

# PowAirBox 12V/24V/230V

---

Supply system for power and compressed air with automatic ejection



## Important information about this documentation

The technical data, information and illustrations have been put together carefully and correspond to the production status at the time the documentation was prepared.

However, the manufacturer retains the right to improve or modify the products, specifications and documentation without notice at any time according to technical requirements and the latest development status.

The descriptions have been prepared in detail and with great care. Nevertheless, errors can never be ruled out entirely. No liability will be accepted for errors of damage which could originate from these or from faulty interpretations.

The contents of this documentation may not be copied, reproduced, translated or forwarded to third parties in any other way without the express permission of LEAB Automotive GmbH .



### **Caution!**

*Safety note, non-observance can lead to personal injury or material damage as well as impair the device function.*



### **Caution! Hazard through electric voltage**

*Safety note, non-observance can lead to injuries and death as well as damage or destroy the device.*



### **Note**

*Supplementary information on how to handle the device.*

## Important note on using the device

To avoid operational errors, you should read this manual carefully before installation and before initial use, and always follow the respective instructions. Please keep this manual near the device for future reference so that operators can use it to find out about the device's functions.

## Contents

<b>Important note on using the device</b> . . . . .	2
<b>1. Scope of supply</b> . . . . .	4
<b>2. Performance characteristics and operating functions</b> . . . . .	5
<b>3. Installations and assembly</b> . . . . .	6
Installation spot . . . . .	6
Installation . . . . .	6
Connection of power and compressed air . . . . .	7
Completion . . . . .	8
Installation of the ceiling device (optional) . . . . .	9
Coupling connection. . . . .	9
<b>4. Operation</b> . . . . .	10
<b>5. Troubleshooting</b> . . . . .	10
<b>6. Maintenance and service</b> . . . . .	11
<b>7. Warranty conditions</b> . . . . .	12
<b>8. Spare parts, accessories</b> . . . . .	13
<b>9. Dimensional drawing</b> . . . . .	14
<b>10. Technical data</b> . . . . .	15
<b>11. CE Declaration of Conformity</b> . . . . .	15

## 1. Scope of supply

With the LEAB PowAirBox 12V/24V/230V you have purchased a high-quality power and compressed air supply system for emergency vehicles. Please check before use whether the following items are included in the scope of supply:

- **PowAirBox charging station type A (with compressed air supply)\* or B (without compressed air supply)\***
- **PowAirBox coupling with 4 m cable**
- **Connection cable A for charging station, plug&play, length 4 m**
- **Connection cable B for charging station, plug&play, length 4 m**
- **Connection cable C for charging station, plug&play, length 4 m**
- **Connection cable output 12/24V (2-wire) or 230V (3-wire) for charging station, plug&play, length 4 m**
- **Connection hose for compressed air, length 4 m, (only for version A for compressed air)**
- **Mounting frame for PowAirBox charging station**
- **Attachment screws, hexagon socket A2 black M4x25, 6 pcs.**
- **English manual (this document)**

\* optional    \*\* further cable lengths on request

If the scope of supply does not correspond to these items, or the PowAirBox, coupling or connection cable are damaged, please contact your dealer or LEAB directly.

If you should require an additional manual, you can download this in PDF format from [www.leab.eu](http://www.leab.eu) free of charge, or access our product page directly by smartphone:



If you should require spare parts or accessories for your LEAB PowAirBox, please see section 8 of this manual and send your order by email to [powairbox@leab.eu](mailto:powairbox@leab.eu).

## 2. Performance characteristics and operating functions

The LEAB PowAirBox is a system which supplies both electrical power and compressed air to emergency vehicles by using a special coupling and multi-cable.

The coupling is automatically disconnected from the vehicle when the vehicle engine is started, the protective cover closes automatically.

The battery indicator (standard feature) provides reliable information about the current state of charge of the vehicle battery as well as the charging process.

