	H	L	—	B
	a	**b**	**c**	**d**	**b**	**e**		**f**

Factory Activated VRLA (AGM) Maintenance Free Battery Part Number								
	LT		14	A	—	3		
	LT	Z	10			4		
	EB	Z	12		—	4		
	a	**b**	**c**	**d**		**e**		

Designations:	Polarity Location (Figure. 1)
a -symbol of Leoch maintenance free (VRLA) batteries (LT, EB); b -high performance; c -performance level; d -indication ofdifferent size of the same capacity batteries; e -polaritylocation(see Fig.1),configuration; f -dry-charged;	12-Volt Polarity Location – 3/4 + + 4 – "e" =Polarity Location (L indicates positive terminal is located at right side of battery)

Metric Conversion Chart		
1 inch = 25.4 millimeters	1 pound = .45 kilograms	1 liter= 33.8 ounces
1 ounce = .03 liters	1 millimeter = .04 inches	1 kilogram = 2.2 pounds

EB SERIES FACTORY

Model	Rated Voltage	10hr@1.75V/cell	CCA@ (-18°C)	Battery Dimension						Polarity	Terminal	Gross Weight		Charging current
				Metric (±2mm)			Imperial (±1/16in)							
	V	Ah	A	L	W	H	L	W	H			Kg	Lbs	A
EB4-3-I	12	3	50	113	70	85	4 7/16	2 12/16	3 6/16		A	1.32	2.91	0.30
EBZ4.5-3	12	4	55	113	70	85	4 7/16	2 12/16	3 6/16		A	1.52	3.35	0.40
EB5-3	12	4	70	113	70	105	4 7/16	2 12/16	4 2/16		A	1.80	3.96	0.40
EB5-3-2	12	4	80	113	70	105	4 7/16	2 12/16	4 2/16		A	1.90	4.19	0.40
EB7-3	12	6	85	113	70	130	4 7/16	2 12/16	5 2/16		A	2.31	5.09	0.60
EB7A-4-I	12	6	100	150	87	93	5 14/16	3 7/16	3 11/16		A	2.28	5.02	0.60
EB7A-4-QT	12	6	110	150	87	93	5 14/16	3 7/16	3 11/16		A	2.52	5.55	0.60
EBZ7-3-1	12	6	90	113	70	105	4 7/16	2 12/16	4 2/16		A	2.13	4.69	0.60
EBZ7-3-2	12	6	90	113	70	105	4 7/16	2 12/16	4 2/16		A	2.13	4.69	0.60
EBZ6.5-3	12	6.5	105	113	70	121	4 7/16	2 12/16	4 12/16		A	2.34	5.15	0.65
EB7B-4-1	12	6.5	90	150	66	93	5 14/16	2 10/16	3 11/16		A	2.30	5.07	0.65
EBZ8-3	12	7	95	113	70	130	4 7/16	2 12/16	5 2/16		A	2.35	5.18	0.70
EB8-3-1	12	8	110	135	75	133	5 5/16	2 15/16	5 4/16		A	2.90	6.39	0.80
EB8-4-1	12	8	110	135	75	133	5 5/16	2 15/16	5 4/16		A	2.90	6.39	0.80
EB9-4-I	12	8	110	150	87	105	5 14/16	3 7/16	4 2/16		A	2.85	6.28	0.80
EB9B-4-1	12	8	115	150	70	105	5 14/16	2 12/16	4 2/16		A	2.78	6.12	0.80
EBZ10-4-1	12	8.6	150	150	88	93	5 14/16	3 7/16	3 11/16		A	3.15	6.94	0.86
EBZ10-4-2	12	8.6	150	150	88	93	5 14/16	3 7/16	3 11/16		A	3.15	6.94	0.86
EB9A-4-1	12	9	100	135	75	139	5 5/16	2 15/16	5 8/16		A	3.08	6.78	0.90
EB10-3	12	10	120	133	90	142	5 4/16	3 9/16	5 9/16		A	3.68	8.11	1.00
EB12-4-P	12	11	180	150	87	130	5 14/16	3 7/16	5 2/16		A	3.92	8.63	1.10
EBC12-4	12	12	180	150	87	130	5 14/16	3 7/16	5 2/16		A	3.60	7.93	1.20
EB12A-4-1	12	10	145	150	88	105	5 14/16	3 7/16	4 2/16		A	3.29	7.25	1.00
EB12B-4-1	12	10	165	150	70	130	5 14/16	2 12/16	5 2/16		A	3.59	7.91	1.00
EBZ12-4-1	12	11	210	150	88	110	5 14/16	3 7/16	4 5/16		A	3.81	8.39	1.10
EBZ14-4-1	12	11.2	210	150	88	110	5 14/16	3 7/16	4 5/16		A	3.83	8.44	1.12
EBZ14-4-2	12	11.2	210	150	88	110	5 14/16	3 7/16	4 5/16		A	3.82	8.41	1.12
EB12E-3	12	12	135	134	81	160	5 4/16	3 3/16	6 5/16		B	3.88	8.55	1.20
EB12E-4	12	12	135	134	81	160	5 4/16	3 3/16	6 5/16		B	3.88	8.55	1.20
EB12E-3-1	12	12	135	134	81	160	5 4/16	3 3/16	6 5/16		A	3.89	8.57	1.20
EB12E-4-1	12	12	135	134	81	160	5 4/16	3 3/16	6 5/16		A	3.89	8.57	1.20
EB14A-3	12	12	220	133	90	164	5 4/16	3 9/16	6 7/16		A	4.40	9.69	1.20
EB14A-4	12	12	220	133	90	164	5 4/16	3 9/16	6 7/16		A	4.40	9.69	1.20
EB14A-4-PW	12	12	220	133	90	174	5 4/16	3 9/16	6 14/16		A	4.44	9.78	1.20

