

Battery isolator CDR 12/24 V

Quick start guide V 1



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We make energy mobile.

LEAB Automotive GmbH

Thorshammer 6
DE-24866 Busdorf
Tel: +49 (0) 4621 9 78 60-0
Fax: +49 (0) 4621 9 78 60-260
info@leab.eu

General Safety

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

The CDR 12/24 V can be installed between the starter and auxiliary battery as an electronic charging current distributor. The charging current can be distributed both bi-directionally and unidirectionally. The batteries are charged almost loss-free and the plastic housing protects against short circuits.

Thanks to a switch-off function, it can also be used as an automatic cut-off relay to switch a consumer or an on-board supply system on or off. The device is designed for an operating temperature of -40 °C ... +60 °C.

Observe the safety instructions.

⚠ WARNING! Risk of injury from damaged, frozen or deformed batteries. Before using the battery, make sure that the battery is undamaged and the electrolyte is not frozen.

⚠ WARNING! Risk of fire from overheated battery. Only charge batteries in well-ventilated rooms and away from ignition sources.

⚠ WARNING! Danger of burns from escaping acid. Wear acid-proof clothing when handling batteries.

⚠ WARNING! Danger from short circuits. Avoid contact of the screw terminals with metallic and/or conductive vehicle parts.

Technical Specifications

| | Part no.: 1072001001 |
|-------------------------------------|---|
| Modell | CDR 12/24 V |
| Current limit | 200 A 100 A |
| Input voltage | universal 12 V or 24 V |
| Typical switch-on voltage | 13.5 V 27.5 V |
| Typical switch-off voltage | 12.8 V 25.6 V |
| Quiescent current switched off | < 1 mA |
| Quiescent current switched on | < 25 mA |
| Operating temperature | -40 °C ... +60 °C |
| International Protection (IP class) | IP67 |
| Dimensions (L x W x H) | 134 mm x 95 mm x 31 mm (with screw terminal height 58 mm) |
| Weight | 700 g |

About this Product

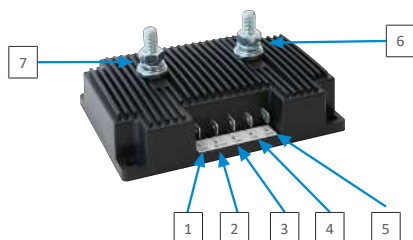


Fig. 1: CDR 12/24 V

- | | |
|---|--|
| 1 PIN 1 LED (connection for external LED) | 2 PIN 2 BI/UNI (connection for changing the charging current distribution) |
| 3 PIN 3 OFF (connection for activating the switch-off function) | 4 PIN 4 ON (connection for the bypass function) |
| 5 PIN 5 GND (connection for GND) | 6 Screw terminal 2 (output) |
| 7 Screw terminal 1 (input) | |

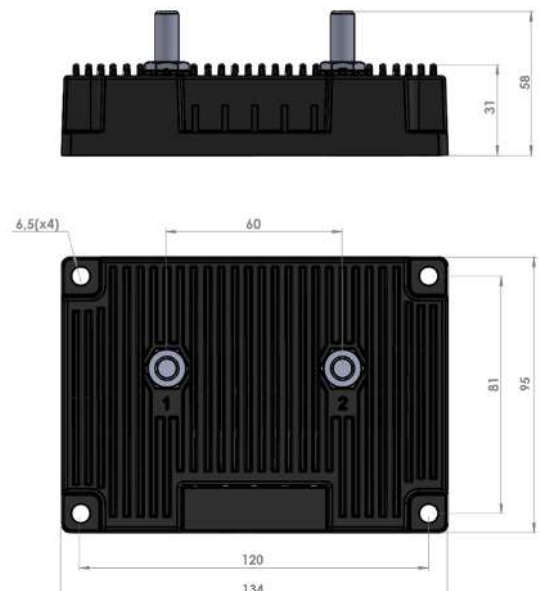


Fig. 2: Dimensioned drawing CDR 12/24 V

Package Contents

| Item | No. | Item | No. |
|-----------------|-----|-------------------------|-----|
| CDR | x 1 | User manual | x 1 |
| Insulating caps | x 2 | Hex. nuts + washers, M8 | x 2 |

Assembly

NOTE! Maximum torque: 10 Nm

To assemble the device, perform the following steps:
1. Fasten the device to the 4 holes on the side (\varnothing 6 mm).

⇒ The device is assembled.

Installation

NOTE! In vehicles with generator management, auxiliary batteries are not sufficiently charged by conventional cut-off relays or current distributors. Recommendation: On-board charge booster BPC 12-12/40 (part no.: 1041003001).

NOTE! Maximum screw terminal torque: 20 Nm

To install the device, perform the following steps:

1. Connect the positive terminal of the starter battery to screw terminal 1 (input).
2. Connect the positive terminal of the auxiliary battery to screw terminal 2 (output).
3. Connect the plug contact PIN 5 (connection for GND) to a ground.
4. Connect the negative terminal of the starter battery and the negative terminal of the auxiliary battery to a common ground.

⇒ The device is installed.

NOTE! Various optional functions can be installed via the plug-in contacts PIN 1-5 with 6.3 mm flat plugs.

Optional: Activate switch-off function

Prevents overcharging of fully charged lithium-ion battery. Can also be used as an automatic cut-off relay

To activate the function, perform the following step:
5. Switch the plug contact PIN 3 to ground.

⇒ The function is activated. The device is switched off.

NOTE! The disconnection is independent of the direction of the charging current selected.

Optional: Connect remote LED display

NOTE! External LED: Output 5 V, max. 5 mA. Not included in the scope of delivery.

To install the function, perform the following step:
6. Connect the plug contact PIN 1 to the input of an external LED.
7. Connect the other terminal of the external LED to ground.

⇒ The function is installed.

Optional: Activate bypass function

Deactivates the voltage detection through PIN 5 (GND) so that charging current is distributed at any voltage.

To use the function, carry out the following step:
8. Switch the plug contact PIN 4 to ground.

⇒ The function is activated.

Optional: Change the charging current distribution (default: bidirectional)

To change the direction of the charging current distribution to unidirectional, carry out the following step:
9. Switch the plug contact PIN 2 to ground.

⇒ The charging current distribution is unidirectional from screw terminal 1 to screw terminal 2.

To change the direction of the charging current distribution to bidirectional, carry out the following step:
10. Disconnect the connection cable from plug contact PIN 2.

⇒ The charging current distribution is bidirectional from screw terminal 1 to screw terminal 2 or vice versa, depending on where a higher voltage is present.

Operating status (displayed via external LED)

| External LED status | Function CDR output | Description/cause |
|---------------------|------------------------|--|
| Off | Inactive | Input voltage below the switch-on voltage; PIN 3 connected to ground. |
| Steady light | Active | Input voltage within the switch-on voltage; PIN 4 connected to ground. |
| Flashing, x 3 | Inactive | Input voltage out of voltage range |
| Flashing, 0.5 Hz | Active/inactive 0.5 Hz | Electrical voltage $U > 29.5$ V |

- Should the battery connected to the alternator or charger exceed a voltage of 13.5 V or 27.5 V, the CDR will switch on the auxiliary battery for charging.
- Should the voltage drop below 12.8 V or 25.6 V, the CDR will disconnect the batteries to prevent mutual discharge.

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.

EU Declaration of Conformity



The CDR 12/24 V complies with the requirements of the following directives:

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