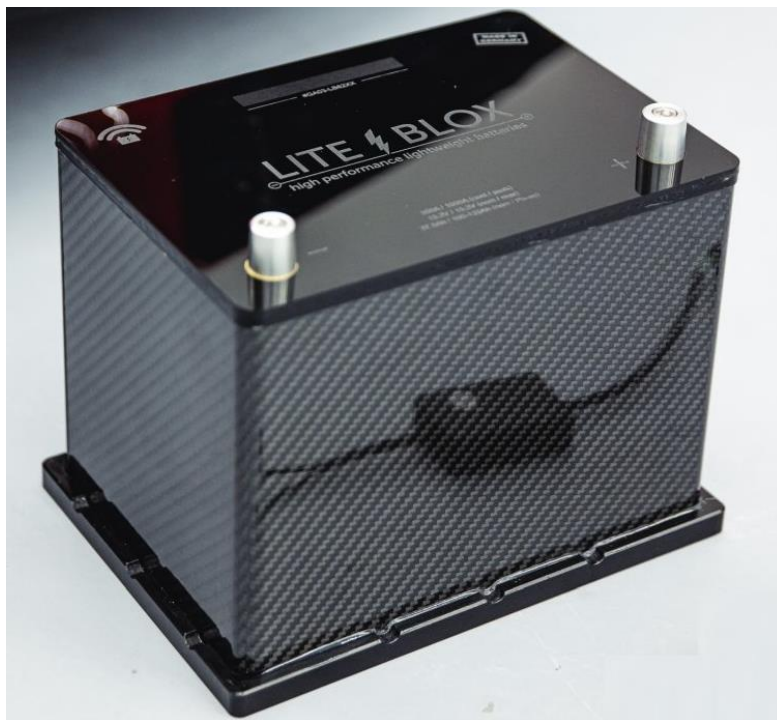


# Specification Sheet

## PR60 XX

LiFePO<sub>4</sub> – 13,2 V – 515 Wh  
high performance accumulator



Product may differ from the illustration

version: 3.1

date: 08.01.2026

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## 1 Technical specifications

| <i>Specification</i>  | <i>Value</i>       | <i>Annotation</i>                         |
|---|--------------------|---|
| <b>Dimensions (housing only)</b> - details see chapter <a href="#">Technical drawings</a> |                    |   |
| Height  | 175 mm             | ±2mm                                      |
| Width   | 160 mm             | ±1mm                                      |
| Length  | 227 mm             | ±1mm                                      |
| Weight  | 62XX g             | approx.                                   |
| <b>Cell</b> - details see chapter <a href="#">Cell specifications (LITHIUMWERKS)</a>      |                    |   |
| Cell chemistry  | LiFePO4            |   |
| Cell type   | LithiumWerks       | ANR26650M1B                               |
| Cell configuration  | 4s15p              |   |
| <b>Temperature</b>  |                    |   |
| Temperature range for use   | (- 20) – (+ 80) °C | (0) – (+ 55) °C<br>for optimal cycle life |
| Temperature range for storage   | (0) – (+ 40) °C    |   |
| <b>Other</b>  |                    |   |
| Protection class conformity   | IP65               |   |

## 2 Electrical specifications

| <i>Specification</i>             | <i>Value</i> | <i>Annotation</i>       |
|----------------------------------|--------------|-------------------------|
| <b>Battery Pack</b>              |              |                         |
| Capacity (nominal)               | 39 Ah        | ± 5%                    |
| Voltage (nominal)                | 13,2 V       |                         |
| Energy                           | 515 Wh       | ± 5%                    |
| Cell pack impedance              | 1,6-2,6 mΩ   | approx.                 |
| <b>Charging</b>                  |              |                         |
| 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              |
| Current charging (10s pulse)     | < 250 A      | alternator              |
| <b>Discharging</b>               |              |                         |
| Voltage discharge (minimum)      | 10,0 V       |                         |
| Current discharging (continuous) | < 250 A      |                         |
| Current discharge (10s pulse)    | < 1300 A     |                         |

### 3 Features of the Battery Management System (BMS)

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

## 4 Protection

### 4.1 Protection Modes

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:

#### 4.1.1 YELLOW (warning)

As soon as the LITE BLOX is leaving the intended operating range, the first level is active, indicated by the yellow coloured values of the corresponding parameters in the App

