

# velorian

## BLINKERSET

### Winther Kangaroo



## Installation

### General Safety Instructions

The velorian e-bike blinkerset 2.0 contains small parts that can be swallowed by little children. There is a risk of injury when handling the cables and tools.

We recommend installation by a specialist workshop.

The electronics in the blinkerbox are reverse polarity protected. This means that swapping the connection cables (mixing up plus and minus) on indicators, switches or the power supply will not destroy the electronics or the connected components.

### Scope of delivery

In addition to the individually packaged components, all cables and splitters are packaged together with the indicator box. This includes:

- 6-pin cable (violet) to the front of the handlebars
- 3-pole cable (yellow) to the rear
- Cable splitter (3-pin) for connecting the front indicators and rear indicators
- **Front splitter Cargo Base** (6-pin) to switch and status LED (4-pin) and to the front indicators (3-pin)
- **Cargo splitter** (4-pin) to the switch (3-pin) and to the status LED (2-pin)



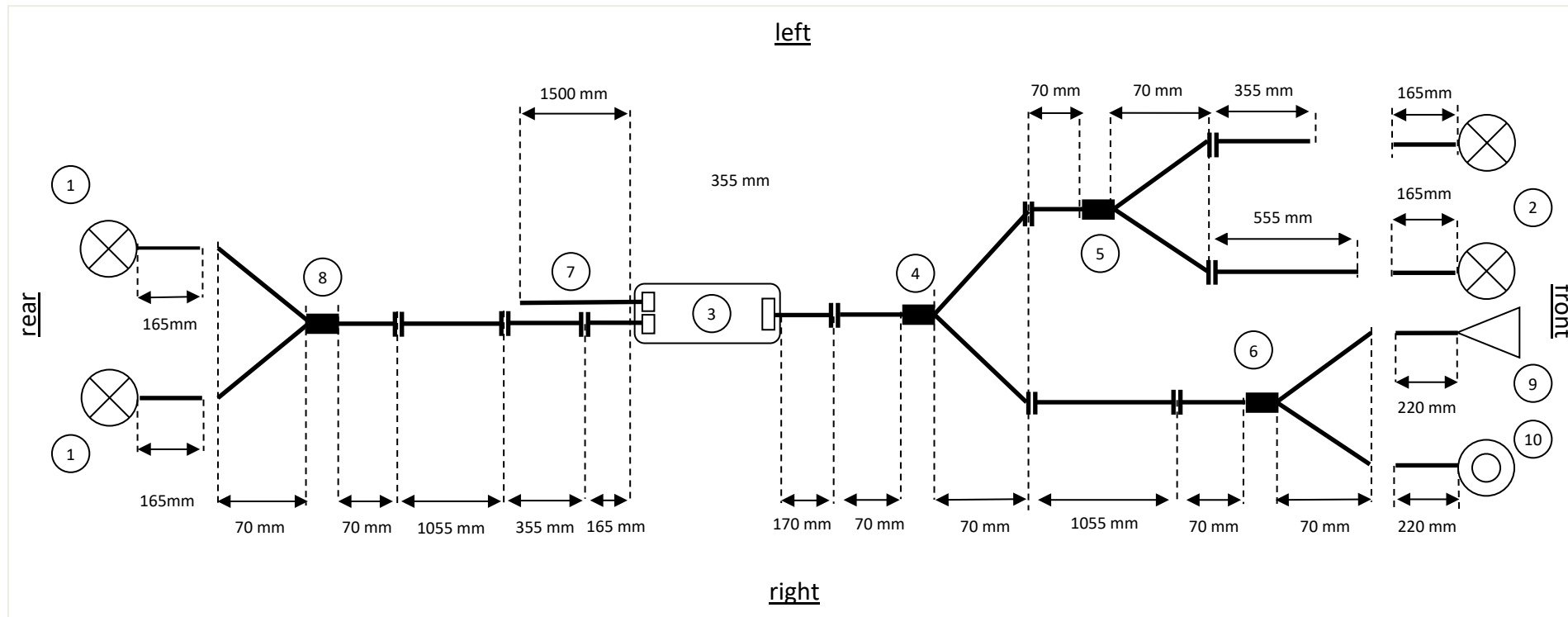
The extension cables are available in lengths of 10 cm, 20 cm, 30 cm, 50 cm and 100 cm to suit the respective frame size. See <https://shop.velorian.de/Cable-and-Splitter-Plug-and-Ride>

### General installation instructions

The blinkerbox is splash-proof. Nevertheless, the side with the two cables and the opening of the sounder should be attached in such a way that no water can collect on the sounder. This side should point downwards.

Make sure that the plug and socket are correctly aligned before making the connection! Otherwise, the pins could bend when plugging together, especially the multi-pin plugs.

