TECHNICAL DATA SHEET

Shido Lithium batterijen

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



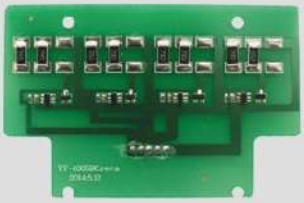
By pressing the TEST button you check the charge status of the battery.

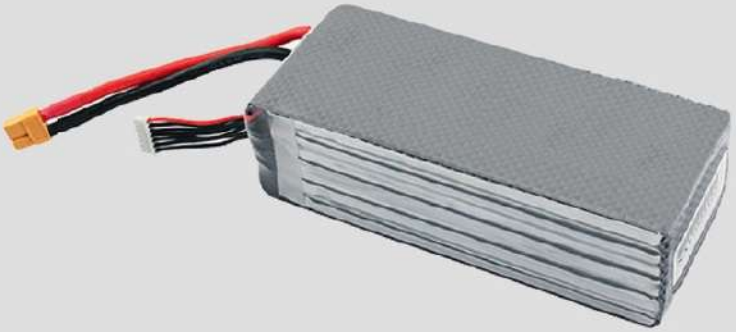
LITHIUM IRON PHOSPHATE CELLS

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.

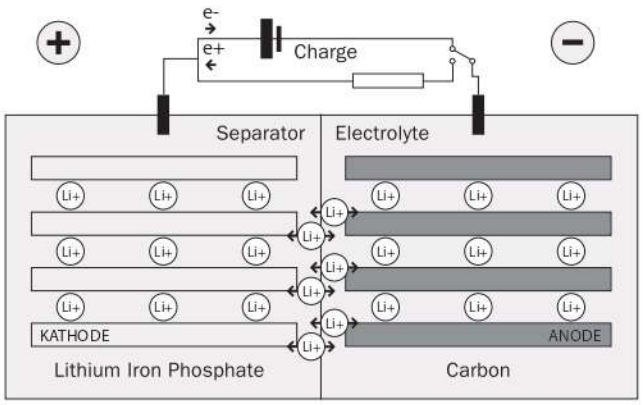




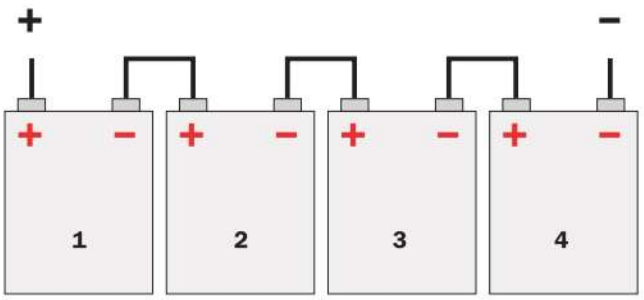
TECHNICAL DATA SHEET

Shido Lithium batterijen

Working Principles



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



Advantages



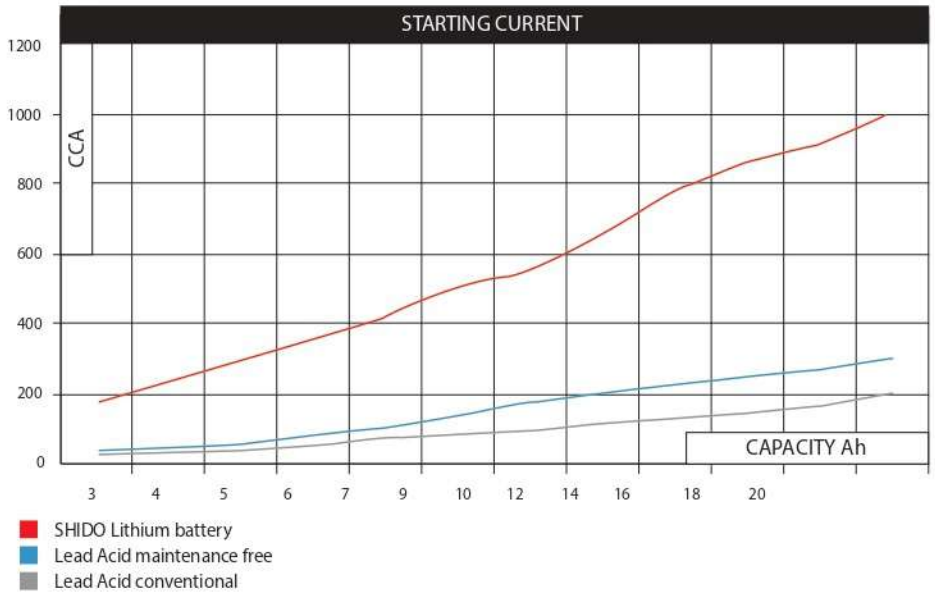
- Superb cranking capacity
- Up to 75% lighter than Lead-Acid batteries
- Long capacity retention
- Lower self discharge: Longer shelf life
- Excellent cycle life: more than 1200 cycles
- More economical
- Drop-in replacement
- Less fuel consumption
- Super-fast recharge
- Safe in use
- No maintenance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

