

Safety - Performance - Sustainability - LiFeP04

 **SHIDO**®
LITHIUM ION
BATTERIES



Catalogue





Introduction



Shido Lithium batteries have 4 cells LiFePO4 (Lithium Iron Phosphate) of 3.2 volts connected in series in order to reach an OCV of 12.8 volts. A perfect voltage to use as a starter battery for motorcycles. The electronic Battery Management System or BMS spread the charge and discharge regularly over the four cells. Thanks to its small internal resistance a Shido Lithium battery can generate a very high starting current with little Ah. This starting power delivers a powerful and quick start of the vehicle.



Lithium Iron Phosphate Technology



CHARGE STATUS INDICATOR LEDS



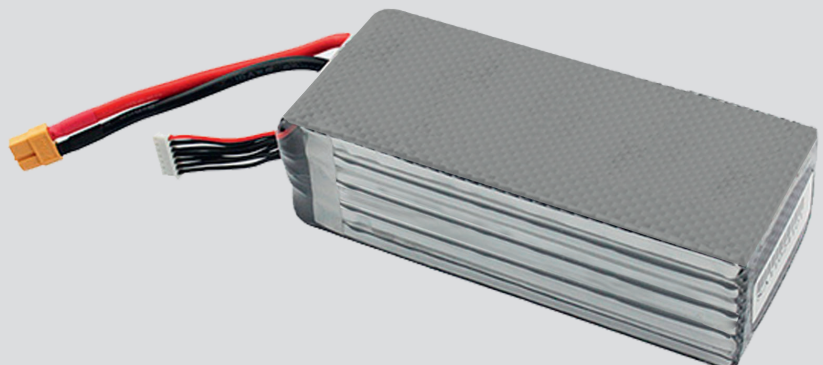
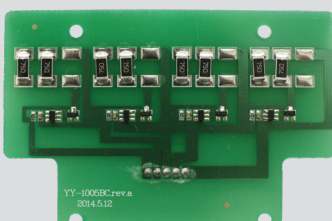
By pressing the TEST button you check the charge status of the battery.

LITHIUM IRON PHOSPHATE CELLS

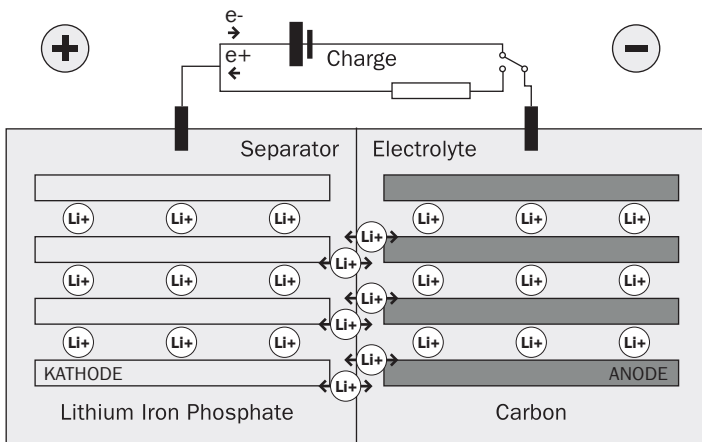
Shido Lithium batteries have 4 cells Lithium Ferro Phosphate as a cathode. Therefore, the Shido Lithium batteries are extremely stable, have a long lifetime and can manage high charge and discharge currents.

BATTERY MANAGEMENT SYSTEM

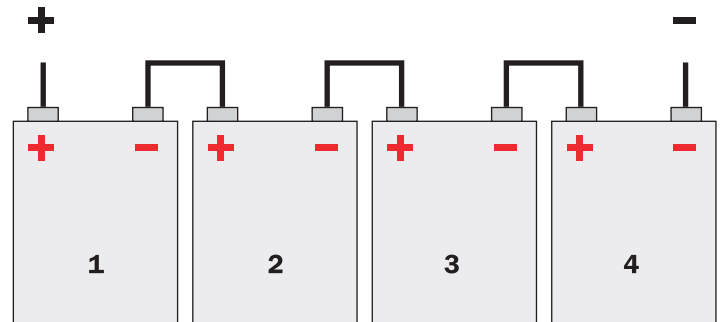
Divided voltage and current evenly over the 4 cells to provide a uniform charge and discharge. The delivered stable capacity improves the performance and extends the life of the battery.