EB SERIES FACTORY

Model	Rated Voltage	10hr@1.75V/cell	CCA@ (-18°C)	Battery Dimension						Polarity	Terminal	Gross Weight		Charging current
				Metric (±2mm)			Imperial (±1/16in)							
	V	Ah	A	L	W	H	L	W	H			Kg	Lbs	A
EB14B-4-1	12	12	175	150	70	145	5 14/16	2 12/16	5 11/16		A	4.10	9.03	1.20
EB14C-3-P	12	12	200	150	87	145	5 14/16	3 7/16	5 11/16		A	4.44	9.78	1.20
EB14C-4-I	12	12	170	150	87	145	5 14/16	3 7/16	5 11/16		A	4.15	9.14	1.20
EB14C-4-P	12	12	200	150	87	145	5 14/16	3 7/16	5 11/16		A	4.44	9.78	1.20
EB16-4	12	14	215	150	87	161	5 14/16	3 7/16	6 5/16		A	5.02	11.06	1.40
EB20-3	12	18	250	175	87	155	6 14/16	3 7/16	6 2/16		A	5.91	13.02	1.80
EBC20-3	12	20	270	175	87	155	6 14/16	3 7/16	6 2/16		A	5.47	12.05	2.00
EB20H-3-P1	12	18	310	175	87	155	6 14/16	3 7/16	6 2/16		A	6.15	13.55	1.80
EB20CH-4	12	18	230	150	87	161	5 14/16	3 7/16	6 5/16		A	5.53	12.18	1.80
EB22-3	12	18	230	186	82	171	7 5/16	3 4/16	6 12/16		G	5.55	12.22	1.80
EB16B-3-1	12	19	220	175	100	155	6 14/16	3 15/16	6 2/16		A	6.30	13.88	1.90
EB16B-3-1-PW	12	19	220	175	100	175	6 14/16	3 15/16	6 14/16		A	6.35	13.99	1.90
EB16B-4-1	12	19	220	175	100	155	6 14/16	3 15/16	6 2/16		A	6.30	13.88	1.90
EBU1-4-P	12	25	330	195	125	176	7 11/16	4 15/16	6 15/16		G	8.34	18.37	2.50
EBU1R-4-P	12	25	330	195	125	176	7 11/16	4 15/16	6 15/16		G	8.34	18.37	2.50
EBU1-4-P1	12	23	300	195	125	176	7 11/16	4 15/16	6 15/16		G	8.00	17.62	2.30
EBU1R-4-P1	12	23	300	195	125	176	7 11/16	4 15/16	6 15/16		G	8.00	17.62	2.30
EB24-3-1	12	21	330	205	87	162	8 1/16	3 7/16	6 6/16		A	7.00	15.42	2.10
EB24A-3	12	24	280	184	124	170	7 4/16	4 14/16	6 11/16		G	8.15	17.95	2.40
EB24A-4	12	24	280	184	124	170	7 4/16	4 14/16	6 11/16		G	8.15	17.95	2.40
EB30-3-1	12	30	385	166	126	173	6 9/16	4 15/16	6 13/16		A	9.38	20.66	3.00
EB30-3-1-PW	12	30	385	166	126	190	6 9/16	4 15/16	7 8/16		A	9.43	20.77	3.00
EB30-3-I	12	24	300	166	126	173	6 9/16	4 15/16	6 13/16		A	8.60	18.94	2.40
EB7E-4	12	7	90	135	75	122	5 5/16	2 15/16	4 13/16		P	2.80	6.17	0.70
EB9-4-1	12	8	125	150	87	105	5 14/16	3 7/16	4 2/16		A	3.18	7.00	0.80
EB12-4-1	12	11	180	150	87	130	5 14/16	3 7/16	5 2/16		A	4.18	9.21	1.10
EB12D-4	12	11	180	150	87	130	5 14/16	3 7/16	5 2/16		O	4.25	9.36	1.10
EB12D-4-1	12	11	180	150	87	130	5 14/16	3 7/16	5 2/16		O	4.00	8.81	1.10
EB14D-4	12	13	200	150	87	145	5 14/16	3 7/16	5 11/16		O	4.76	10.48	1.30
EB14D-4-1	12	13	200	150	87	145	5 14/16	3 7/16	5 11/16		O	4.50	9.91	1.30
EB14-4	12	13	200	150	87	145	5 14/16	3 7/16	5 11/16		A	4.76	10.48	1.30
JB14-4	12	13	200	150	87	145	5 14/16	3 7/16	5 11/16		K	4.62	10.18	1.30
MB14-4	12	13	210	150	87	145	5 14/16	3 7/16	5 11/16		M	4.80	10.57	1.30
EB16-4-1	12	14	230	150	87	161	5 14/16	3 7/16	6 5/16		A	5.40	11.89	1.40