Two auxiliary contacts in the PowAirBox can be freely assigned and used either for signal transmission or to establish start prevention as required.

### There are two systems available:

- **PowAirBox type A for supplying power and compressed air at the same time**
- **PowAirBox type B for supplying power**

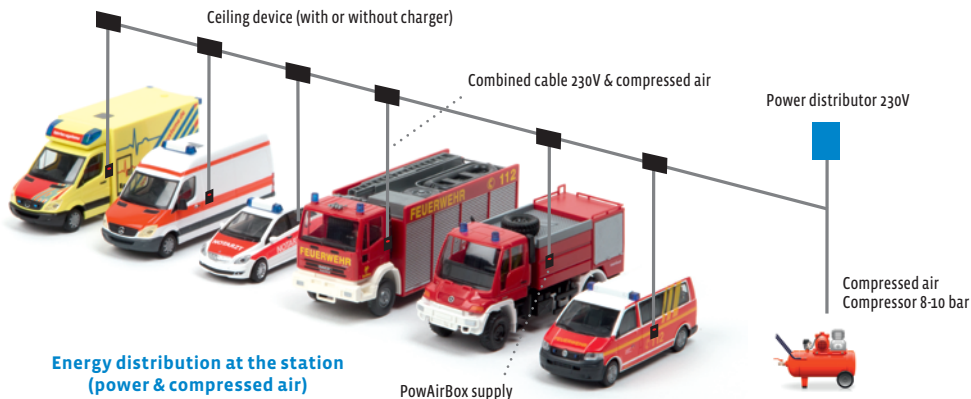
Each of these systems is available either for 12, 24 or for 230V supply. Coded pins prevent plugs and couplings of different voltages being mixed up.

Systems with and without compressed air are 100% compatible and can also be inserted mixed alternately. In this case, there is no air supply but no loss of air either.

PowAirBox charging station and coupling are delivered with 4m connection cable each in the standard version. Other lengths are available on request.

Connection in the vehicle is by means of lockable IP68 plug contacts.

We recommend the use of the PowAirBox in connection with the built-in battery chargers of the series LEAB ABC, LEAB CPC and LEAB Champ.



### 3. Installation and assembly



*When selecting the installation location, the installation process itself and electrical connection to the on-board power supply, observe the specifications in the vehicle body manufacturer's manual and general technical regulations.*



*Electrical work on cables and consumers and the connection set-up should only be carried out by appropriately authorised electrical specialists.*

#### Installation spot

The PowAirBox must be installed on a vertical surface to guarantee perfect function. Ideal installation locations are near the driver door or on the rear of the vehicle. Make sure there is sufficient installation space available. This particularly applies to the necessary installation depth of 121 mm.

The PowAirBox cover can be opened to the left or right, space requirements must be checked here, too.

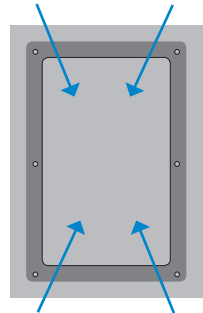
#### Installation

The PowAirBox is delivered with the mounting frame already mounted, this serves as an installation template at the same time.

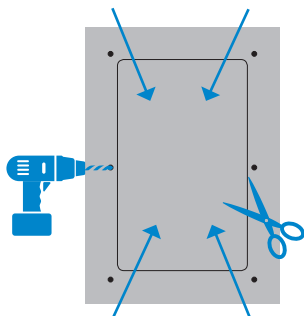
Loosen the 6 black screws (hexagon socket 2.5 mm) and remove the mounting frame.

Place the mounting frame in the installation position on the surface of the vehicle and mark the inner contour of the frame and the 6 screw holes.

The rubber seal is already glued to the back of the mounting frame.

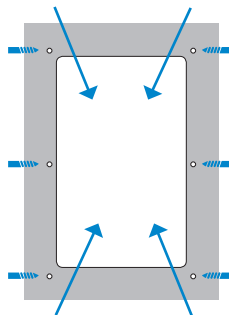


*Do not remove the protective film from the adhesive tape yet*



Cut or nick the marked inner area out and drill the marked holes using a drill size 4.5 to 5 mm.

