

velorian

BLINKERSET

AZUB TRIcon/Ti-Fly



Installation

General safety instructions

The velorian e-bike blinkerset Plug&Ride may contain small parts that could be swallowed by little children. There is a risk of injury when handling the cables and tools.

We recommend installation in a specialised workshop.

The electronics in the blinkerbox are protected against polarity reversal. This means that reversing 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 usually packed together in the blinkerbox. This includes:

- 6-pin cable (violet) to the front of the handlebars
- 3-pole cable (yellow) to the rear
- 2-pole cable to the front indicators
- Cable splitter (3-pin) for connecting the rear indicators (item no. 7110150910)
- Front splitter - switch - Plug&Ride indicators (item no. 7110165010)



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.

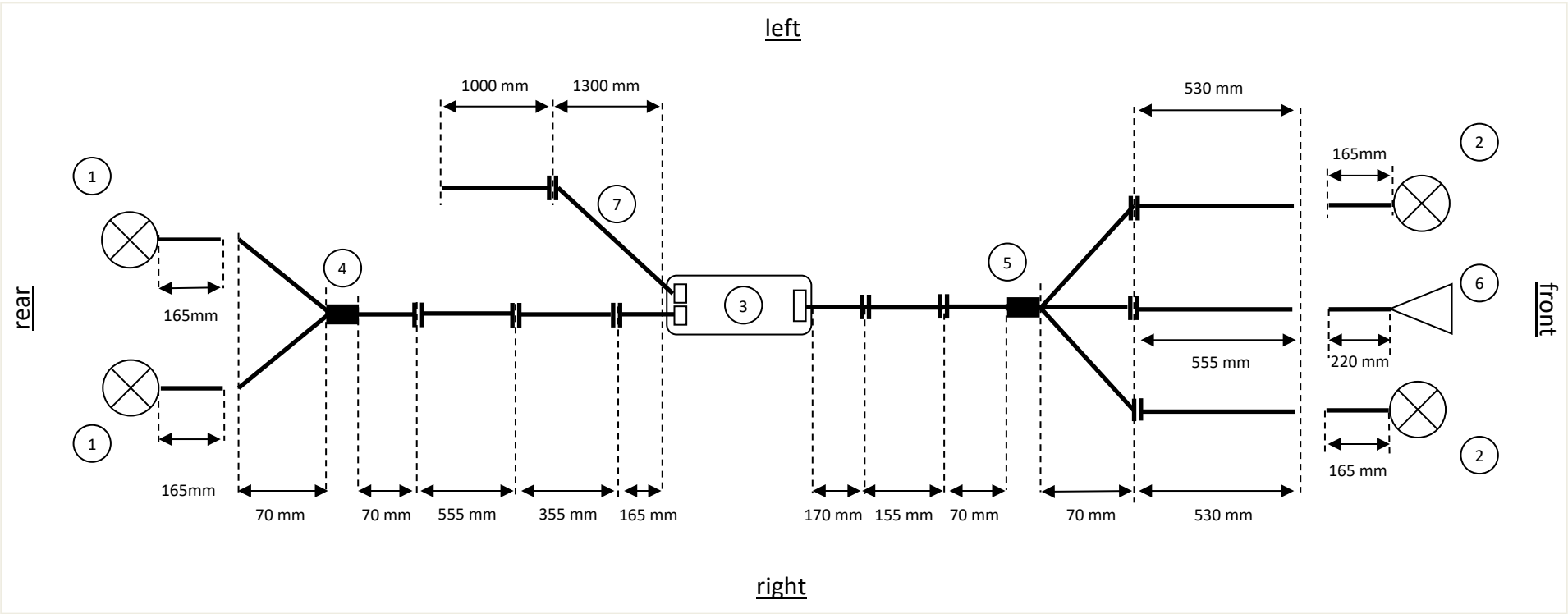
See <https://shop.velorian.de/Cable-and-Splitter-Plug-and-Ride>

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.

Schematic representation



- 1. LED mini indicators
- 2. LED mini indicators
- 3. Blinkerbox Plug&Ride
- 4. rear cable splitter to the indicators (red cable marking for right-hand side) (item no.: 7110150910)
- 5. cable splitter - switch - indicator Plug&Ride (item no.: 7110165010)
- 6. double button or toggle switch
- 7. two-part 2-core power supply cable with connector plug

cable list	
3-wire	2x50cm 30cm
6-wire	10cm
2-wire	2x50cm

The length specifications include the cable lengths including the connector dimensions. The cable extensions used may vary depending on the model and individual equipment of the recumbent bike. We reserve the right to make changes in line with technical progress.