Working Principles



4 cells LiFePO4 (Lithium Ferro Phosphate) 3.2 Volt in series - OCV is 12.8 volts.



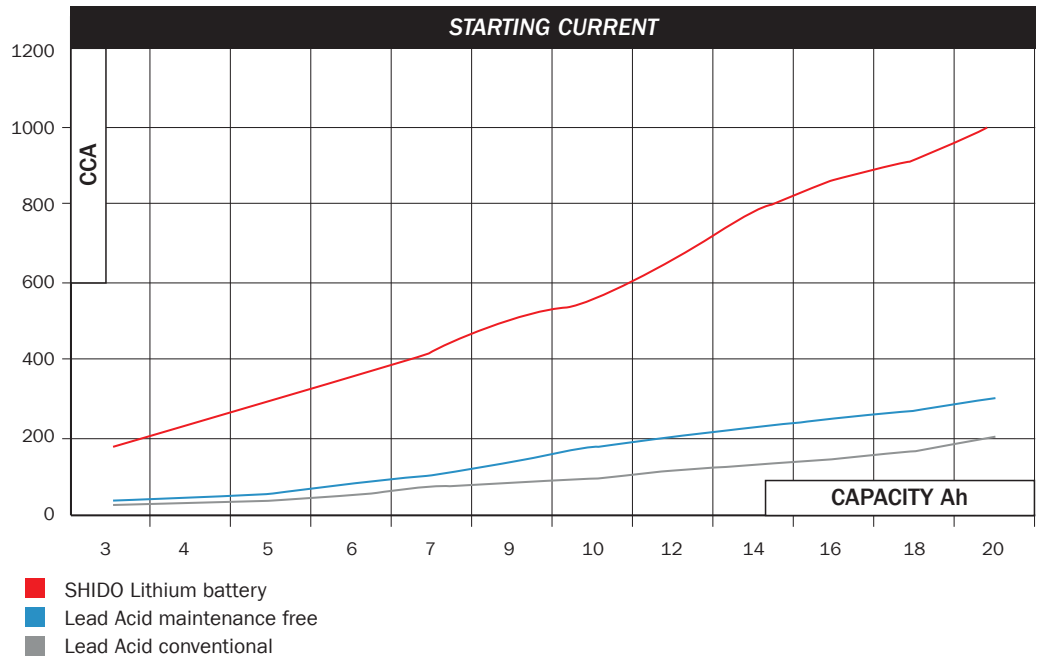
Advantages



- Superb cranking capacity
- Up to 75% lighter than Lead-Acid batteries
- Long capacity retention
- Lower self discharge: Longer shelf life
- Excellent cycle life: more than 1200 cycles
- More economical
- Drop-in replacement
- Less fuel consumption
- Super-fast recharge
- Safe in use
- No maintenance
- Stable discharge voltage
- No pollution, no lead and no acid
- Capacity indicator
- IP68 waterproof

Higher starting power

The starter needs sufficient starting current (CCA) to start. Depending on the necessary starting current a lead-acid battery requires a number of Ah to be able to generate this current. Shido Lithium batteries generate a similar or greater starting power than a comparable lead-acid battery with a smaller Ah value. This is because the internal resistance of a lithium battery is about three times less than a lead-acid battery. As a result, the maximum discharge current is 3 times higher than for a lead-acid battery. A higher starting current guarantees a smoother start.

