

DC-DC CONVERTER

PP 48-12/29

LEAB
mobile energy



ASSEMBLY INSTRUCTIONS
VERSION 2
12/07/2021

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1 About this Manual

Read this manual carefully and keep it in a safe place. This manual is aimed at Skilled workers in the field of automotive electrics .

Any modifications to the product or its components are prohibited and do not conform to its intended use. Only use original LEAB or LEAB-approved accessories.

Throughout the manual, you will be alerted to warnings and safety notices about potential hazards associated with handling the device. The colours and signal words indicate the severity of the hazard:



Notice

Possibility of material damage

The signal word *Attention* indicates that there is a possibility of material damage. To avoid material damage, follow the instruction.



⚠ CAUTION

Danger that can lead to minor injuries

Safety instructions with the signal word *CAUTION* indicate a hazard which, if not avoided, can result in minor or moderate injury. Read the safety instructions carefully and follow them to avoid the hazard.



⚠ WARNING

Hazards that can lead to severe injuries or death

Safety instructions with the signal word *WARNING* indicate a hazard which, if not avoided, can result in death or severe injury. Read the safety instructions carefully and follow them to avoid the hazard.

**⚠ DANGER****Danger that will lead to severe injury or death**

Safety instructions with the signal word *Danger* indicate a hazard which, if not avoided, will result in death or severe injury. Read the safety instructions carefully and follow them to avoid the hazard.

You will find useful tips and tricks in certain parts of the manual. These appear as follows:

**TIP****Tips provides additional, useful information.**

Read the tip carefully and follow the instructions where applicable.

2 General Safety

This manual will help you to handle the device safely. Use the device solely in accordance with its intended use. Observe the safety instructions.

**⚠ WARNING****Severe build-up of heat**

Continuous load, high ambient temperatures and faulty assembly lead to strong heat development.

1. Only install the device as described in this guide.
2. Ensure sufficient ventilation at the installation site.
3. Allow the unit to cool down before touching it.

2.1 Intended Use

With the DC-DC converter PP 48-12/29 you can operate 48 V consumer in 12 V vehicles.

At the output, the system delivers a DC voltage of 13.5 V and thereby provides consumers with a maximum output current of 29 A permanently or for a short time. The input voltage is 48 V.

The device is designed for an operating temperature of $-40^{\circ}\text{C} \dots 70^{\circ}\text{C}$.

A reduced output power is generated from an operating temperature of 50°C .

The unit has a connection cable for an external switch that can be used to switch the DC-DC converter on and off.

3 About this Product



Fig. 1: DC-DC converter PP

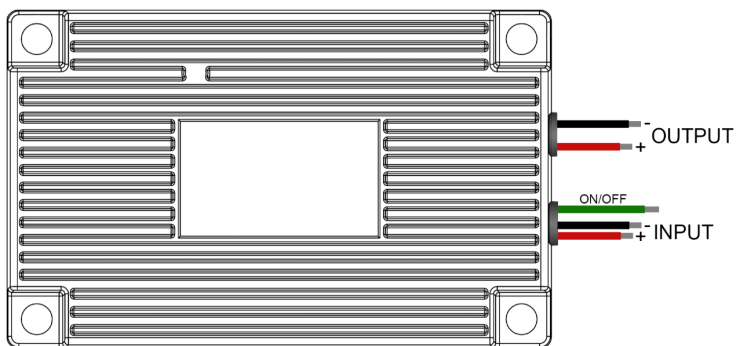


Fig. 2: DC-DC converter PP connection cables

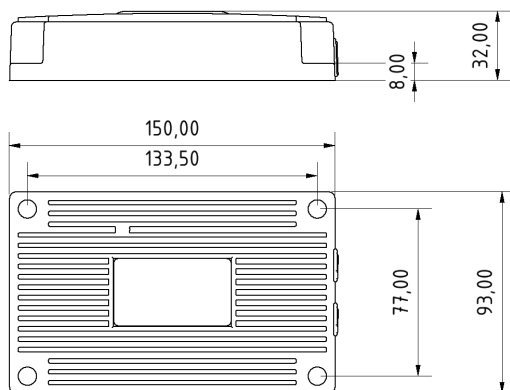


Fig. 3: DC-DC converter PP scale drawing in mm

4 Technical Specifications

Part no. 1042004368	
Modell	LEAB DC-DC converter PP 48-12/29
Input voltage	48 V (36 V ... 65 V)
Output voltage	13.5 V
Output current, max.	29 A, reduced output power from operating temperature of 50 °C
Input current, max.	12 A
Power	400 W
Galvanically separated	Yes
Standby current, max.	< 5 mA
Degree of efficiency	> 96%
Operating temperature	-40 °C ... +70 °C
International Protection (IP class)	IP67
Housing	Aluminium
Dimensions (L x W x H)	150 mm x 93 mm x 31 mm
Weight	820 g
Connection, input	2 x 2.5 mm ² , 0.5 m, open cable end
Connection, output	2 x 6 mm ² , 0.5 m, open cable end
External switch	Yes
Heat sink temperature, max.	100°C

5 Assembly

To assemble the DC-DC converter, proceed as follows:

1. Mount the device near the vehicle battery.

NOTE! To dissipate heat from the unit, mount it on a metal base.

2. Disconnect all batteries from the on-board power supply.
3. Connect the black input lead (input -) to the negative terminal of the vehicle battery.

⚠ CAUTION! Do not connect to the vehicle chassis.

4. Connect the red input lead (Input+) to the positive terminal of the vehicle battery.

⚠ CAUTION! Install a suitable fuse (70 A) near the vehicle battery.

5. Connect the red output lead (Output +) to the positive terminal of the consumers.

NOTE! When the unit is active, consumers at the output permanently load the vehicle battery. LEAB recommends an undervoltage protection for the battery.

6. Connect all batteries again to the on-board power supply.

7. To switch on the device, apply a voltage (9V ... 36 V) to the green switching line (On/Off).

⇒ The DC-DC converter is assembled. All consumers are supplied as long as an input voltage in the specified range is present.

6 Disposal



Dispose of the device in accordance with the Waste Electrical and Electronic Equipment Regulations (WEEE).

The system must not be disposed of with household waste. Take it to a recycling point or return it to your point of sale.

7 EU Declaration of Conformity



The DC-DC converter PP 48-12/29 complies with the requirements of the following directives:

- 2014/30/EU: EMV
- 2011/65/EU: RoHS

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