→ **no additional operation needed**

#### 4.1.2 RED (soft close)

When the LITE BLOX has left the intended operating range, the second level is active, indicated by the red coloured values of the corresponding values. An automatic deactivation takes place as soon as the BMS switches its operational mode from active to standby. The conditions mandatory for this switch are a current less than 1 A (charge or discharge) and no active Bluetooth connection for at least 60 seconds

→ **press 'Reset Error' button to reactivate and contact customer service afterwards**

#### 4.1.3 BLACK (Instant cut off)

When being used outside the intended operating range lithium cells may face permanent damage or internal cell failure which can result in outgassing or fire. Therefore, an instant cut off function (deactivation) is implemented, which is active as soon as the operating parameters of the LITE BLOX are critical. The instant deactivation on this level is performed without any delay (in comparison to soft close level 2)

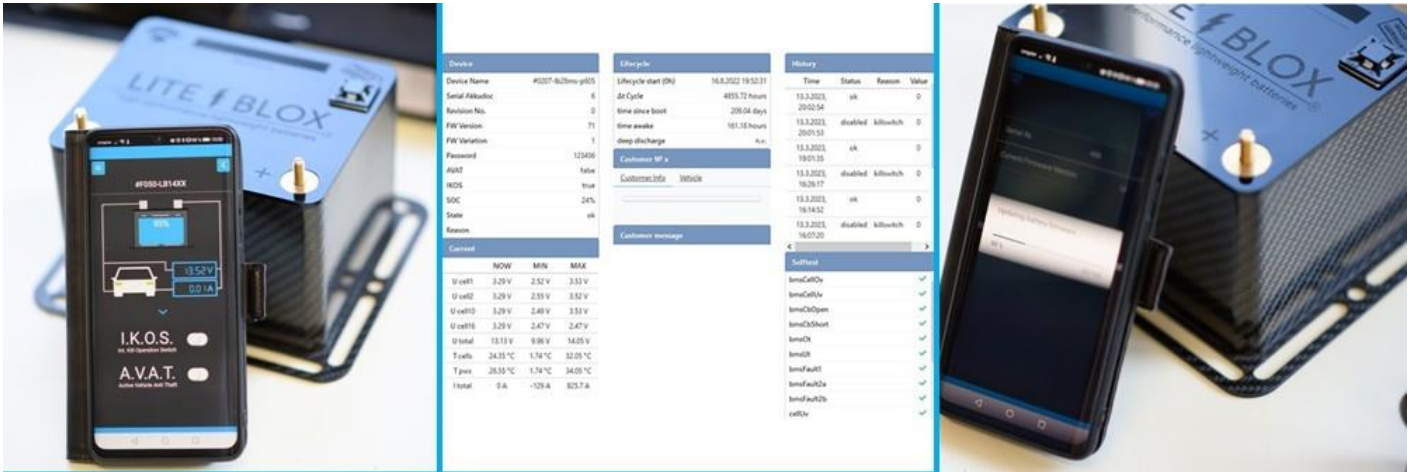
→ **please contact customer service immediately!**

### 4.2 Thresholds

The following protection limits are implemented for events that would damage the battery cells  
→ **do not adjust these without validation & make sure that the LITE BLOX is operated within the specified working range at any time**

| <i>Protection mechanism</i> | <i>YELLOW</i>   | <i>RED</i>     | <i>BLACK</i> |
|-----------------------------|-----------------|----------------|--------------|
| 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       | -               | -              | 1600 A       |
| Maximum charge current      | -               | -              | 260 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:

| 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    | #f300-lb20xx |           |          |
| 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 |
| At Cycle             | 23396.59 hours    |
| time since boot      | 984.48 days       |
| time awake           | 329.55 hours      |
| deep discharge       | 4 days            |
| Customer N° x        |                   |
| CustomerInfo         | 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              |          |          | ✓     |