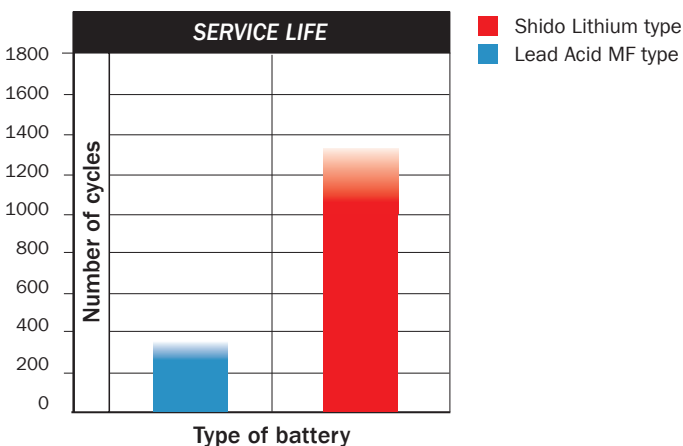


LEAD-ACID BATTERY		
TYPE	CAPACITY	STARTING CAPACITY
	Ah	CCA
NB4L-B	4	56
NTX7A-BS	6	105
NTZ10S	8,6	190
NB9-B	9	130
NTX14-BS	12	200

SHIDO LITHIUM BATTERY			DIFFERENCE CCA %
TYPE	CAPACITY	STARTING CAPACITY	
		Ah	CCA
LTX4L-BS LION	1,6	95	+ 70 %
LTX7A-BS LION	2,4	150	+ 43 %
LTZ10S LION	4	240	+ 26 %
LB9-B Q LION	3	180	+ 38 %
LTX14-BS LION	4	240	+ 20 %

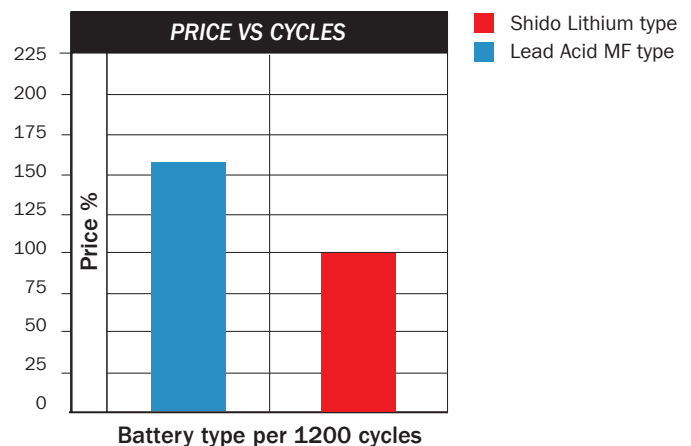
Longer life span

The service life of a battery is determined by the number of charge and discharge cycles. This is approximately 350 cycles for lead-acid batteries and about 1200 cycles for Shido Lithium (25% DOD or depth of discharge).



More economical

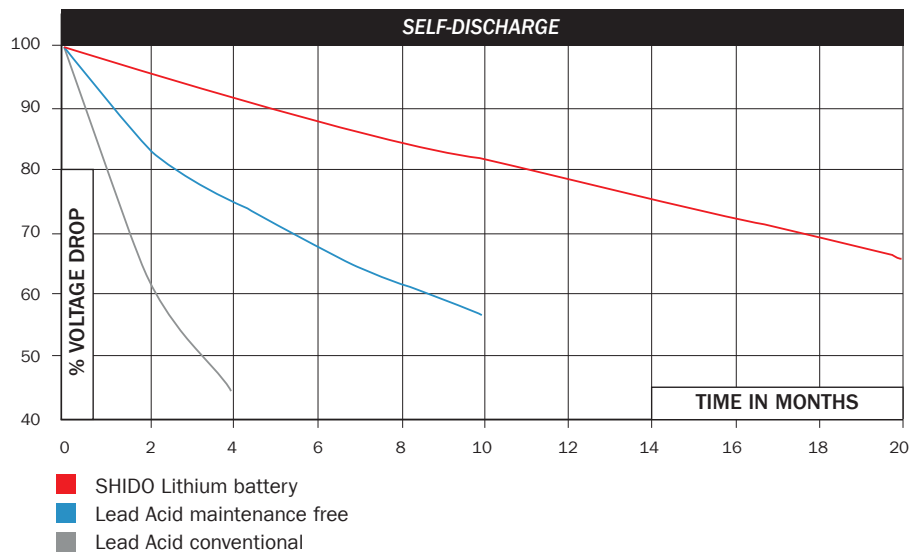
Over its entire lifetime a Lithium battery shows to be economical, in average about 2/3 the price of a lead-acid battery.