The mounting frame is made of stainless steel and has 6 press-in nuts. Screw the 6 x 4 mm threaded pins provided into the nuts by hand from the smooth side. Check whether the mounting frame fits the cut-out from the inside and whether the threaded pins fit easily through the drilled holes.



*Seal the cut surfaces and drilled holes with zinc primer or similar to avoid corrosion later.*

Once you have made sure that everything fits, pull the protective film off the rubber seal and glue the frame into the cut-out from the inside.

The threaded pins can now be removed, they are no longer required.

### Connection of power and compressed air

We recommend routing the connection cables provided and the compressed air hose in the vehicle and connecting this to the on-board voltage and the 230V on-board installation before final installation of the PowAirBox charging station. Then connection to the PowAirBox should be made via the cable screw connections.



*Terminal A: The start signal for the ejector magnet should ideally be provided via terminal 50 (starter control). Do not connect permanent plus. This could destroy the ejector magnet.*

*Note the specifications of the vehicle body manufacturer's manual when connecting the air line.*

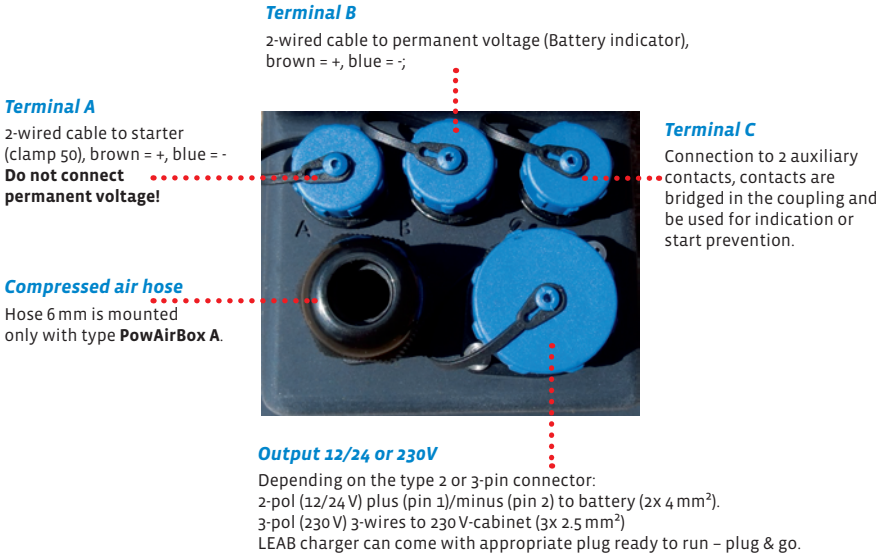


*If you connect permanent voltage to terminal B, the current battery voltage will always be displayed.*

## Completion

Once all the cables have been routed properly in the vehicle and connected correctly, connect the plugs to the respective terminals on the PowAirBox charging station.

When inserting the plugs, turn them slightly to the left and right until the guide engages and then tighten the sealing cap by hand.



*Do not use any tools when screwing the plugs into the terminals in order to avoid damage to the plugs or thread.*

*Assign plugs and terminals correctly and do not mix them up in order to guarantee correct function.*



*We recommend occupying the central terminal (B) first to make installation easier.*

Once all the cables (and compressed air pipe if appropriate) have been connected to the charging station, push the PowAirBox into the cut-out.

Carefully insert the 6 hexagon socket screws and tighten them evenly until the

rubber seal is flush cleanly all the way round.



*Do not use an electric or pneumatic screwdriver to tighten the M4 screws.*

Use medium-strength threadlocker to avoid unintentional loosening at a later date.



## Installation of the ceiling device (optional)

We recommend the optional ceiling device (see accessories, Chapter 8) for trouble-free operation.