EB SERIES DRY

Model	Rated Voltage	10hr@ 1.75V/cell	CCA@ (-18°C)	Battery Dimension						Polarity	Terminal	Dry Weight		Electrolyte Volume		Gross Weight	Charging current
				Metric (±2mm)			Imperial (±1/16in)							volume	weight		
	V	Ah	A	L	W	H	L	W	H			Kg	Lbs	liters	Kg	Kg	A
LTR4A-BS	12	2.3	30	113	48	85	4 7/16	1 14/16	3 6/16		I	0.83	1.83	0.12	0.16	0.99	0.23
LT4B-BS	12	2.3	30	113	38	85	4 7/16	1 8/16	3 6/16		J	0.78	1.72	0.10	0.14	0.92	0.23
EBX4L-BS-I	12	3	50	113	70	85	4 7/16	2 12/16	3 6/16		A	1.05	2.31	0.19	0.25	1.30	0.30
EBZ4.5L-BS	12	4	55	113	70	85	4 7/16	2 12/16	3 6/16		A	1.26	2.78	0.18	0.25	1.51	0.40
EBX5L-BS	12	4	70	113	70	105	4 7/16	2 12/16	4 2/16		A	1.52	3.35	0.24	0.31	1.83	0.40
EB5AL-BS	12	5	75	120	60	130	4 12/16	2 6/16	5 2/16		B	1.57	3.46	0.27	0.35	1.92	0.50
EBX7L-BS	12	6	85	113	70	130	4 7/16	2 12/16	5 2/16		A	1.92	4.23	0.33	0.44	2.36	0.60
EBX7A-BS-I	12	6	100	150	87	93	5 14/16	3 7/16	3 11/16		A	1.83	4.03	0.35	0.46	2.29	0.60
EBZ7L-BS	12	6	90	113	70	105	4 7/16	2 12/16	4 2/16		A	1.77	3.90	0.28	0.37	2.14	0.60
EB7B-BS	12	6.5	90	150	66	93	5 14/16	2 10/16	3 11/16		A	1.89	4.16	0.30	0.40	2.29	0.65
EBX9-BS	12	8	120	150	87	105	5 14/16	3 7/16	4 2/16		A	2.49	5.48	0.42	0.55	3.04	0.80
EB9A-BS	12	9	100	135	75	139	5 5/16	2 15/16	5 8/16		A	2.45	5.40	0.49	0.65	3.10	0.90
EB9A-BS-1	12	9	100	135	75	139	5 5/16	2 15/16	5 8/16		B	2.43	5.35	0.49	0.65	3.08	0.90
EB9B-BS	12	8	115	150	70	105	5 14/16	2 12/16	4 2/16		A	2.28	5.02	0.38	0.50	2.78	0.80
EBZ10-BS	12	8.6	150	150	88	93	5 14/16	3 7/16	3 11/16		A	2.60	5.73	0.39	0.51	3.11	0.86
EB10A-BS	12	9	150	194	59	112	7 10/16	2 5/16	4 7/16		A	2.70	5.95	0.42	0.56	3.26	0.90
EBZ12-BS	12	11	210	150	88	110	5 14/16	3 7/16	4 5/16		A	3.16	6.96	0.47	0.62	3.78	1.10
EBZ14-BS	12	11.2	210	150	88	110	5 14/16	3 7/16	4 5/16		A	3.18	7.00	0.47	0.62	3.80	1.12
EBX12-BS	12	10	180	150	87	130	5 14/16	3 7/16	5 2/16		A	3.10	6.83	0.57	0.76	3.86	1.00
EB12A-BS	12	10	145	150	88	105	5 14/16	3 7/16	4 2/16		A	2.64	5.81	0.50	0.65	3.29	1.00
EB12B-BS	12	10	165	150	70	130	5 14/16	2 12/16	5 2/16		A	2.88	6.34	0.50	0.67	3.55	1.00
EBX14-BS	12	12	200	150	87	145	5 14/16	3 7/16	5 11/16		A	3.51	7.73	0.65	0.86	4.37	1.20
EBX14L-BS	12	12	200	150	87	145	5 14/16	3 7/16	5 11/16		A	3.51	7.73	0.65	0.86	4.37	1.20
EB14B-BS	12	12	175	150	70	145	5 14/16	2 12/16	5 11/16		A	3.32	7.31	0.59	0.79	4.11	1.20
EBX14AH-BS	12	12	220	133	90	164	5 4/16	3 9/16	6 7/16		A	3.65	8.04	0.58	0.77	4.42	1.20
EBX14AHL-BS	12	12	220	133	90	164	5 4/16	3 9/16	6 7/16		A	3.65	8.04	0.58	0.77	4.42	1.20
EBX16-BS	12	14	220	150	87	161	5 14/16	3 7/16	6 5/16		A	4.00	8.81	0.75	0.99	4.99	1.40
EBX20-BS	12	18	250	175	87	155	6 14/16	3 7/16	6 2/16		A	4.77	10.51	0.89	1.17	5.94	1.80
EBX20L-BS	12	18	250	175	87	155	6 14/16	3 7/16	6 2/16		A	4.77	10.51	0.89	1.17	5.94	1.80
EBX20H-BS-P	12	18	310	175	87	155	6 14/16	3 7/16	6 2/16		A	5.44	11.98	0.83	1.11	6.55	1.80
EBX20HL-BS-P	12	18	310	175	87	155	6 14/16	3 7/16	6 2/16		A	5.44	11.98	0.83	1.11	6.55	1.80
EBX20CH-BS	12	18	230	150	87	161	5 14/16	3 7/16	6 5/16		A	4.45	9.80	0.81	1.08	5.53	1.80
EBX30L-BS	12	30	385	166	126	173	6 9/16	4 15/16	6 13/16		A	7.65	16.85	1.39	1.83	9.48	3.00

