

velorian

E-BIKE PF Mobilty Disco



General safety instructions

The velorian e-bike indicator set Plug&Ride may contain small parts that could be swallowed by small 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
- a cable splitter for connecting the front indicators and switches
- one 3-pin to 2x2-pin cable splitter for the rear indicators



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>

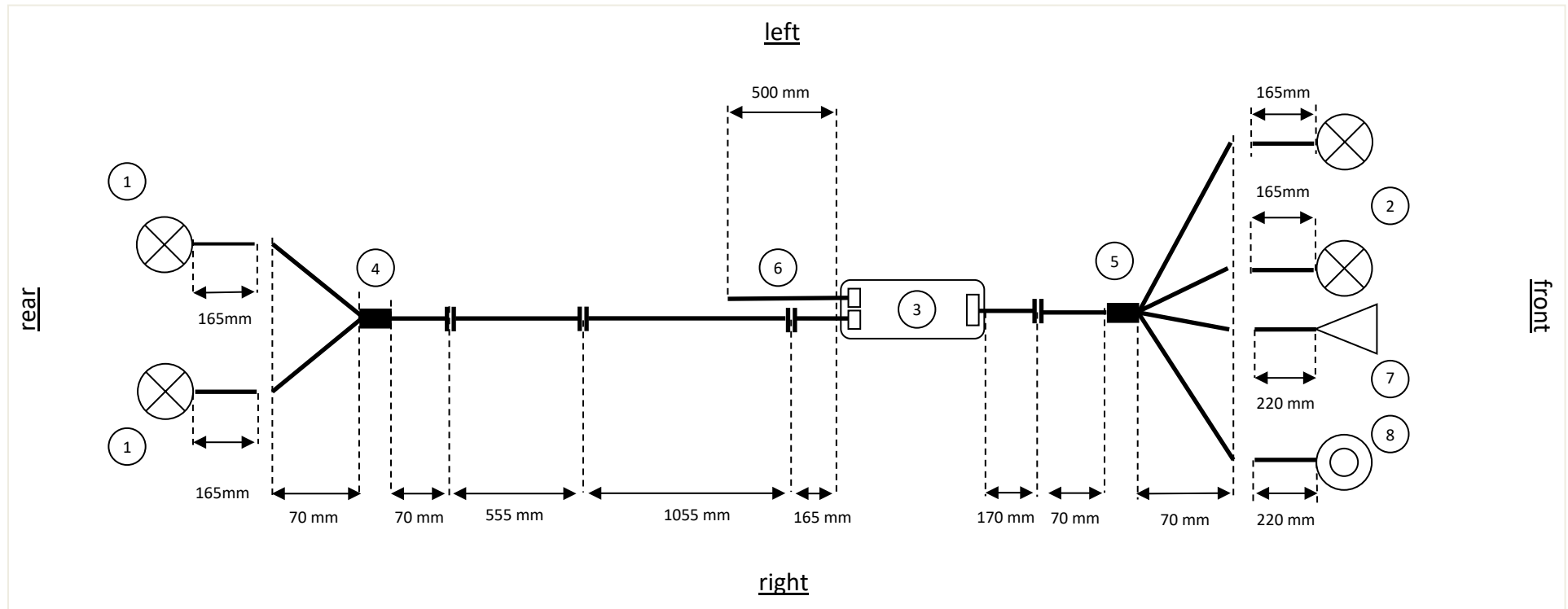
General installation instructions

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 indicator
2. LED indicator
3. Blinkerbox
4. rear splitter to the indicators (cable marking for right-hand side)
5. front splitter to switch and status LED and the front indicators (cable marking for right-hand side)
6. 2-core power supply cable with a length of 500 mm
7. indicator switch
8. status-LED

Cable list

3adrig	100cm
	50cm
6adrig	50cm

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

Indicator and switch mounting on handlebars



fig. 1

To mount the front indicators, the upper section of a universal indicator bracket combined with the switch and screwed to the left underneath the drive switch unit. See fig. 1 and fig. 3



The status LED is then attached to the right-hand side of the handlebar using the upper part of the second universal indicator bracket. See fig. 2

Then insert the indicators into the indicator holders, fix them lightly with the nut and pull the rubber cap over the cable onto the nut.

The switch and indicator can now be aligned for the first time.

Then all 4 elements are connected to the front splitter. The cable with the white marking is for connecting the right-hand indicator in the direction of travel.



fig. 2



fig. 3

Blinkerbox



fig. 5

The intended mounting location for the blinkerbox is on the steering column. To do this, the 6-pin connection cable of the blinkerbox is connected directly to the front splitter and loosely attached to the steering column using the cable ties. fig. 4

The 2-pole power supply cable can then be routed through the cable duct into the engine compartment. fig. 5

After opening the right-hand front engine cover, the two light connections become visible. fig. 6



fig. 4



fig. 6

Connecting the power supply and initial function test

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

To do this, the 2-core connection cable of the indicator box 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 indicator box are swapped, this will **not destroy** the box, 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



Abb. 7

Firstly, the BHW1 indicator brackets for the rear indicators should be fitted. The armrest of the Disco is required for this.

Replace one screw on the outer bracket of the armrest with the M6x50 screw supplied in order to fasten the BHW1 with the washer provided.

The 3-pole cables can now be routed from the indicator box under the tread plate and then along the seat bracket to the mounting position of the rear indicators and connected to the indicators there using the rear splitter.

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



Abb. 8

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

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 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 30cm long connection cable for the indicator box is included.



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 voltage	12 Volt
Operating temperature	-20 to +85 °C
Flashing frequency	90 pulses ± 30 pulses per minute
Protection class	IP 54

Subject to technical changes.

velorian

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