Ceiling device with multi-cable



Stainless steel mounting frame



PA cover

Mount the mounting frame on the ceiling at a distance of about 30 cm away from the side of the vehicle.

If the distance is not large enough, the cable will swing back after ejection and could get caught in the vehicle body.

If the distance is too large, the cable could swing too far from the vehicle and could touch the vehicle parked next to it.

The length of the cable must be dimensioned in such a way that the coupling does not touch the floor. A distance of 60 to 80 cm is usually ideal. This avoids mechanical damage to the coupling and contact with the wet depot floor.

## Coupling connection

When connecting the cable to the coupling, assign the wires as follows:

Function	Combined cable power/compressed air	Electric cable H07-BQ
PE	green/yellow	green/yellow
L	1	brown
N	2	blue
Auxiliary contact 1	3	black
Auxiliary contact 2	4	grey

Both auxiliary contacts are bridged in the coupling to show the message “mains connected” to the vehicle. If you want to use the auxiliary contacts for transmitting data to or from the vehicle the auxiliary contacts in the coupling must be connected according to the table above.



*The PowAirBox cable must not be used together with balancers, cable winders or similar. These systems might lead to the coupling in the PowAirBox becoming jammed and not being ejected, and consequently to a lapse of warranty.*

## 4. Operation

The battery display on the charging box indicates the current state of the battery connected.

Insert the PowAirBox coupling into the PowAirBox charging box. To do this, use your thumb to turn the box cover up to the side, the cover will pivot away and reveal the plug contacts. Insert the coupling into the charging box until you can feel and hear it „click in place“.

The coupling is actually held in place by a particularly strong magnet.

The vehicle's batteries are now charged, which is signalled by a circulating and flashing display.

Start the vehicle engine to eject the coupling automatically and interrupt the power and compressed air supply.



## 5. Troubleshooting

If your PowAirBox is not working as it should, please try to localise the fault using the following procedure first.

Fault	Cause	Remedy
Coupling is not ejected	Has the starter been pressed?	Press the starter
	Power at terminal 50?	Measure the voltage at terminal 50
	Coupling jammed?	Has a cable winder been used?
Battery display not shown	Battery connected?	Check terminal B connection
		Check FI or LS in the depot
Charger not charging	230V voltage at the coupling?	Check the supply cable
		Check FI or LS in the vehicle

If this is not successful, please contact your specialist dealer or LEAB. Have the serial number and date of purchase on hand as well as an accurate description of the fault so that we can help you as quickly as possible.

## 6. Maintenance and service

### Regular tests

#### Check the PowAirBox regularly before every use as follows:

- Supply cable and coupling undamaged?
- Charging station undamaged?
- Supply cable fixed securely to the ceiling?
- Have the coupling and cables been in contact with water, oil or other fluids?

When used commercially, the LEAB PowAirBox is part of an electrical installation in the sense of the German accident prevention regulation BGV-A3.

This employers' liability association regulation prescribes the regular testing of devices for electrical safety (usually once a year). Please clarify with your employers' liability association whether you are affected by this or any comparable regulation and take the measures necessary for the safety of your employees.

Your employers' liability association or work accident insurance company will be able to provide more information.



*Clean the coupling and charging box cable regularly to guarantee perfect function and detect any damage immediately.*

*Protect the coupling and cable from being driven over by vehicles, other mechanical damage and wet conditions.*

*Protect the cable from damage by sharp-edged vehicle or building parts.*

*Do not use the pivoted cover of the PowAirBox to hang cables or jackets on.*

*Check regularly that the screws are tight.*



*Have regular checks done in accordance with accident prevention regulation BGV-A3.*

*Do not use a damaged PowAirBox or parts of one again.*

*Replace faulty parts or damaged cables without delay.*

*Only use the PowAirBox for the voltages given.*

*Always have any necessary repairs done exclusively by LEAB.*

*Always make sure the device is voltage-free before starting work.*



*Spare parts can be purchased from your specialist dealer or from LEAB directly*

## 7. Warranty conditions

Providing installation has been carried out professionally and the devices are used according to their intended purpose, LEAB offers mandatory warranty over a period of 36 months after the date of purchase.