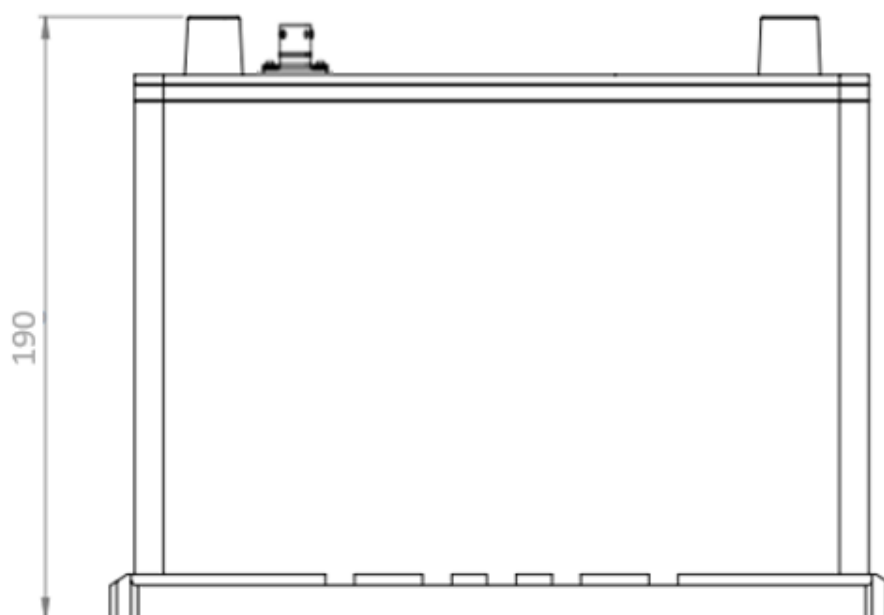
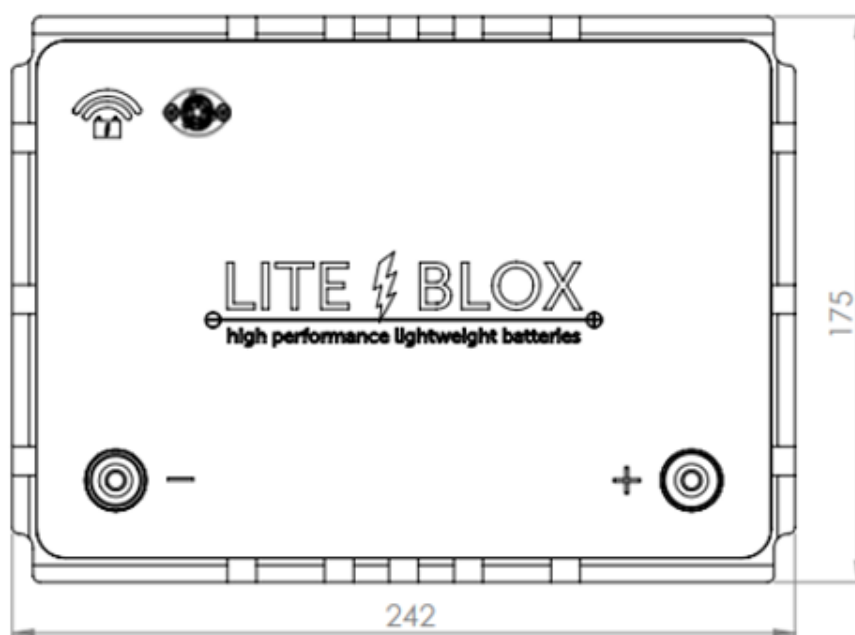
LITE BLOX App for download:



## 6 Technical drawings



### 6.1 Housing

Step-model can be provided by request





## 6.2 Bottom/mounting plate

The bottom plate (LN2/H5 DIN EN 50342 2) is irreversibly attached to the battery

| <i>Mounting adapter</i> | <i>Figure</i>  |
|-------------------------|--|
| LN2/H5<br>to<br>LN3/H6  |  |
| LN3/H6<br>to<br>LN4/H7  |  |

## 6.3 Battery pole adapter

| <i>Type (material)</i>   | <i>Figure</i>   | <i>Dimensions</i> |         |                   | <i>torque</i> |
|--|---|-------------------|---------|-------------------|---------------|
|  |   | pole              | ∅       | height/<br>length |               |
| Battery pole terminals<br><br>SAE M6<br>(aluminum)<br><br>DIN EN 50342 2 |  | +                 | 19,5 mm | 18 mm             | 10 Nm         |
|  |   | -                 | 17,9 mm | 18 mm             |               |
|  |   |                   |         |                   |               |
| M6 mounting struts<br>(brass)<br><br>DIN 551                             |  |                   | M6      | 20                | finger-tight  |

## 7 Cell specifications (LITHIUMWERKS)

### Specs for ANR26650M1B

#### Nominal Ratings

|                                     |                 |
|-------------------------------------|-----------------|
| Voltage                             | 3.3 V           |
| Capacity @ 23 °C Typical (Min)      | 2.6 Ah (2.5 Ah) |
| Energy @ 23 °C                      | 8.58 Wh         |
| Specific Power @ 25 °C, 2 sec pulse | > 4000 W/kg     |
| Impedance (1KHz AC) Typical         | <10 mΩ          |
| Cycle Life at 1C/1C, 100% DOD       | > 4000 cycles   |