LT SERIES FACTORY

Model	Rated Voltage	10hr@1.75V/cell	CCA@ (-18°C)	Battery Dimension						Polarity	Terminal	Gross Weight		Charging current
				Metric (±2mm)			Imperial (±1/16in)							
	V	Ah	A	L	W	H	L	W	H			Kg	Lbs	A
6LT4-2	6	4	N/A	70	70	95	2 12/16	2 12/16	3 12/16		/	0.85	1.87	0.40
LTR4A-5	12	2.3	30	113	48	85	4 7/16	1 14/16	3 6/16		I	0.96	2.11	0.23
LT4B-5	12	2.3	30	113	38	85	4 7/16	1 8/16	3 6/16		J	0.91	2.00	0.23
LT2.5-3-2	12	2.5	20	80	70	105	3 2/16	2 12/16	4 2/16		/	1.04	2.29	0.25
LT3-3	12	3	30	98	56	110	3 14/16	2 3/16	4 5/16		B	1.20	2.64	0.30
LT4-3-2	12	3	50	113	70	85	4 7/16	2 12/16	3 6/16		A	1.36	3.00	0.30
LT4A-3	12	4	55	120	70	92	4 12/16	2 12/16	3 10/16		A	1.59	3.50	0.40
LT5-3-2	12	4	70	113	70	105	4 7/16	2 12/16	4 2/16		A	1.78	3.92	0.40
LT5A-3-1	12	5	75	120	60	130	4 12/16	2 6/16	5 2/16		B	1.90	4.19	0.50
LT6-3-2	12	5	70	113	70	105	4 7/16	2 12/16	4 2/16		A	1.94	4.27	0.50
LT6.5-3	12	6.5	85	139	66	102	5 8/16	2 10/16	4		B	2.30	5.07	0.65
LT7-3-2	12	6	85	113	70	130	4 7/16	2 12/16	5 2/16		A	2.29	5.04	0.60
LT7A-4(N)	12	7	100	151	87	93	5 15/16	3 7/16	3 11/16		A	2.66	5.86	0.70
LT7D-3	12	7	90	146	60	130	5 12/16	2 6/16	5 2/16		B	2.40	5.29	0.70
LT7D-4	12	7	90	146	60	130	5 12/16	2 6/16	5 2/16		B	2.40	5.29	0.70
LT7E-4	12	7	90	135	75	122	5 5/16	2 15/16	4 13/16		B	2.75	6.06	0.70
LT7E-3	12	7	90	135	75	122	5 5/16	2 15/16	4 13/16		B	2.75	6.06	0.70
LT9A-3	12	9	100	135	75	139	5 5/16	2 15/16	5 8/16		B	3.05	6.72	0.90
LT9A-4	12	9	100	135	75	139	5 5/16	2 15/16	5 8/16		B	3.05	6.72	0.90

MX POWERSPORT BATTERIES

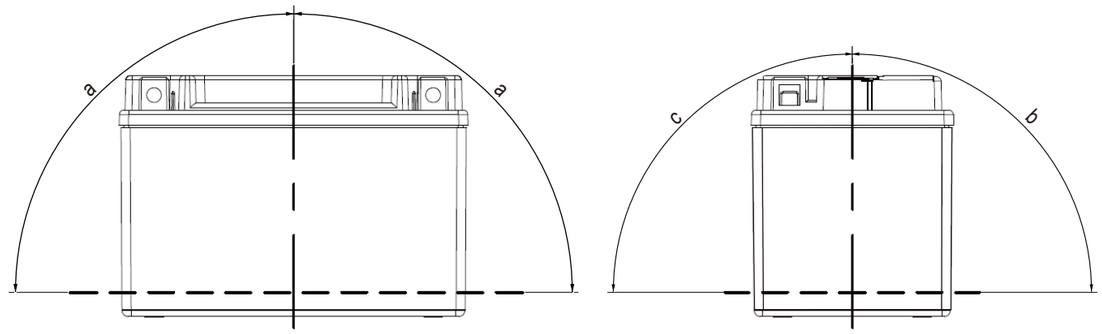
Model	Rated Voltage	10hr@1.75V/cell	CCA@ (-18°C)	Battery Dimension						Polarity	Terminal	Gross Weight		Charging current
				Metric (±2mm)			Imperial (±1/16in)							
	V	Ah	A	L	W	H	L	W	H			Kg	Lbs	A
MX9-4-3	12	8	120	150	88.5	105	5 14/16	3 8/16	4 2/16		N	3.05	6.72	0.80
MX12-4-3	12	11	170	150	88.5	130	5 14/16	3 8/16	5 2/16		N	4.00	8.81	1.10
MX14-3-3	12	13	210	150	88.5	145	5 14/16	3 8/16	5 11/16		N	4.55	10.02	1.30
MX14-3-P	12	16	240	150	88.5	145	5 14/16	3 8/16	5 11/16		R	5.40	11.89	1.60
MX14-4-3	12	13	210	150	88.5	145	5 14/16	3 8/16	5 11/16		N	4.55	10.02	1.30
MX14-4-P	12	16	240	150	88.5	145	5 14/16	3 8/16	5 11/16		R	5.40	11.89	1.60
MX15-3-1	12	14	240	134	89	164	5 4/16	3 8/16	6 7/16		N	5.30	11.67	1.40
MX15-4-1	12	14	240	134	89	164	5 4/16	3 8/16	6 7/16		N	5.30	11.67	1.40
MX16-3-3	12	20	350	175	101.5	155	6 14/16	4	6 2/16		N	7.15	15.75	2.00
MX16-4-3	12	20	350	175	101.5	155	6 14/16	4	6 2/16		N	7.15	15.75	2.00
MX18-3-3	12	21	360	205	91.5	162	8 1/16	3 10/16	6 6/16		N	7.50	16.52	2.10
MX20-3-3	12	18	310	176	89	154	6 15/16	3 8/16	6 1/16		N	6.55	14.43	1.80
MX20-3-4	12	18	310	176	89	154	6 15/16	3 8/16	6 1/16		R	6.55	14.43	1.80
MX20-3-P1	12	19	330	176	89	154	6 15/16	3 8/16	6 1/16		R	6.96	15.33	1.90
MX20-4-3	12	18	310	176	89	154	6 15/16	3 8/16	6 1/16		N	6.55	14.43	1.80
MX20-4-4	12	18	310	176	89	154	6 15/16	3 8/16	6 1/16		R	6.55	14.43	1.80
MX20-4-P1	12	19	330	176	89	154	6 15/16	3 8/16	6 1/16		R	6.96	15.33	1.90
MX30-3-3	12	30	420	170	132.5	175	6 11/16	5 3/16	6 14/16		N	9.90	21.81	3.00
MX30-3-P	12	32	480	170	132.5	175	6 11/16	5 3/16	6 14/16		R	10.38	22.86	3.20