If any defects of faulty functions should occur during this period under normal conditions of use, LEAB will either repair the device free of charge or replace it at their own discretion. New or repaired parts of equal value can be used for replacement.

### **A warranty claim cannot be recognised under the following circumstances:**

- The device was not used in accordance with the recommendations given in this manual.
- The device was used for purposes other than general automotive, solar, industrial or maritime applications without prior agreement with LEAB.
- The device was repaired or modified without express permission from LEAB.
- The device shows signs of damage caused by overload, penetration of humidity (water, oil, acid), mechanical force, excess or insufficient voltage or any other non-intended use.

### **Pre-conditions for warranty payments**

Warranty claims can be made to your specialist dealer or LEAB directly.

The following documents are required:

- Invoice or delivery note
- Model description or type
- Serial number
- Detailed description of the fault and installation, if appropriate

### **Procedure**

If the device cannot be put back into operation perfectly according to the instructions in this manual or if the fault persists, contact your dealer's Service department or LEAB directly.

If this is no help either, please request a processing form and processing number (RMA number) as well as a free UPS pick-up sticker (free UPS pick-up service unfortunately only possible in Germany) by calling **+49 (0)4621 - 97860-120** or sending a mail to **service@leab.eu**. You can send the defective device to us together with these documents free of charge. We will then examine it and repair it if necessary.