Low self-discharge

A lead-acid battery loses voltage relatively quickly through self-discharge when not using the motorcycle. After a winter the battery doesn't have sufficient capacity left to rotate the starter.

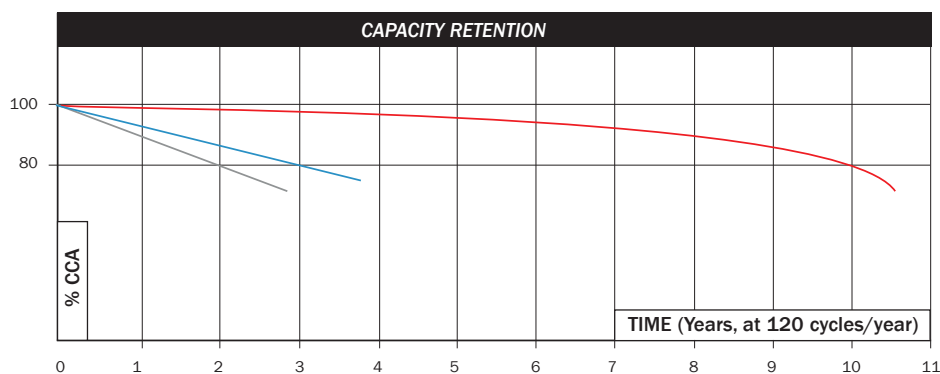
This self-discharge is very low for a Shido Lithium battery. Even after 2 year not using your motorcycle you still can start the engine. Note: Hidden power consumers such as alarm systems can discharge the battery much faster than only through the self-discharge.



Capacity retention

Typically for a lead-acid battery is the decrease of capacity in the course of time. A new lead-acid battery has a higher starting power than a battery pack that is already several years old. The starting current of a Shido Lithium remains all his life at a high level which

guarantees you a smooth start for a very long time. It is generally assumed that a battery must have at least 80% of its original capacity to be able to start the engine.



Safety

A Shido Lithium battery is completely maintenance-free, the composition LiFePO4 cannot explode and does not contain substances hazardous to the environment. All Shido Lithium batteries are IP68 waterproof.

Shido Lithium batteries cannot leak and may be installed in any position, even upside down.



Weight

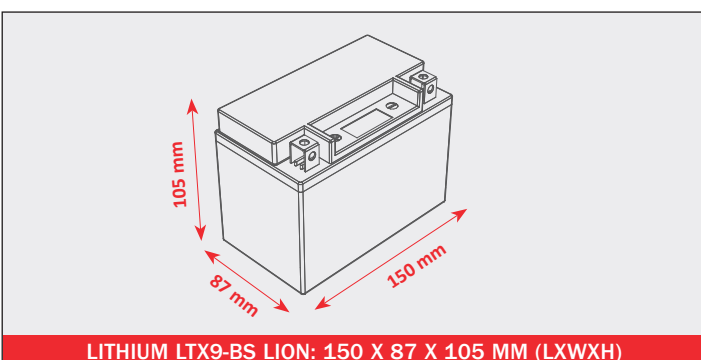
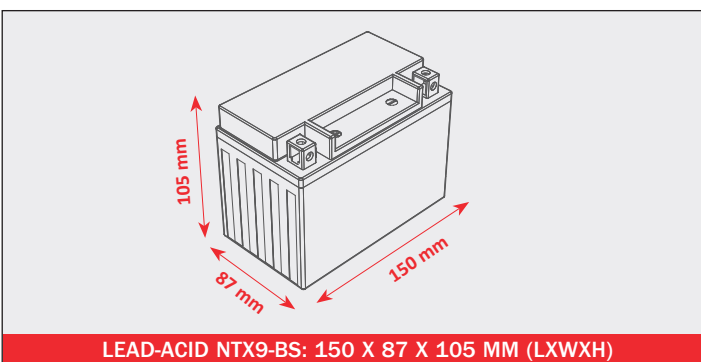
Shido Lithium batteries are on average 3 to 4 times lighter than a lead-acid battery.