TECHNICAL DATA SHEET

Shido Lithium batterijen

Higher starting power

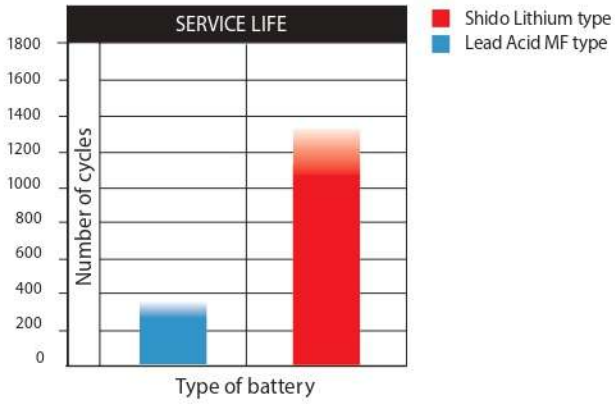
The starter needs sufficient starting current (CCA) to start. Depending on the necessary starting current a lead-acid battery requires a number of Ah to be able to generate this current. Shido Lithium batteries generate a similar or greater starting power than a comparable lead-acid battery with a smaller 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			SHIDO LITHIUM BATTERY			DIFFERENCE
TYPE	CAPACITY	STARTING CAPACITY	TYPE	CAPACITY	STARTING CAPACITY	
	Ah	CCA		Ah	CCA	CCA %
YB4L-B	4	56	LTX4L-BS	1,6	95	+ 70 %
YTX7A-BS	6	105	LTX7A-BS	2,4	150	+ 43 %
YTZ10S	8,6	190	LTZ10S	4	240	+ 26 %
YB9-B	9	130	LB9-B Q	3	180	+ 38 %
YTX14-BS	12	200	LTX14-BS	4	240	+ 20 %

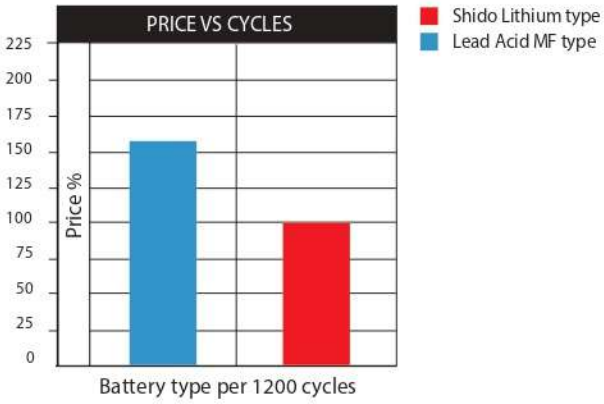
Longer life span

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.