HPG-NANO GELMOTORCYCLE BATTERY

Model	Rated Voltage	10hr@1.75V/cell	CCA@ (-18°C)	Battery Dimension						Polarity	Terminal	Gross Weight		Charging current
				Metric (±2mm)			Imperial (±1/16in)							
	V	Ah	A	L	W	H	L	W	H			Kg	Lbs	A
HPG4A-5	12	2.3	30	113	48	85	4 7/16	1 14/16	3 6/16		I	0.96	2.11	0.23
6HPG4-2	6	4	N/A	70	70	95	2 12/16	2 12/16	3 12/16		/	0.85	1.87	0.40
HPG4A-3	12	4	55	120	70	92	4 12/16	2 12/16	3 10/16		A	1.59	3.50	0.40
HPG4-3-2	12	3	50	113	70	85	4 7/16	2 12/16	3 6/16		A	1.36	3.00	0.30
HPG5-3-2	12	4	70	113	70	105	4 7/16	2 12/16	4 2/16		A	1.78	3.92	0.40
HPG5A-3-1	12	5	75	119	59	130	4 11/16	2 5/16	5 2/16		B	1.91	4.21	0.50
HPG6.5-3	12	6.5	85	139	66	102	5 8/16	2 10/16	4		B	2.30	5.07	0.65
HPG7-3-2	12	6	85	113	70	130	4 7/16	2 12/16	5 2/16		A	2.29	5.04	0.60
HPG7A-4-I	12	6	100	150	87	93	5 14/16	3 7/16	3 11/16		A	2.28	5.02	0.60
HPG7B-4-1	12	6.5	90	150	66	93	5 14/16	2 10/16	3 11/16		A	2.30	5.07	0.65
HPGZ7-3-2	12	6	90	113	70	105	4 7/16	2 12/16	4 2/16		A	2.13	4.69	0.60
HPG9-4-1	12	8	110	150	87	105	5 14/16	3 7/16	4 2/16		A	3.00	6.61	0.80
HPG9B-4-1	12	8	115	150	70	105	5 14/16	2 12/16	4 2/16		A	2.74	6.04	0.80
HPG9A-3	12	9	100	135	75	139	5 5/16	2 15/16	5 8/16		B	3.07	6.76	0.90
HPG9A-4	12	9	100	135	75	139	5 5/16	2 15/16	5 8/16		B	3.07	6.76	0.90
HPG10-3-1	12	10	120	133	90	142	5 4/16	3 9/16	5 9/16		A	3.68	8.11	1.00
HPGZ10-4-2	12	8.6	150	150	88	93	5 14/16	3 7/16	3 11/16		A	3.15	6.94	0.86
HPG12-4-1	12	10	160	150	87	130	5 14/16	3 7/16	5 2/16		A	3.86	8.50	1.00
HPG12A-4-1	12	10	145	150	88	105	5 14/16	3 7/16	4 2/16		A	3.29	7.25	1.00
HPG12B-4-1	12	10	165	150	70	130	5 14/16	2 12/16	5 2/16		A	3.59	7.91	1.00
HPG12E-3	12	12	135	134	81	160	5 4/16	3 3/16	6 5/16		B	3.88	8.55	1.20
HPG14-4-1	12	12	180	150	87	145	5 14/16	3 7/16	5 11/16		A	4.31	9.49	1.20
HPG14A-3-1	12	12	220	133	90	164	5 4/16	3 9/16	6 7/16		A	4.40	9.69	1.20
HPG14B-4-1	12	12	175	150	70	145	5 14/16	2 12/16	5 11/16		A	4.10	9.03	1.20
HPGZ14-4-2	12	11.2	210	150	88	110	5 14/16	3 7/16	4 5/16		A	3.82	8.41	1.12
HPG16-4-1	12	14	215	150	87	161	5 14/16	3 7/16	6 5/16		A	5.02	11.06	1.40
HPG20H-3-1	12	18	250	175	87	155	6 14/16	3 7/16	6 2/16		A	5.93	13.06	1.80
HPG20H-4-1	12	18	250	175	87	155	6 14/16	3 7/16	6 2/16		A	5.93	13.06	1.80
HPG20CH-4-1	12	18	230	150	87	161	5 14/16	3 7/16	6 5/16		A	5.53	12.18	1.80
HPG22-3	12	18	230	186	82	171	7 5/16	3 4/16	6 12/16		G	5.55	12.22	1.80
HPG24-3-1	12	21	320	205	87	162	8 1/16	3 7/16	6 6/16		A	7.00	15.42	2.10
HPG30-3-1	12	30	385	166	126	173	6 9/16	4 15/16	6 13/16		A	9.38	20.66	3.00
HPGMX20-3-3	12	18	310	176	89	154	6 15/16	3 8/16	6 1/16		N	6.55	14.43	1.80
HPGMX30-3-3	12	30	420	170	132.5	175	6 11/16	5 3/16	6 14/16		N	9.90	21.81	3.00
HPGU1-4-P	12	25	320	195	125	176	7 11/16	4 15/16	6 15/16		G	8.34	18.37	2.50
HPGU1R-4-P	12	25	320	195	125	176	7 11/16	4 15/16	6 15/16		G	8.34	18.37	2.50
HPG30A-3(J)	12	30	315	184	124	170	7 4/16	4 14/16	6 11/16		G	8.55	18.83	3.00