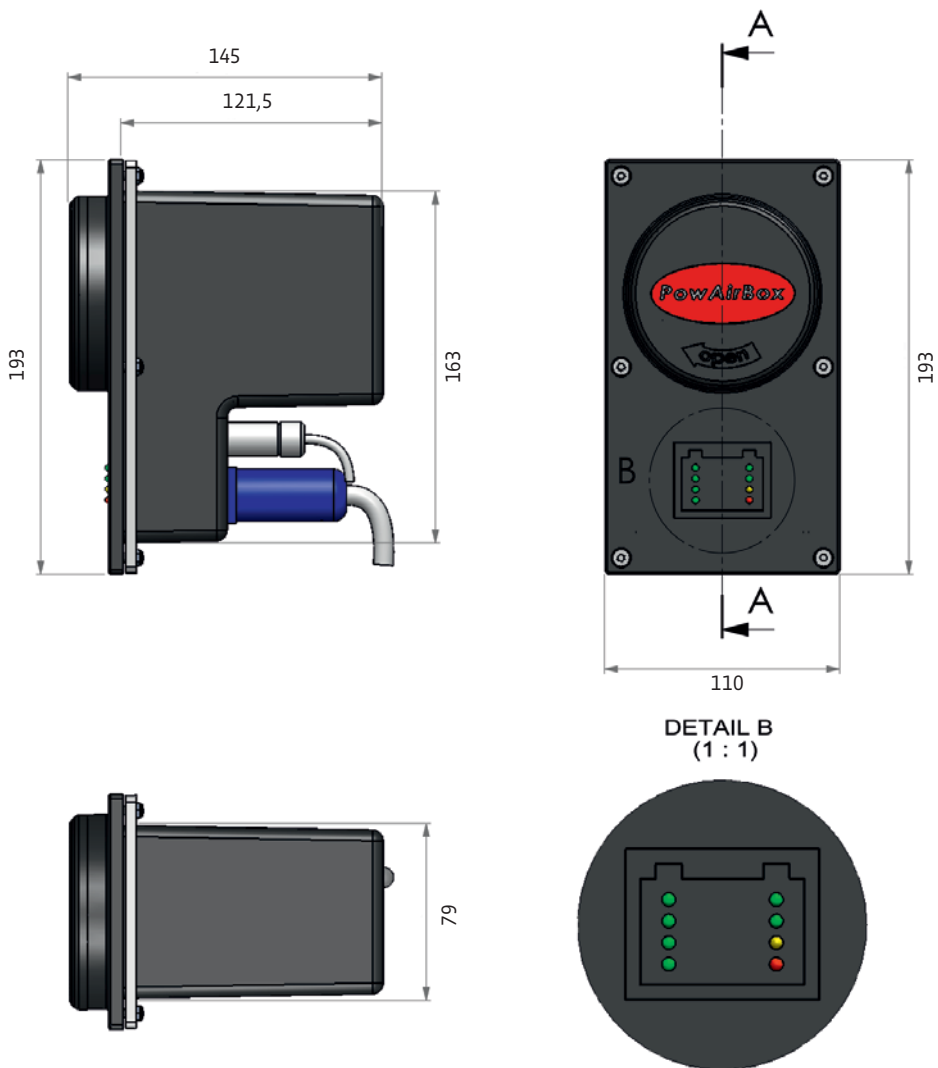
## 8. Spare parts, accessories

The following accessories can be ordered from LEAB Service at [bestellung@leab.eu](mailto:bestellung@leab.eu) or in the LEAB shop at <http://shop.leab.eu> under specification of the article number:

Pos.	Description	Article number
Ceiling device	PowAirBox ceiling device with stainless steel holder	1549000000
Supply adapter	PowAirBox adapter Schuko → PowAirBox 5.0 m	1549230022
Mounting frame	PowAirBox mounting frame VA	9970360000
Installation seal	PowAirBox seal for installation	9970250002
Champ 1230 Pro	Battery charger Champ 1230 Pro	0101043890
Champ 2420 Pro	Battery charger Champ 2420 Pro	0101043891
CPC 1230	Battery charger CPC 1230, J117C	0101036930
CPC 2430	Battery charger CPC 2430, J114C	0101036931
CTS-5	Combined sensor cable (voltage + temperature) for CPC battery chargers 5.0 m	1601035598
CTS-10	Combined sensor cable (voltage + temperature) for CPC battery chargers 10.0 m	1601035595

Inquiries for spare parts can be made by calling **+49-4621-9780-110** or sending an email to **[bestellung@leab.eu](mailto:bestellung@leab.eu)**.

## 9. Dimensional drawing



Alle Angaben in mm.

## 10. Technical data

Supply voltage	Choice of 12 V, 24 V or 230 V
Rated current	20 A
Compressed air	Max. 13 bar
Contacts (standard)	5-pole, of which 2 are auxiliary contacts
Display	Battery state of charge, charge control, undervoltage alarm
On-board voltage	Universal 12 and 24 VDC
Lifting magnet	Universal 12 and 24 VDC
Material	Glass-fibre reinforced polyamide
Dimensions	See drawing
Weight (charging station)	1.2 kg (without cable)
Type of protection	IP55
Weight (coupling)	1.14 kg (with 4 m multi-cable)
Length of connection cable (charging station and coupling)	4 m (standard), other lengths on request
Warranty	36 months

## 11. CE Declaration of Conformity



The product

### **LEAB PowAirBox 12V/24V/230V with/without compressed air supply**

complies with the requirements of the directives 2011/65/EU of the European Parliament and Council dated 8th June 2011 restricting the use of certain hazardous substances in electrical and electronic devices.

The following EU directives were applied:

2006/95/EC, 2004/104/EC and Low Voltage Directive 72/245/EEC.

Busdorf, 31.01.2014

A handwritten signature in blue ink, appearing to read 'Weg'.

**Bart Westerkamp**  
*Managing Director*



[www.leab.eu](http://www.leab.eu)

### LEAB Automotive GmbH

Thorshammer 6  
24886 Busdorf  
Germany

T +49 (0) 46 2197 860-110  
F +49 (0) 46 2197 860-260

[powairbox@leab.eu](mailto:powairbox@leab.eu)