BATTERY SUPPLIES

TECHNICAL DATA SHEET

Shido Lithium batterijen

Low self-discharge

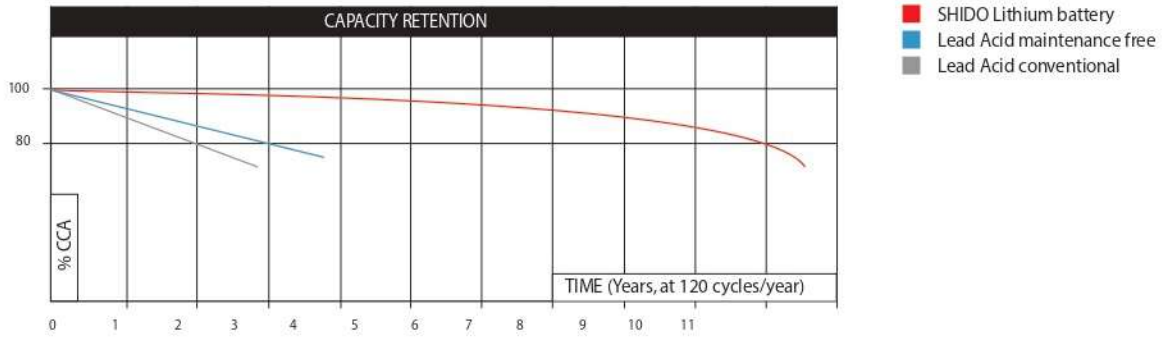
A lead-acid battery loses voltage relatively quickly through self-discharge when not using the motorcycle. After a winter the battery doesn't have sufficient capacity left to rotate the starter.

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.



TECHNICAL DATA SHEET

Shido Lithium batterijen

Weight

Shido Lithium batteries are on :erarage 3 to 4 times lighter than a lecid battery.



LEAD-ACID BATTERY	
ITEM	Kg
YB4L-B	1,5
YTX7A-BS	2,6
YTZ10S	3,2
YB9-B	3,1
YTX14-BS	4,6
YTX20-BS	6,7

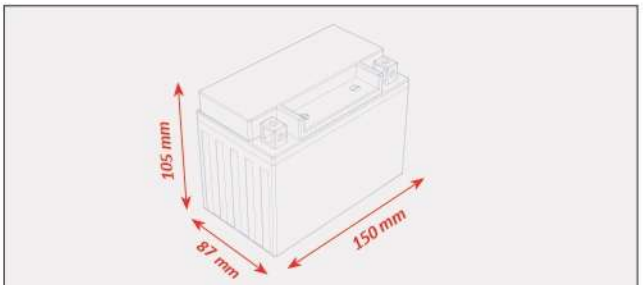
SHIDO LITHIUM BATTERY	
ITEM	Kg
LTX4L-BS	0,4
LTX7A-BS	0,6
LTZ10S-	0,9
LB9-B Q	0,6
LTX14-BS	1,1
LTX20L-BS Q	1,4

DIFFERENCE
Kg
-1,1
-2,0
-2,3
-2,5
-3,5
-5,3

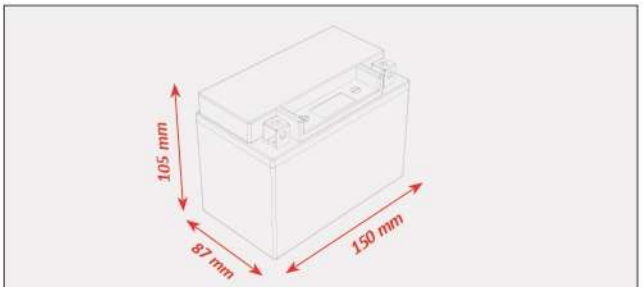


Dimensions

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.



LEAD-ACID YTX9-BS: 150 X 87 X 105 MM (LXWXH)



LITHIUM LTX9-BS LION: 150 X 87 X 105 MM (LXWXH)



TECHNICAL DATA SHEET

Shido Lithium batterijen

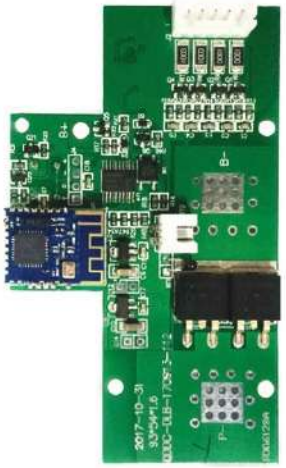
SHIDO CONNECT

Smart Lithium Ion Start Batteries



REVOLUTIONARY BMS

- Latest development in LiFePO4
- Completely new Battery Management System
- Personal QR code per battery
- Battery data on your smartphone
- Access and monitor data
- Consult history
- Compatible with iOS and Android
- Maintain battery health
- Various safety functions



