Specification Sheet

START

ST80 XX

LiFePO4 – 12,8 V – 768 Wh
high performance accumulator

symbolic image

version: 1.0

date: 20.11.2024

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1 Technical specifications

Specification	*Value*	*Annotation*
Dimensions *- see chapter dimensions*		
Weight	9xxx kg	
Cell		
Cell chemistry	LiFePO4	
Cell type	26650	
Cell configuration	4s20p	
Temperature		
Temperature range for use	(- 20) – (+ 60) °C	(0) – (+ 50) °C for optimal cycle life
Temperature range for storage	(0) – (+ 40) °C	

2 Electrical specifications

Specification	*Value*	*Annotation*
Battery Pack		
Capacity (nominal)	60 Ah	± 5%
Voltage (nominal)	12,8 V	
Energy	768 Wh	± 5%
Cell pack impedance	1,6 mΩ	approx.
Charging		
Voltage charge (maximum)	15,2 V	
Voltage charge (recommended)	14,4 V	
Current charging (recommended)	< 10 A	LiFePO4 charging device
Current charging (continuous)	< 150 A	alternator
Discharging		
Voltage discharge (minimum)	10,0 V	
Current discharging (continuous)	< 250 A	
Current discharge (10s pulse)	< 1200 A	

3 Features of the Battery Management System (BMS)

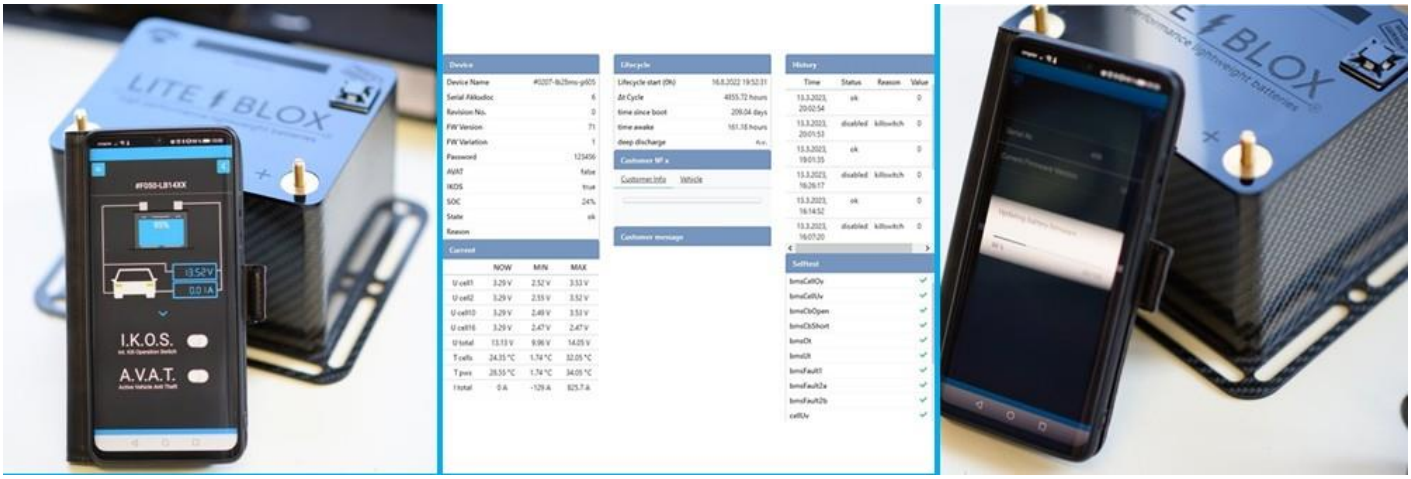
Feature	*Description*	*Details*
Balancing	charge transfer to prevent long term cell deviation (passive)	
Communication (via bluetooth)	Wireless connection to an external device (smartphone/tablet) to display battery condition and status	LITE BLOX App
Remote-Support	Firmware updates for continuous improvement & field telemetry data evaluation via our aftersales SUPPORT TICKET system	
Recording	On device recording of important field telemetry in real time via App	
Protection	Self-protection when running outside the intended operation limits	Protection
Thresholds	All thresholds can be adjusted manually via app [expert mode]	
I.K.O.S. Intelligent Kill-Operation-Switch	-smart misuse & overload protection -circuit breaker for extended sitting times without recuperation	
A.V.A.T. Active Vehicle Anti-Theft	will instantly shut down the full electrical load at any unauthorized starting event	
Deep discharge protection	Additional deep sleep mode for cell protection. Reducing the BMS consumption current to approx. 14,2 µA below 8 V. Bluetooth/BMS is reactivated by adding external power supply.	
low self-discharge	< 1mA for extended sitting time	
Audiovisual feedback	via beeper and LED	
Physical Interface	• Switchable 12V power output • CAN communication (optional)	

4 Protection

The LITE BLOX is autonomously protecting itself when leaving the intended working range (I.K.O.S. Mode). This self-protection is working on three levels.

Protection mechanism	*YELLOW* -warning-	*RED* -soft close-	*BLACK* -instant cut off-
Overvoltage (cell/pack)	3,85 V / 15,4 V	3,9 V / 15,6 V	4 V / 16 V
Undervoltage (cell/pack)	3,15 V / 12,6 V	3,1 V / 12,4 V	2,5 V / 10 V
Short circuit current	-	-	1300 A
Maximum charge current	-	-	240 A
Maximum temperature	80 °C	85 °C	90 °C

5 LITE BLOX App



Every LITE BLOX unit comes with an innovative interface for wireless operation via smartphone or tablet (bluetooth).