LEAD-ACID BATTERY		SHIDO LITHIUM BATTERY		DIFFERENCE
ITEM	Kg	ITEM	Kg	Kg
NB4L-B	1,5	LTX4L-BS LION -S-	0,4	-1,1
NTX7A-BS	2,6	LTX7A-BS LION -S-	0,6	-2,0
NTZ10S	3,2	LTZ10S LION -S-	0,9	-2,3
NB9-B	3,1	LB9-B Q LION -S-	0,6	-2,5
NTX14-BS	4,6	LTX14-BS LION -S-	1,1	-3,5
NTX20-BS	6,7	LTX20L-BS Q LION -S-	1,4	-5,3

Dimensions

Shido Lithium batteries have exactly the same dimensions as the original lead-acid battery and can be connected easily via universal terminals. Some batteries are provided with spacers to approximate the dimensions of the lead-acid battery.



SHIDO[®] MARINE



IP68 WATERPROOF

- A special sealing between cover & container prevents water seeping in



NO POLLUTION

- No lead, no acid on the water
- No liquids inside
- Only low impact materials
- High corrosion resistance



HIGHER START CAPACITY

LEAD ACID	SHIDO LION	LEAD ACID	SHIDO LION
ITEM	ITEM	START CAPACITY	START CAPACITY
NTX20HL-BS-PW	LTX20L-BS Q LION	310 CCA	420 CCA
NB30CL-B	LIX30L-BS Q LION	385 CCA	540 CCA



VERY LOW SELF DISCHARGE



75% LOWER WEIGHT



3 TIMES LONGER CYCLE LIFE



3 TIMES SHORTER CHARGING TIME



Cross Reference

LEAD-ACID ITEM	SHIDO LITHIUM ITEM
YTX4L -Y-	LTX4L-BS LION -S-
YTX4L-BS -Y-	LTX4L-BS LION -S-
YTX5L -Y-	LTX5L-BS LION -S-
YTX5L-BS -Y-	LTX5L-BS LION -S-
YTB4L -Y-	LTX4L-BS LION -S-
12N5-3B -Y-	LB5L-B LION -S-
YB5L-B -Y-	LB5L-B LION -S-
YB5L-B WA -Y-	LB5L-B LION -S-
YTZ6V -Y-	LTZ7S LION -S-
12N5.5-3B -Y-	LB5L-B LION -S-
12N5.5-4A -Y-	LB5L-B LION -S-
12N5.5-4B -Y-	LB5L-B LION -S-
TTZ7S -Y-	LTZ7S LION -S-
YTX7A -Y-	LTX7A-BS LION -S-
YTX7A-BS -Y-	LTX7A-BS LION -S-
YTX7L -Y-	LTX7L-BS LION -S-
YTX7L-BS -Y-	LTX7L-BS LION -S-
YTZ7S -Y-	LTZ7S LION -S-
YT7B -Y-	LT7B-BS LION -S-
YT7B-BS -Y-	LT7B-BS LION -S-
12N7-3B -Y-	LB9-B Q LION -S-
12N7-4A -Y-	LB9-B Q LION -S-
12N7D-3B -Y-	LB9-B Q LION -S-
YTZ8V -Y-	LTZ8V LION -S-
YB7-A -Y-	LB9-B Q LION -S-
YB7L-B -Y-	LB9-B Q LION -S-
YB7L-B2 -Y-	LB9-B Q LION -S-
YT9B -Y-	LT9B-BS LION -S-
YT9B-BS -Y-	LT9B-BS LION -S-
YTX9 -Y-	LTX9-BS LION -S-
YTX9-BS -Y-	LTX9-BS LION -S-
TTZ10S-BS -Y-	LTZ10S LION -S-
YTZ10S -Y-	LTZ10S LION -S-
12N9-3A -Y-	LB9-B Q LION -S-
12N9-3B -Y-	LB9-B Q LION -S-
12N9-4B-1 -Y-	LB9-B Q LION -S-