Specifications



FIRST LiFePO4 SMART BATTERY

- Developed and engineered exclusively for Shido

CONNECT YOUR BATTERY WITH YOUR SMARTPHONE

- Retrieve all battery info via personal QR code

MONITOR YOUR BATTERY

- Battery and individual cell voltage
- Cell balancing
- Battery temperature
- Battery state of charge
- End of life indication

SAFETY FUNCTIONS

- Alarm records: over-temperature, over-charge, low voltage, under discharge
- Notification after 7 days without connection

SLEEP FUNCTION

- Put your battery safely in sleep mode for long time storage



Download on the App Store

Google play

BATTERY SUPPLIES

TECHNICAL DATA SHEET

Shido Lithium batterijen

SHIDO MARINE

IP68 WATERPROOF

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

ZERO 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	SHIDO LION CONNECT	LEAD ACID	SHIDO LION
ITEM	ITEM	ITEM	START CAPACITY	START CAPACITY
YTX20HL-BS-PW	LTX20L-BS Q LION	LTX20 Q CNT Li	310 CCA	420 CCA
YB30CL-B	LIX30L-BS Q LION	LIX30 Q CNT Li	385 CCA	540 CCA

VERY LOW SELF DISCHARGE

75% LOWER WEIGHT

3 TIMES LONGER CYCLE LIFE

3 TIMES SHORTER CHARGING TIME



BATTERY SUPPLIES

TECHNICAL DATA SHEET

Shido Lithium batterijen

Cross Reference

LEAD ACID ITEM	SHIDO LITHIUM ITEM	SHIDO CONNECT ITEM
YT4L-BS	LTX4L-BS	LTZ5S CNT
YB4L-B	LTX4L-BS	LTZ5S CNT
YTX5L-BS	LTX5L-BS	LTZ5S CNT
YTC4L-BS	LTX4L-BS	LTZ5S CNT
YB5L-B	LB5L-B	
YTC5L-BS	LTX5L-BS	LTZ5S CNT
12N5.5-3B	LB5L-B	
12N5.5-4A	LB5L-B	
12N5.5-4B	LB5L-B	
YTZ7S	LTZ7S	LTZ7S CNT
YTX7A-BS	LTX7A-BS	
YTX7L-BS	LTX7L-BS	LTZ7S CNT
YT7B-4	LT7B-BS	
YT7B-BS	LT7B-BS	
12N7-3B2	LB9-B Q	
YB7-A	LB9-B Q	
YB7L-B	LB9-B Q	
YB7L-B2	LB9-B Q	
HVT 09	LB9-B Q	
YTX9-BS	LTX9-BS	LTX9 CNT
YT9B-4	LT9B-BS	
YT9B-BS	LT9B-BS	
YTZ10S	LTZ10S	LTZ10S CNT
12N9-3B	LB9-B Q	
YB9-B	LB9-B Q	
YB9A-A	LB9-B Q	
YB9L-A2	LB9-B Q	
YB9L-B	LB9-B Q	
YTX9A-BS	LB9-B Q	
YT12A-BS	LT12A-BS	
YT12B-4	LT12B-BS	
YT12B-BS	LT12B-BS	
YTX12-BS	LTX12-BS	LTX12 CNT
YB10L-A2	LB12AL-A2 Q	
YB10L-B2	LB12AL-A2 Q	
YTZ12S	LTZ12S	LTZ12S CNT
YTZ14S	LTZ14S	LTZ14S CNT
12N12A-4A-1	LB12AL-A2 Q	
YB12A-A	LB12AL-A2 Q	
YB12A-B	LB12AL-A2 Q	
YB12AL-A	LB12AL-A2 Q	
YB12AL-A2	LB12AL-A2 Q	
YB12B-B2	LB12B-B2	
YB12C-A	LTX14AHL-BS Q	
YTX14-BS	LTX14-BS	LTX14 CNT
YTX14AH-BS	LTX14AHL-BS Q	
YTX14AHL-BS	LTX14AHL-BS Q	
YTX14H-BS	LTX14-BS	LTX14 CNT
YTX14L-BS	LTX14L-BS	