In addition to the remote shutdown (I.K.O.S.) plus the integrated vehicle anti-theft (A.V.A.T.), all relevant telemetry data can be monitored in real time and sent to us for evaluation.

Telemetry data:

f300-lb20 | Name

ID	Device Name	Serial ADoc	Date	Time
293451	#f300-lb20xx	97	22.3.2023	15:15:24
292031	#f300-lb20xx	97	19.3.2023	10:53:49
290265	#f300-lb20xx	97	15.3.2023	15:36:29
288916	#f300-lb20xx	97	11.3.2023	17:21:44
288875	#f300-lb20xx	97	11.3.2023	16:21:42
288874	#f300-lb20xx	97	11.3.2023	16:21:07
288871	#f300-lb20xx	97	11.3.2023	16:18:40
288870	#f300-lb20xx	97	11.3.2023	16:18:17

Device

Device Name	
Serial Akkudoc	97
Revision No.	0
FW Version	35
FW Variation	0
Password	
AVAT	true
IKOS	false
SOC	32%
State	ok
Reason	

Current

	NOW	MIN	MAX
U cell1	3.29 V	1.5 V	3.81 V
U cell2	3.29 V	1.53 V	3.82 V
U cell4	3.29 V	1.5 V	3.82 V
U cell6	3.29 V	1.54 V	3.82 V
U total	13.24 V	6.11 V	15.38 V
T cells	10.21 °C	3.76 °C	42.1 °C
T pws	10.06 °C	3.65 °C	39.73 °C
I total	0.08 A	-143.99 A	717.55 A

Lifecycle

Lifecycle start (0h)	7.7.2020 01:06:34
Δt Cycle	23396.59 hours
time since boot	984.48 days
time awake	329.55 hours
deep discharge	4 days

Customer № x

Customer Info | Vehicle

Customer message

History

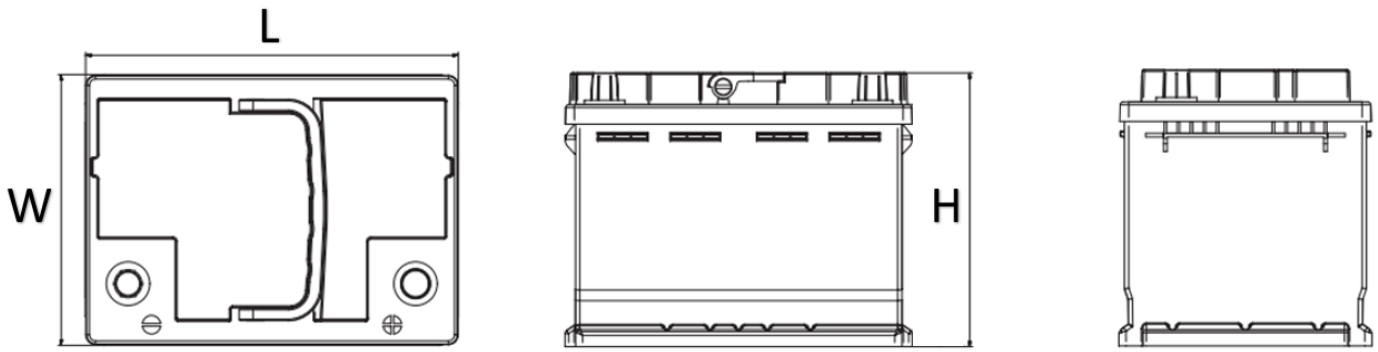
Time	Status	Reason	Value
15.3.2023, 07:59:32	ok		0
15.3.2023, 07:56:19	disabled	user off	1
15.3.2023, 07:54:56	ok		0
11.3.2023, 12:59:39	disabled	user off	1
11.3.2023, 12:57:44	ok		0
7.3.2023, 15:08:22	disabled	user off	1
13.7.2022	ok		0

Selftest

bmsCellOv	✓
bmsCellUv	✓
bmsCbOpen	✓
bmsCbShort	✓
bmsOt	✓
bmsUt	✓
bmsFault1	✓
bmsFault2a	✓
bmsFault2b	✓
cellUv	✓

LITE⚡BLOX App for download:

6 Dimensions



symbolic image

dimensions	*L in mm* ±2	*W in mm* ±2	*H in mm* ±2
LN 3	278	175	190
LN 4	315	175	190
LN 5	353	175	190
LN 6	394	175	190

7 Certification (ISO 9001:2015)

DSR CERTIFICATION

LITEWERKS GmbH

Robert-Bosch-Str. 10, D-78467 Konstanz

wurde durch DSR-CERTIFICATION auditiert und es wird bestätigt, dass das Qualitäts-Management-System den Erfordernissen der

is audited by DSR Certification and applied that the Quality Management System meets the requirements of

ISO 9001:2015

für den nachfolgenden Umfang entspricht:
standard for the following activities:

Entwicklung, Herstellung und Vertrieb von Akkumulatoren
Development, Production and Distribution of Accumulators

Zertifikats-Nr.:/*Certificate No:* **QMS-23.02.372**