LEAD-ACID ITEM	SHIDO LITHIUM ITEM
YB9-B -Y-	LB9-B Q LION -S-
YB9-B WA -Y-	LB9-B Q LION -S-
YB9L-A2 -Y-	LB9-B Q LION -S-
YB9L-B -Y-	LB9-B Q LION -S-
12N10-3B -Y-	LB12AL-A2 Q LION -S-
YT12A -Y-	LT12A-BS LION -S-
YT12A-BS -Y-	LT12A-BS LION -S-
YT12B -Y-	LT12B-BS LION -S-
YT12B-BS -Y-	LT12B-BS LION -S-
YTX12 -Y-	LTX12-BS LION -S-
YTX12-BS -Y-	LTX12-BS LION -S-
YB10L-A2 -Y-	LB12AL-A2 Q LION -S-
YB10L-B -Y-	LB12AL-A2 Q LION -S-
YB10L-B2 -Y-	LB12AL-A2 Q LION -S-
TTZ12S-BS -Y-	LTZ12S LION -S-
YTZ12S -Y-	LTZ12S LION -S-
YTZ14S -Y-	LTZ14S LION -S-
TTZ14S-BS -Y-	LTZ14S LION -S-
12N12A-4A-1 -Y-	LB12AL-A2 Q LION -S-
YB10L-BP -Y-	LB12AL-A2 Q LION -S-
YB12A-A -Y-	LB12AL-A2 Q LION -S-
YB12A-B -Y-	LB12AL-A2 Q LION -S-
YB12AL-A -Y-	LB12AL-A2 Q LION -S-
YB12AL-A2 -Y-	LB12AL-A2 Q LION -S-
YB12C-A -Y-	LTX14AHL-BS Q LI -S-
YT14B -Y-	LT14B-BS LION -S-
YT14B-BS -Y-	LT14B-BS LION -S-
YTX14 -Y-	LTX14-BS LION -S-
YTX14-BS -Y-	LTX14-BS LION -S-
YTX14AH-BS -Y-	LTX14AHL-BS Q LI -S-
YTX14AHL-BS	LTX14AHL-BS Q LI -S-
YTX14H -Y-	LTX14-BS LION -S-
YTX14H-BS -Y-	LTX14-BS LION -S-
YTX14L-BS -Y-	LTX14L-BS LION -S-
YB14-A2 -Y-	LTX14AHL-BS Q LI -S-
YB14-B2 -Y-	LTX14AHL-BS Q LI -S-
YB14A-A2 -Y-	LTX14AHL-BS Q LI -S-
YB14L-A -Y-	LTX14AHL-BS Q LI -S-
YB14L-A2 -Y-	LTX14AHL-BS Q LI -S-
YB14L-B2 -Y-	LTX14AHL-BS Q LI -S-

LEAD-ACID ITEM	SHIDO LITHIUM ITEM
YTX16 -Y-	LTX16-BS LION -S-
YTX16-BS -Y-	LTX16-BS LION -S-
YTX16-BS-1 -Y-	LTX16-BS LION -S-
YB16AL-A2 -Y-	LB16AL-A2 LION -S-
YB16AL-A2 WA	LB16AL-A2 LION -S-
YB16B-A -Y-	LTX16-BS LION -S-
YB16B-A1 -Y-	LTX16-BS LION -S-
YT19BL-BS -Y-	51913 LION -S-
51814 -Y-	51913 LION -S-
YTX20CH-BS -Y-	LTX20CH-BS LION -S-
51913 -Y-	51913 LION -S-
YB16CL-B -Y-	LTPW16L LION -S-
YT19BL -Y-	51913 LION -S-
YTX24HL-BS -Y-	LTX24HL-BS Q LI -S-
Y60-N24L-A -Y-	LIX30L-BS Q LION -S-
Y60-N24L-A	LIX30L-BS Q LION -S-
52515 -Y-	LIX30L-BS Q LION -S-
YHD-12 -Y-	LIX30L-BS Q LION -S-
53030 -Y-	LIX30L-BS Q LION -S-
YB30CL-B -Y-	LIX30L-BS Q LION -S-
YB30L-B -Y-	LIX30L-BS Q LION -S-
YIX30L-BS -Y-	LIX30L-BS Q LION -S-