LEAD ACID ITEM	SHIDO LITHIUM ITEM	SHIDO CONNECT ITEM
YT14B-4	LT14B-BS	
YT14B-BS	LT14B-BS	
YTX15L-BS	LTX20L-BS Q	LTX20 Q CNT
12N14-3A	LTX14AHL-BS Q	
YB14-A2	LTX14AHL-BS Q	
YB14-B2	LTX14AHL-BS Q	
YB14A-A2	LTX14AHL-BS Q	
YB14L-A2	LTX14AHL-BS Q	
YB14L-B2	LTX14AHL-BS Q	
HVT 08	LB16AL-A2	
HVT 03	LT14B-BS	
YTX16-BS	LTX16-BS	
YTX16-BS-1	LTX16-BS	
YB16AL-A2	LB16AL-A2	
YB16B-A1	LTX16-BS	LTX16 CNT
HYB16A-AB	LTX16-BS	LTX16 CNT
51814	51913	
YB18L-A	LTX20L-BS Q	LTX20 Q CNT
YTX20CH-BS	LTX20CH-BS	
YTX20H-BS	LTX20L-BS Q	LTX20 Q CNT
YTX20HL-BS	LTX20L-BS Q	LTX20 Q CNT
YTX20L-BS	LTX20L-BS Q	LTX20 Q CNT
YTX20-BS	LTX20L-BS Q	LTX20 Q CNT
YTX20A-BS	LTX20CH-BS	
51913	51913	
YB16-B	LTX20L-BS Q	LTX20 Q CNT
YB16CL-B	LTX20L-BS Q	LTX20 Q CNT
YB16L-B	LTX20L-BS Q	LTX20 Q CNT
Y50-N18A-A	LTX20L-BS Q	LTX20 Q CNT
Y50-N18L-A	LTX20L-BS Q	LTX20 Q CNT
Y50-N18L-A3	LTX20L-BS Q	LTX20 Q CNT
Y50-N18L-A-CX	LTX20L-BS Q	LTX20 Q CNT
HVT 01	LTX20L-BS Q	LTX20 Q CNT
SY50-N18L-AT	LTX20L-BS Q	LTX20 Q CNT
YTX24H-BS	LTX20L-BS Q	LTX20 Q CNT
YTX24HL-BS	LTX24HL-BS Q	LTX20 Q CNT
HVT 04	LTX20L-BS Q	LTX20 Q CNT
HVT 05	LTX20L-BS Q	LTX20 Q CNT
HVT 06	LTX20L-BS Q	LTX20 Q CNT
Y60-N24AL-B	LIX30L-BS Q	LIX30 Q CNT
Y60-N24L-A	LIX30L-BS Q	LIX30 Q CNT
YHD-12	LIX30L-BS Q	LIX30 Q CNT
53030	LIX30L-BS Q	LIX30 Q CNT
Y60-N30L-A	LIX30L-BS Q	LIX30 Q CNT
YB30CL-B	LIX30L-BS Q	LIX30 Q CNT
HVT 07	LIX30L-BS Q	LIX30 Q CNT
HVT 02	LIX30L-BS Q	LIX30 Q CNT
YTX30L-BS	LIX30L-BS Q	LIX30 Q CNT