#### Discharging

|                                   |                  |
|-----------------------------------|------------------|
| Max Continuous Discharge Current  | 52 A (20C rate)  |
| Max Pulse Discharge Current (10s) | 120 A (48C rate) |
| Minimum Voltage / HPPC Pulse      | 2 V / 1.6 V      |
| Temperature                       | -30 °C to 60 °C  |

#### Charging

|   |                 |
|---|-----------------|
| Recommended Charge Current  | 3 A (1.2C rate) |
| Max Continuous Charge Current   | 10 A (4C rate)  |
| Max Pulse Charge Current (10s)  | 26 A (8C rate)  |
| Recommended Fast Charge Voltage   | 3.6 V           |
| Terminate Charge @ 3.6 V  | < 50 mA         |
| HPPC Pulse Voltage  | 3.8 V           |
| Float Charge Voltage  | 3.5 V           |
| Temperature Range (Charging current at <250mA when under 0°C for some applications) | 0 °C to 60 °C   |

#### Storage

|                     |                 |
|---------------------|-----------------|
| Storage Temperature | -40 °C to 70 °C |
|---------------------|-----------------|

#### Mechanical

|          |                   |
|----------|-------------------|
| Diameter | Ø25.96 +/- 0.5 mm |
| Length   | 65.15 +/- 0.5 mm  |
| Mass     | 76.0 g +/- 1.5 g  |

#### Certifications

|                |                         |
|----------------|-------------------------|
| Transportation | UN 3480 (UN38.3), CIQ   |
| Safety         | UL 1642, IEC 62133-2    |
| Environmental  | REACH, RoHS, ISO-14001  |
| Quality System | TS/IATF-16949, ISO-9001 |

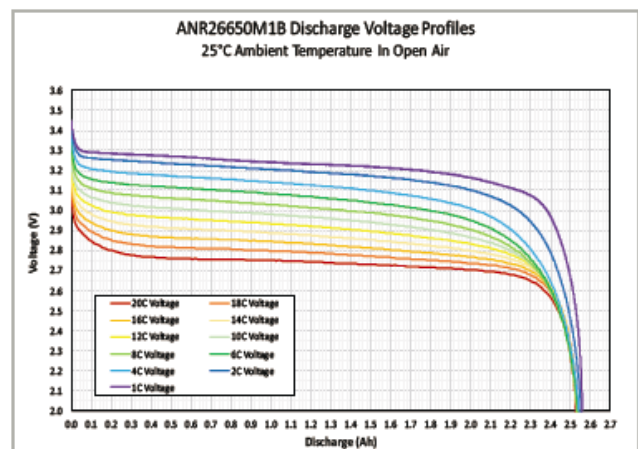
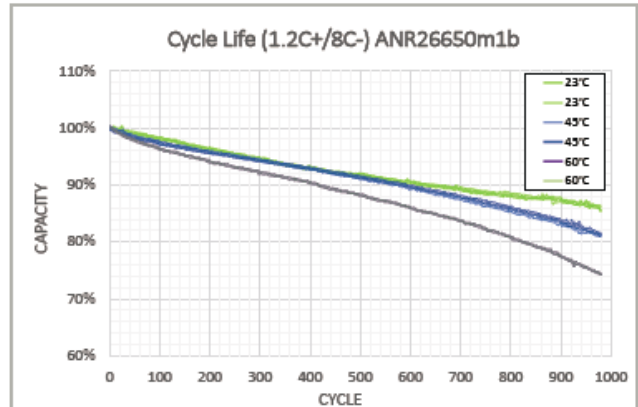
#### Transportation

|          |         |
|----------|---------|
| Shipping | 30% SOC |
|----------|---------|

Part Number 300832-001



### Cell Data



### Abuse

|                    |               |
|--------------------|---------------|
| Nail penetration   | Pass - EUCAR4 |
| Over-Discharge     | Pass - EUCAR3 |
| Thermal Stability  | Pass - EUCAR4 |
| External Short     | Pass - EUCAR3 |
| Crush              | Pass - EUCAR3 |
| Overcharge         | Pass - EUCAR2 |
| Vent Open Pressure | 1.0 - 2.0 MPa |

26650 Data Sheet  
Aug 2022  
SF00008 rev 2

## 8 Certification (ISO 9001:2015)



### **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**