Shido Lion Data Sheet

ITEM	Volt	Capacity	CA	Energy	Dimensions (mm)			Weight	Charging Current (A)		Lay-out
		Ah	A	Wh	L	W	H	(Kg)	STD	MAX	
LB5L-B LION -S-	12	1,6	95	19	120	60	120	1	1	8	
LTX4L-BS LION -S-	12	1,6	95	20	113	70	85	0,4	1	8	
LTX5L-BS LION -S-	12	1,6	95	20	113	70	105	0,4	1	5	
LTM2L LION -S-	12	2	120	24	89	49	90	0,45	1	10	
LTZ5S CNT LI -S-	12	2	120	24	113	69	85	0,6	1	10	
LTZ5S LION -S-	12	2	120	24	113	69	85	0,5	1	10	
LTX7A-BS LION -S-	12	2,4	150	30	150	87	93	0,62	1,5	12	
LTX7L-BS LION -S-	12	2,4	150	30	113	69	125	0,55	1,5	12	
LTZ5S-H LION -S-	12	2,4	150	0	113	69	0	0,6	1	12	
LTZ7S LION -S-	12	2,4	150	30	113	69	105	0,56	1,5	12	
LB9-B Q LION -S-	12	3	180	36	134	75	134	0,8	1,5	12	
LT7B-BS LION -S-	12	3	180	36	150	65	92	0,7	1,5	15	
LT9B-BS LION -S-	12	3	180	36	150	65	106	0,7	1,5	15	
LTX9 CNT LI -S-	12	3	180	36	150	87	105	0,79	1,5	15	
LTX9-BS LION -S-	12	3	180	36	150	87	105	0,92	1,5	15	
LT12A-BS LION -S-	12	3,5	210	42	150	87	107	0,8	2	18	
LB12AL-A2 Q LION -S-	12	4	240	48	130	75	160	0,9	2	20	
LTX12 CNT LI -S-	12	4	240	42	150	87	130	0,8	2	18	
LTX12-BS LION -S-	12	4	240	48	150	87	130	0,8	2	18	
LTX14-BS LION -S-	12	4	240	48	150	87	145	0,83	2	20	
LTX14AHL-BS Q LI -S-	12	4	240	48	134	75	168	1	2	20	
LTX14L-BS LION -S-	12	4	240	48	135	75	145	0,9	2	20	
LTZ10S LION -S-	12	4	240	48	150	87	93	0,85	2	20	
LTZ8V LION -S-	12	4,5	270	54	113	69	105	0,88	2,5	22,5	
LB16AL-A2 LION -S-	12	5	300	60	150	65	144	1,1	2,5	25	
LT12B-BS LION -S-	12	5	300	60	150	65	130	1	2,5	25	

ITEM	Volt	Capacity	CA	Energy	Dimensions (mm)			Weight	Charging Current (A)		Lay-out
		Ah	A	Wh	L	W	H	(Kg)	STD	MAX	
LT14B-BS LION -S-	12	5	300	60	150	65	144	1	2,5	25	
LTX12S LION -S-	12	5	300	60	150	87	110	0,95	2,5	25	
LTX14S LION -S-	12	5	300	60	150	87	110	1	2,5	25	
LTPW16L LION -S-	12	6	360	72	175	100	175	1,4	3	24	
LTX16-BS LION -S-	12	6	360	72	150	87	164	1,2	3	24	
LTX20-H Q LION -S-	12	6	360	0	175	87	0	1,6	3	24	
LTX20CH-BS LION -S-	12	6	360	72	150	87	164	1,2	3	24	
LTX20 Q CNT LI -S-	12	7	420	84	175	87	155	1,45	3,5	28	
LTX20-BS Q LION -S-	12	7	420	84	175	87	155	1,4	3,5	28	
LTX24HL-BS Q LI -S-	12	7	420	84	175	87	163	1,45	3,5	28	
51913 LION -S-	12	7,5	420	90	180	76	170	1,7	4	28	
LIX30 Q CNT LI -S-	12	8	480	96	167	124	163	1,92	4	32	
LIX30L-BS Q LION -S-	12	8	480	96	167	124	163	1,9	4	32	
SLM 420 LION -S-	12	20	720	0	169	131	0	3,8	10	50	



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