**Schematische Darstellung**



1. 1st LED indicator
2. 2nd LED indicator
3. Blinkerbox
4. **front splitter Cargo Base** to switch and status LED (white cable marking) and to the front indicators
5. 5. splitter to the front indicators (red cable marking for right-hand side)
6. **splitter cargo** to the switch and status LED
7. 2-core power supply cable with a length of 1500 mm
8. rear splitter to the indicators (red cable marking for right-hand side)
9. indicator switch
10. status-LED

Cable list	
3-wire	100cm
	30cm
4-wire	100cm
2-wire	30cm
	50cm

The length specifications include the cable lengths including the connector dimensions. We reserve the right to make changes in line with technical progress.

## Switch mounting on handlebars



Fig. 2 Switch and status LED on the handlebars

The switch is screwed to the right of the handlebar. The status LED is then attached to the handlebar.

The switch and LED can now be aligned for the first time. Both are then connected to the Cargo front splitter (Fig. 2).

The 4-pin extension cable can now be connected to the 4-pin connection of the Cargo front splitter. This is routed down the center of the inside of the side of the Cargobox together with the existing cables.



Fig. 1 Splitter Cargo

## Blinkerbox



Abb. 3 View from the right in the direction of travel under the cargo box

The intended mounting location for the blinker box is on the frame tube under the cargo box. It is initially provisionally attached there with cable ties so that its position can be corrected later according to the cable lengths. The 6-pin connection cable points forwards in the direction of travel, the 3-pin connection cable and the SV cable point to the rear.

The 6-pin connection of the blinker box is connected to the front splitter Cargo Base (Fig. 4). This should be at the height of the Cargobox joint.



Fig. 4 Splitter Cargo Base

The splitter to the front indicators (Fig. 5) is connected to its 3-pin connection and the 4-pin extension cable to the switch is connected to the 4-pin connection.



Fig. 5 Splitter Blinker

The extension cables are then secured to the frame on the left-hand side under the Cargobox using cable ties.

## Blinker mounting on the cargo box

It is necessary to drill holes in the Cargobox to fit the front indicators. The holes are drilled with an M8 drill bit approx. 1 cm above the lower edge of the Cargobox so that the indicators are aligned flush with the headlights at the front.



Fig. 7 Blinker position on the Cargobox



Fig. 6 Drilling the cable gland

The connection cable can then be fed through the hole and the adhesive film on the underside of the indicators removed. Now pull the cable all the way through the hole so that the underside of the indicators rests completely on the Cargobox with the adhesive surface.

Finally, press the blinker onto the Cargobox to complete the installation.

The 2-pole connection cables can then be connected to the indicators and routed to the blinker splitter under the Cargobox (Fig. 8). The cable with the red or white marking on the splitter is for connecting the right-hand blinker in the direction of travel.



Fig. 8 Splitter Blinker



Fig. 9 Cable routing for the indicators



Fig. 10 Indicator position and alignment

## Connecting the power supply and initial function test



Fig. 11 Connecting the power supply

Once the front indicators and switches are connected to the blinker box, an initial function test can be carried out.

To do this, the 2-core connection cable of the blinker box is connected to the connection cable of one of the headlights. This is identified on one of the headlights and cut approx. 15 cm before it enters the frame tube.

After removing the cable sheath, you have a black and a red strand in front of you.

The two ends of the black headlight wire are connected together with the brown wire from the power supply cable of the blinker box to the triple single-wire connectors.

To do this, insert the 3 cable ends that

belong together into the single wire connector and press the round part together with a pair of pliers. It is not necessary to isolate the cables.



Then connect the two red ends of the black headlight wire together with the white wire from the power supply cable of the blinker box to the triple single-wire connectors.

The indicators work when the lights are switched on. The indicators will flash very quickly at this time, which is due to the absence of the rear indicators. This corresponds to the requirement of the StVZO, according to which one blinker should indicate the failure of the other blinker on the same side by flashing faster.

If the connection cables of the blinker box are swapped, this will **not** destroy it, it will only cause the indicators not to work. Alternatively, the test can be carried out using a 9 volt block battery, for example.

## Fitting the rear indicators



Fig. 12 Mounting position of blinker bracket on rear light

To mount the rear indicators, place the blinker bracket under the rear light and screw it together with the rear light (Fig. 12).

The 3-pole cable can now be routed from the blinker box to the rear to the mounting position of the rear indicators and connected to the indicators there using the rear splitter. The cable can be routed through the engine housing. (Fig. 13)



Fig. 13 Cable routing to the rear

Then run the cable further up the seat tube and on to the mounting position of the rear indicators and connect it to the rear splitter of the indicators.

The cable with the red or white marking on the rear splitter is for connecting the right blinker in the direction of travel.



Fig. 14 Splitter Blinker

During a new function test, the indicators should now flash at the normal rhythm. A rhythm of 60 to 120 flashes per minute is normal.