MOTORCYCLE LEAN ANGLE

Mounting angle / Mounting angle	a°	b°	c°
MF battery - Dry charge type(EB series)	30	20	10
MF battery - Factory activated(LT series)	30	20	20
MF battery - Factory activated(EB series)	30	20	20
MF battery - Factory activated(EBZ horizontal display series)	40	90	20
HPG GEL Series	30	20	20
MX Series	30	20	20



Technical Specifications Comparison of Battery Series

Mounting angle		Dry-Charged Maintenance-Free (EB Series)	Wet-Charged Maintenance-Free (LT Series)	Wet-Charged Maintenance-Free (EB Series)	Gel Battery (HPG Series)	Premium Wet-Charged Maintenance-Free (MX Series)
Installation & Usage	Factory Status - Acid Pre-filled		✓	✓	✓	✓
	Acid Filling Required Before Use	✓				
	Pure Water Replenishment Required During Use					
Construction	AGM Separator	✓	✓	✓	✓	✓
	Case Material	PP	ABS	PP	ABS	PP
	Terminal Material	Lead terminal	Lead terminal/ Copper terminal	Lead terminal	Lead terminal/ Copper terminal	Copper terminal/ Lead-clad copper terminal
Performance	Cranking Performance	★★★☆☆	★★★☆☆	★★★★☆	★★★☆☆	★★★★★
	Cycle Life	★★★☆☆	★★★☆☆	★★★★☆	★★★★☆	★★★★★

WHAT CAUSES A BATTERY TO FAIL PREMATURELY

SELF DISCHARGE

Antimony Batteries(Conventional 6-Volt and 12-Volt Standard)

Even when the motorcycle is not being used ,these batteries discharge (SELF DISCHARGE) at the rate of approximately .5 to 1% per week- This rate of discharge increases with warm temperature.See the approximate rates of discharge shown in Figure 1 to theright.

Lead Calcium Batteries (12-Volt Premium Hige Performance)

The lead/calcium technology motorcycle batteries have a longer life because they hold their charge more than three times as long as the conventional lead antimony batteries. These batteries discharge (SELF DISCHARGE) at a weekly rate of approximately .15 - .3% See Figure 2 to the right. Some lead/calcium batteries also contain a special chemical that resists sulfation formation on the battery plates.

In order to minimize the self discharge of the battery, it is recommended that the battery be placed in a cool(NOT FREEZING)

Figure 1 Self Discharge - Temperature Comparison

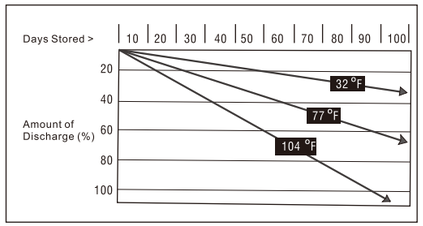
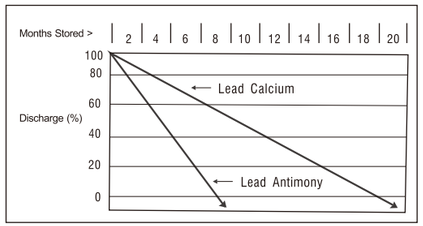


Figure 2 Self Discharge Rate Calcium Vs. Antimony @ 77°F



CURRENT DRAIN

Some big motorcycles (1,000 cc & up) have electric accessories such as clocks, GPS, radios, computer memory and alarm svstems. Which discharoe the battery even when the ianition is turned of. The amperage drain of each motorcycle is different depending on the model, year and electric accessories.