TECHNICAL DATA SHEET

Shido Lithium batterijen

Shido Lion Data Sheet

Reference	Volt	Capacity	CA	Energy	Dimensions (mm)				Weight	Charge Current (A)		Assembly Figure
		Ah	A	Wh	L	W	H	TH (incl spacers)	(Kg)	STD	MAX	
SHI/LB5L-B	12	1,6	95	19	120	60	92	120	0,4	1	8	
SHI/LTX4L-BS	12	1,6	95	20	113	70	85	85	0,4	1	8	
SHI/LTX5L-BS	12	1,6	95	20	113	70	85	105	0,4	1	5	
SHI/LTZ5S	12	2,0	120	24	113	69	85	85	0,5	1	10	
SHI/LTKTM04L	12	2,0	120	24	89	49	90	90	0,5	1	10	
SHI/LTZ7S	12	2,4	150	30	113	69	85	105	0,6	2	12	
SHI/LTX7A-BS	12	2,4	150	30	150	87	93	93	0,6	2	12	
SHI/LTX7L-BS	12	2,4	150	30	113	69	85	125	0,6	2	12	
SHI/LT7B-BS	12	3,0	180	36	150	65	92	92	0,7	2	15	
SHI/LB9-B Q	12	3,0	180	36	134	75	134	134	0,6	2	12	
SHI/LT9B-BS	12	3,0	180	36	150	65	92	106	0,7	2	15	
SHI/LTX9-BS	12	3,0	180	36	150	87	105	105	0,7	2	15	
SHI/LT12A-BS	12	3,5	210	42	150	87	93	107	0,9	2	18	
SHI/LTZ10S	12	4,0	240	48	150	87	93	93	0,9	2	20	
SHI/LB12AL-A2 Q	12	4,0	240	48	130	75	134	160	0,9	2	20	
SHI/LTX12-BS	12	4,0	240	42	150	87	105	130	0,9	2	18	
SHI/LTX14-BS	12	4,0	240	48	150	87	105	145	1,1	2	20	
SHI/LTX14AHL-BS Q	12	4,0	240	48	134	75	133	168	1,1	2	20	
SHI/LTX14L-BS	12	4,0	240	48	150	87	105	145	1,1	2	20	
SHI/LTZ8V	12	4,5	270	54	113	69	105	105	0,9	3	23	
SHI/LB16AL-A2	12	5,0	300	60	150	65	130	144	1,1	3	25	
SHI/LT12B-BS	12	5,0	300	60	150	65	130	130	1,1	3	25	
SHI/LTZ12S	12	5,0	300	60	150	87	93	110	1,1	3	25	
SHI/LTZ14S	12	5,0	300	60	150	87	93	110	1,1	3	25	
SHI/LT14B-BS	12	5,0	300	60	150	65	130	144	1,1	3	25	
SHI/LTX16-BS	12	6,0	360	72	150	87	105	164	1,4	3	24	

TECHNICAL DATA SHEET

Shido Lithium batterijen

Reference	Volt	Capacity	CA	Energy	Dimensions (mm)				Weight	Charge Current (A)		Assembly Figure
		Ah	A	Wh	L	W	H	TH (incl spacers)	(Kg)	STD	MAX	
SHI/LTX20CH-BS	12	6,0	360	72	150	87	105	164	1,4	3	24	
SHI/LTX20L-BS Q	12	7,0	420	84	175	87	130	155	1,4	4	28	
SHI/LTX24HL-BS Q	12	7,0	420	84	175	87	130	163	1,7	4	28	
SHI/51913	12	7,5	420	90	181	77	170	170	1,7	4	28	
SHI/LIX30L-BS Q	12	8,0	480	96	167	124	163	163	2,0	4	32	

Shido Connect Data Sheet

Reference	Volt	Capacity	CA	Energy	Dimensions (mm)				Weight	Charge Current (A)		Assembly Figure
		Ah	A	Wh	L	W	H	TH (incl spacers)	(Kg)	STD	MAX	
SHI/LTZ5S CNT	12	2,0	120	24	113	69	85	85	0,5	1	10	
SHI/LTZ7S CNT	12	2,4	150	30	113	69	85	105	0,6	2	12	
SHI/LTX9 CNT	12	3,0	180	36	150	87	105	105	0,7	2	15	
SHI/LTZ10S CNT	12	4,0	240	48	150	87	93	93	0,9	2	20	
SHI/LTX12 CNT	12	4,0	240	42	150	87	105	130	0,9	2	18	
SHI/LTX14 CNT	12	4,0	240	48	150	87	105	145	1,1	2	20	
SHI/LTZ12S CNT	12	5,0	300	60	150	87	93	110	1,1	3	25	
SHI/LTZ14S CNT	12	5,0	300	60	150	87	93	110	1,1	3	25	
SHI/LTX16 CNT	12	6,0	360	72	150	87	105	164	1,4	3	24	
SHI/LTX20 Q CNT	12	7,0	420	84	175	87	130	155	1,4	4	28	
SHI/LIX30 Q CNT	12	8,0	480	96	167	124	163	163	2,0	4	32	

All batteries have the same terminal type: CU