Front indicator mounting



Fig. 1

To mount the indicators, the mudguards are removed and the mounting brackets for the indicators are attached to the upper fastening screws. The (smaller) M6 hole in the bracket is intended for fastening.

The angle brackets are aligned inwards. See Fig. 1

The indicators can now be inserted through the M8 hole in the bracket and secured using the nut previously unscrewed from the indicator. Finally, push the rubber cap over the cable and nut.

The cable with the red marking on the splitter is for connecting the right-hand indicator in the direction of travel as long as the double push-button is fitted as described below.



Switch mounting

The double button is mounted above the handlebar on the left-hand side as shown in Fig. 2. The cable on the switch can then be routed upwards into the handlebars and through to the 3-pin plug on the splitter.

By creating an opening in the steering tube cover, the switch cable can be routed through the handlebars. This opening should only be drilled for the cable diameter and the steering tube cover should then be cut into the side to guide the cable through the cover.

Before inserting the cover, the 3-pole extension cables should be connected to the switch.

The 3-pole cable is connected to the switch at the cable splitter.

Only in this position (the connection cable protrudes from the housing on the left) does the right button trigger a flashing light on the right-hand side in the direction of travel.



Fig. 2

If the switch has to be mounted rotated by 180° as shown in Fig. 2, the left and right indicator connections must be swapped accordingly.

Blinkerbox



Fig. 3

The intended mounting location for the blinkerbox is between the frame hinge and the rear swing arm. It was to be temporarily fixed there first. The side with the sound generator opening and the two cables to the power connection and the rear light points to the rear.

The front cable splitter is positioned at the height of the handlebar centre on the left-hand side of the frame.

From there, the cables with the round plugs are laid to the intended positions of the indicators on the mudguards.

The indicators and the switch can now be connected. The cable with the red marking is for connecting the right-hand indicator in the direction of travel as long as the double pushbutton is fitted as described.

Connecting the power supply and initial function test

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

To do this, the 2-core connection cable of the blinkerbox is connected directly to the connection of the headlight on the engine. The white wire is connected to the positive terminal and the brown wire to the negative terminal.

If required, the existing light connection cable can be split and reconnected with the 3-way single-wire connectors. To do this, simply insert the 3 cable ends that belong together into the single-wire connector and press the round part together using combination pliers. It is not necessary to strip the cables.



If the connection cables of the blinkerbox are swapped, this will **not destroy** the electronics, it will only mean that the indicators do not work. Alternatively, the test can be carried out using a 9 volt block battery, for example.

The indicators will flash very quickly at this point, which is due to the lack of rear indicators. This corresponds to the requirement of the German Road Traffic Licensing Regulations (StVZO), according to which one indicator should indicate the failure of the other indicator on the same side by flashing faster.

Fitting the rear indicators

The indicator brackets for the rear indicators should be fitted first. The picture shows an example of mounting on the seat.

The cables can now be routed from the blinkerbox to the mounting position of the rear indicators and connected to the indicators there.

The three-core cable to the rear indicators is split in two so that one part can be used to reach the indicators on the seat and the second part can be used to reach the indicators on the luggage rack.



Fig. 4

The cable with the red marking is for connecting the right indicator in the direction of travel. During a new function test, the indicators should now flash in the normal rhythm. A rhythm of 60 to 120 flashes per minute is normal.

Fig. 5 shows the mounting of the indicators with clamps on the seat shell (item no. 4010144310).

Figures 6 and 7 show the attachment with the long indicator bracket (item no. 4010151610) with the rear light on the seat shell.

The bracket GBHV2 or GBHV4 can be used to mount the indicators on a luggage rack.



Fig. 5



Fig. 6

Assembly termination

To complete the installation, check the position of the switches and indicators and tighten all screw connections. The routing of the cables should also be checked so that no cable can be crushed when moving the handlebars or through other joints. Finally, all cables can be secured in their final position using the cable ties supplied.

Operation on a separate battery

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 blinkerbox is fitted with a 30 cm long connection cable for the battery instead of the 2-core power supply cable.



Fig. 7 Position of the battery on the seat shell

If the battery is ordered at a later date, the 30cm long connection cable for the blinkerbox is included. (Item-No. 1510160210)



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 2 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 15 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 blinkerbox 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 blinkerbox 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 button press:	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

Subject to technical changes.

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EU - Konformitätserklärung EU - Declaration of conformity



velorian e-bike blinkerbox alpha22

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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'.

Eckehard Bahr
velorian GmbH
Geschäftsführung