Figure 3

The chart below shows how quickly the battery is discharged by BOTH self discharge and current drain.

Figure 3 Self Discharge

Approximate # of Days from 100% full Charged to100% Discharged		
Temperature	**Lead Antimony Battery**	**Lead Calcium Battery**
100° F	100 Days	300 Days
77° F	200 Days	600 Days
32° F	550 Days	1,650 Days

Figure 4 Current Drain

Discharging Amperes	Days from 100% Charged to50% Discharged	Days from 100% Charged to100% Disch
7 mA	60 Days	119 Days
10 mA	42 Days	83 Days
15 mA	28 Days	56 Days
20 mA	21 Days	42 Days
30 mA	14 Days	28 Days

arged

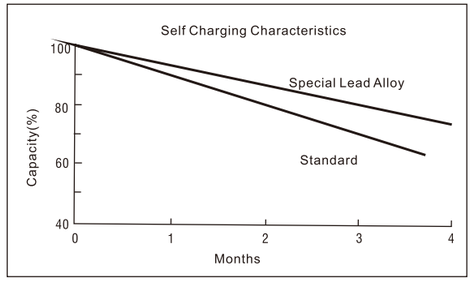
Note: If the battery is less that 100% charged when the battery begins standing, the discharge period will be shorter than the time indicated above.

HOW TO PROLONG BATTERY LIFE

ANTI SULFATE Is a chemical that can drastically reduce sulfate crystal build up on battery plate surfaces. This allows the battery to operate longer with optimum performance. All of our Premium, AGM and factory activated batteries have anti-sulfate added.

LOW SELF-DISCHARGE

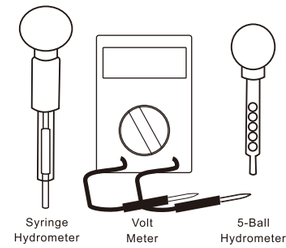
Self discharge occurs when batteries slowly lose charge when not in service.With the use of special lead alloy grids, self discharge is minimal and the batteries maintain their state-of-charge.



HOW TO DETERMINE BATTERY STATE-OF-CHARGE

To check the battery's state-of-charge you can use one of three methods: 1,) syringe hydrometer 2.) voltmeter or 3.) 5-Ball Hydrometer. See the table below for a comparison between 3 methods to determine the accurate state-of-charge.

State-of-Charge	Syringe Hydrometer	Digital Voltmeter	5-Ball Hydrometer
100% ChargedWith Anti-Sulfate Additive	1,280 Sp, Gr.	12.80 Volts	5- Balls Floating
100% Charged	1,265 Sp, Gr.	12.60 Volts	4- Balls Floating
75% Charged	1,210 Sp, Gr.	12.40 Volts	3- Balls Floating
50% Charged	1,160 Sp, Gr.	12.10 Volts	2- Balls Floating
25% Charged	1,129 Sp, Gr.	11.90 Volts	1- Balls Floating
00% Charged	Less than 1,100 Sp, Gr.	Less than 11.80 Volts	0- Balls Floating



Note: Results based on a typical battery.

HOW TO STOP ELECTROLYTE FROM FREEZING

Batteries that are fully charged CAN NOT FREEZE. If a battery becomes discharged, the electrolvte can freeze if it is stored below +20°F.To prevent damage due to freezing, do not allow the battery to become discharged.

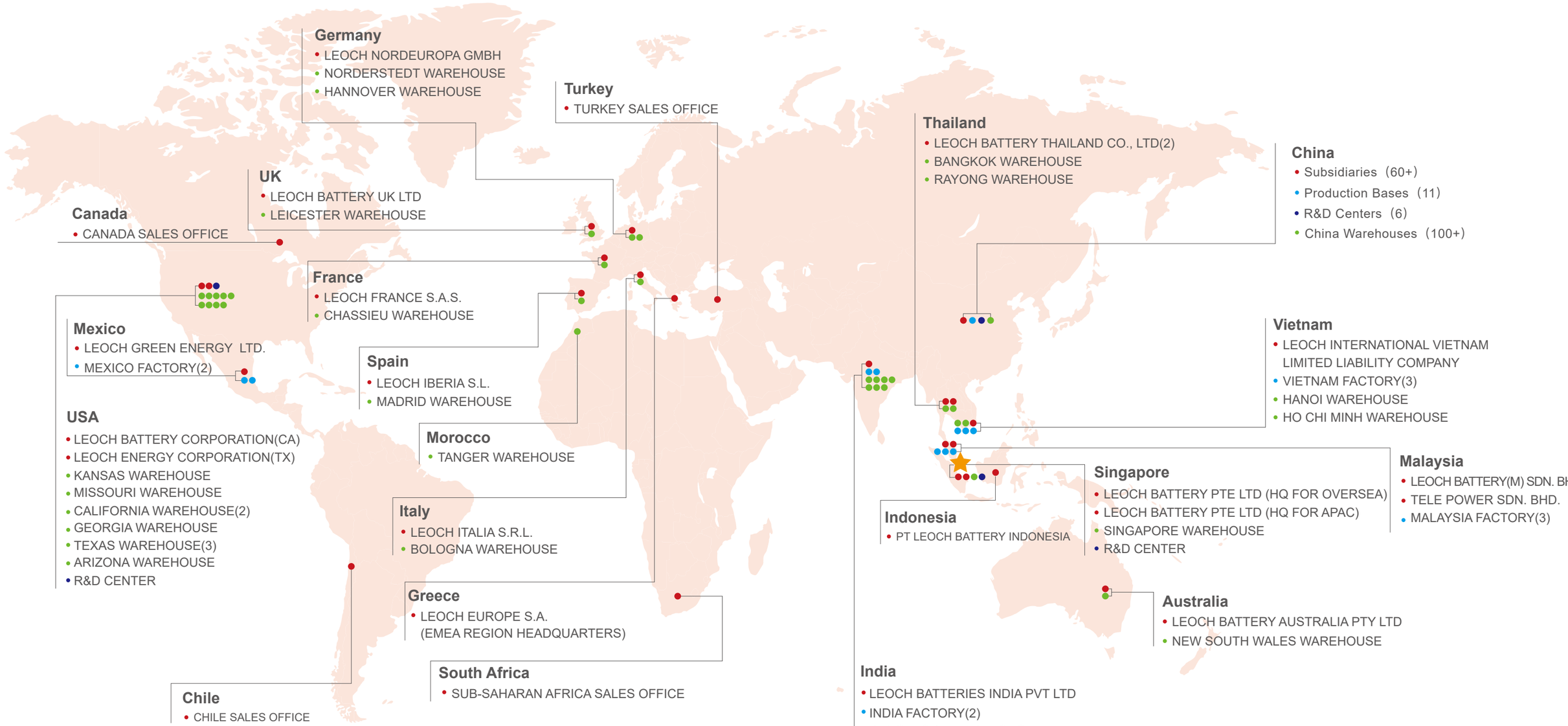
The chart below shows temperatures at which electrolyte at various states of charge begins to freeze. These are the approximate temperatures at which ice crystals begin to form.The electrolyte does not freeze solid until a lower temperature is reached. Solid freezing of electrolvte in a discharge battery will damage the battery plates and may crack the battery case. A batery in which the electrolvte has been frozen will not recover to full power and must be replaced