## Assembly termination

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To complete the assembly, the position of the switches and indicators should be checked and all screw connections tightened.

The routing of the cables should also be checked to ensure that no cables can be crushed when the bike is folded or due to movements of the swing arms.

All cables should now be secured in their final position using the cable ties supplied.

## Operation on a separate battery

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If the indicator set is not to be operated from the bike's light connection, a separate rechargeable battery can be used, which can be ordered under item number 1510160210.

If the indicator set is ordered together with the battery, the indicator box is fitted with a 30 cm long connection cable for the battery instead of the 2-core power supply cable.

If the battery is ordered at a later date, the 30 cm long connection cable for the indicator box is included.



Fig. 15

## Function and operating instructions

The function complies with the requirements of the StVZO (Germany) and UN ECE 50.

### Operation with indicator switch (toggle switch)

When the toggle switch is mounted on an appropriately configured blinkerbox triggers flipping the toggle switch to the left the turn signals to flash on the left side. When the switch is returned to its original position the flashing stops.

Flipping the toggle switch to the right causes the indicators on the right to flash.

If the switch is not returned to the home position, **the flashing stops automatically after 4 minutes**. Returning the toggle switch to its original position and switching it on again will restart the flashing.

**Triggering the hazard warning lights is not possible with the toggle switch.**

### Operation with buttons

When the push-buttons are mounted on an appropriately configured blinkerbox triggers a short press on the left push-button flashing of the turn signals on the left side. If the left button is pressed again, the left turn signals stop flashing. Pressing the button on the right side causes the indicators on the right side to flash. If the right button is pressed again, the flashing stops. Switching the flashing from e.g. left to right can be achieved by pressing the other button in each case.

If the indicators are not switched off manually, **the flashing stops automatically after 4 minutes**.

The hazard warning lights are triggered by switching on the other side. Pressing and holding one button and pressing the other button starts the warning flashing. It can be stopped again by pressing one of the buttons.

**The warning flashing stops automatically after 30 minutes.**

### Warning function in case of failure of one of the turn signals (only with configuration for 4 turn signals)

If, for example, one of the rear turn signals fails:

- The front indicator flashes twice as fast. If the front indicator fails, the rear indicator flashes twice as fast.
- The separate status LED (if installed) flashes twice as fast.
- The sound generator in the flasher unit (if active) ticks twice as fast.

## Configuration of the Blinkerbox

The indicator box can be configured for different operating modes. The push-buttons or a corresponding device and a connection to the power supply are necessary for configuration.

The configuration mode is set as follows: Keep one button permanently pressed and press the other button eight times in succession. Then release both buttons. A short tone sequence sounds. Now the indicator box is in configuration mode and the software version can be set. The following is an overview of which button presses determine which setting:

1st button press: number of installed turn signals    left button = 2 turn signals    right button = 4 turn signals  
 2nd keystroke: button or switch operation            left button = push button            right button = switch  
 3rd button press: indicator sound on or off            left button = indicator sound off    right button = sound on

This results in the following key combinations to select the software versions in configuration mode:

L designates the left button, R the right button:

2 indicators switch with sound	LRR	4 indicators switch with sound	RRR
2 indicators button with sound	LLR	4 indicators button with sound	RLR
2 indicators switch without sound	LRL	4 indicators switch without sound	RRL
2 indicators button without sound	LLL	4 indicators button without sound	RLL

After entering the key combination, the configuration is completed and another short tone sequence sounds. If no switch is pressed is made, the configuration mode is automatically exited after approx. 2 minutes. The configuration is retained even after disconnection from the power supply.

## Technical Data Blinkerbox alpha22

EMC approval	EN 55016-2-1; 2014-12, EN 55016-2-2; 2011-09 ISO 11451-1; 2015, ISO 11451-2; 2015, EN 15194
Operating voltage	6-48 Volt
Output	12 Volt
Operating temperature	-20 bis +85 °C
Flashing frequency	90 pulses ± 30 pulses per minute
Protection class	IP 54

# velorian

## EU - Konformitätserklärung EU - Declaration of conformity



**velorian e-bike blinkerbox alpha22**

Wir, die velorian GmbH,  
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erklären, dass vorstehend bezeichnete Geräte in Konzeption und Bauart sowie in der von uns in Verkehr gebrachten Ausführung den Anforderungen der zutreffenden, unten aufgeführten Richtlinien entsprechen.

hereby declare that the design and construction of the above-mentioned products and the version placed on the market by us comply with the requirements of the applicable directives listed below.

**EN 55016-2-1; 2014-12**

**EN 55016-2-2; 2011-09**

**EN 15194 11:2018**

**ISO 11451-1; 2015**

**ISO 11451-2; 2015**

Berlin, 01.08.2022

A handwritten signature in black ink, appearing to read 'Eckehard Bahr'.

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Eckehard Bahr  
velorian GmbH  
Geschäftsführung