Specific Gravity of Electrolyte	Battery Voltage		Freezing Temperatures
	12-Volt	6-Volt	
1,280 Sp, Gr.	12.78V	6.39V	-92 °F
1,265 Sp, Gr.	12.66V	6.33V	-71 °F
1,250 Sp, Gr.	12.57V	6.28V	-62 °F
1,200 Sp, Gr.	12.27V	6.13V	-16 °F
1,150 Sp, Gr.	11.97V	5.98V	5 ° F
1,100 Sp, Gr.	11.67V	5.84V	18 °F

Note: Results based on a typical battery.

A Battery that is at a 75% state of charge or greater is in no danger of freezing.We recommend that you check your battery voltage every 30 days during the winter.

LEOCH GLOBAL DEPLOYMENT



Germany
- LEOCH NORDEUROPA GMBH
- NORDERSTEDT WAREHOUSE
- HANNOVER WAREHOUSE

Turkey
- TURKEY SALES OFFICE

Thailand
- LEOCH BATTERY THAILAND CO., LTD(2)
- BANGKOK WAREHOUSE
- RAYONG WAREHOUSE

China
- Subsidiaries（60+）
- Production Bases（11）
- R&D Centers（6）
- China Warehouses（100+）

UK
- LEOCH BATTERY UK LTD
- LEICESTER WAREHOUSE

Canada
- CANADA SALES OFFICE

France
- LEOCH FRANCE S.A.S.
- CHASSIEU WAREHOUSE

Mexico
- LEOCH GREEN ENERGY LTD.
- MEXICO FACTORY(2)

Spain
- LEOCH IBERIA S.L.
- MADRID WAREHOUSE

Vietnam
- LEOCH INTERNATIONAL VIETNAM LIMITED LIABILITY COMPANY
- VIETNAM FACTORY(3)
- HANOI WAREHOUSE
- HO CHI MINH WAREHOUSE

USA
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- CALIFORNIA WAREHOUSE(2)
- GEORGIA WAREHOUSE
- TEXAS WAREHOUSE(3)
- ARIZONA WAREHOUSE
- R&D CENTER

Morocco
- TANGER WAREHOUSE

Malaysia
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- TELE POWER SDN. BHD.
- MALAYSIA FACTORY(3)

Singapore
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- LEOCH BATTERY PTE LTD (HQ FOR APAC)
- SINGAPORE WAREHOUSE
- R&D CENTER

Indonesia
- PT LEOCH BATTERY INDONESIA

Italy
- LEOCH ITALIA S.R.L.
- BOLOGNA WAREHOUSE

Australia
- LEOCH BATTERY AUSTRALIA PTY LTD
- NEW SOUTH WALES WAREHOUSE

Greece
- LEOCH EUROPE S.A. (EMEA REGION HEADQUARTERS)

India
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- INDIA FACTORY(2)
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- JAIPUR WAREHOUSE
- KOLKATA WAREHOUSE
- MUMBAI WAREHOUSE
- NOIDA WAREHOUSE
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South Africa
- SUB-SAHARAN AFRICA SALES OFFICE

Chile
- CHILE SALES OFFICE

Global Subsidiaries, Production Bases, Warehouses, R&D Centers/Distribution in Worldwide Regions (as of September 2025)

● Subsidiaries (80+) ● Production Bases (21) ● Warehouses (Overseas30, China 100+) ● R&D Centers (8)