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The central element of SternShift is the electronics box. It contains the battery and the control board. All cables connect here. The magnetic charging contact is also located on one end.

The box is quite simple to install, but the connection requires some care and suitable tools such as small screwdrivers and a stripping tool. If in doubt, consult a specialist before damage is done.

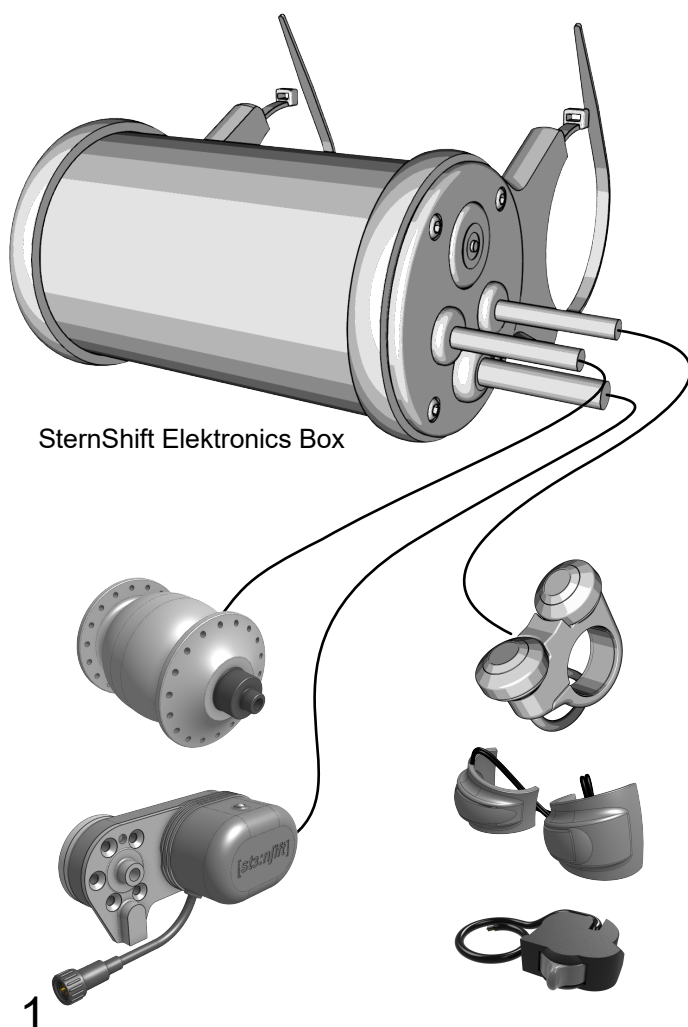
Read these instructions completely through to the end before starting the installation!

The box is typically mounted under the stem, in the middle of the handlebars. On special bikes, a different position may be necessary: Choose one that is suitable for your bike.

However, wait to finally attach the box until you have finished the wiring: The connection is easier if you can still hold the box in your hand and access it easily. All cables are supplied with one 'open end', while the other is already mounted on the respective component or a connector. This allows you to determine the cable length yourself, to suit the installation on your bike without having to attach annoying bundles of rolled-up cables somewhere.

So first mount the rear shifting unit or route the cable to it on or in the frame. Mount the shifter buttons on the handlebars and route their cables to the center of the handlebars. Also route a two-core cable to the hub dynamo and connect it parallel to the headlight. Remember that all cables are fed to the box asymmetrically from just one side. Avoid kinks, pressure and chafing points and make sure there is no tension on the cables. It is a good idea to route the cables along the brake lines.

Follow the respective assembly instructions for all components concerned.

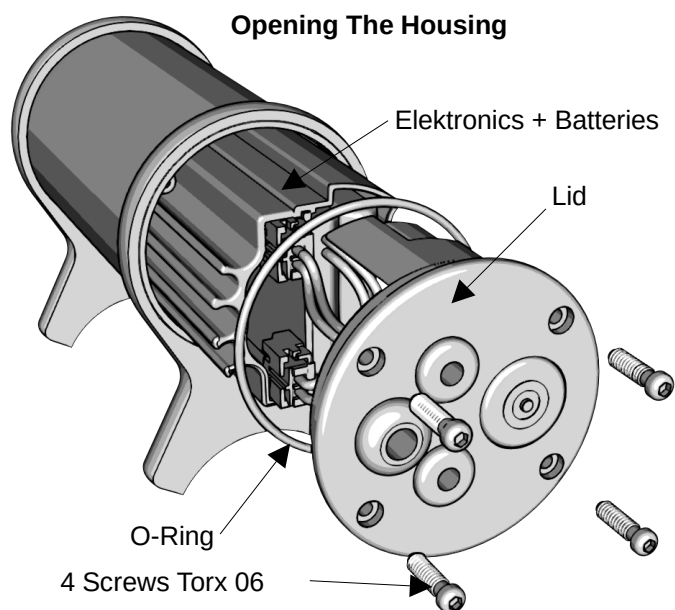


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Instructions for Electronics Box

Opening The Housing



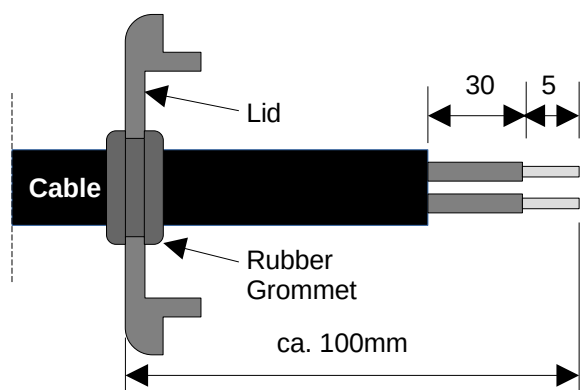
Open the front of the box using the Torx 06 screwdriver provided.

The cables should then be inserted through the lid through the 3 rubber grommets and connected. The lid also has the magnetic contact for the USB charging cable. Now pull the electronics out of the box to gain access to the 10-way terminal block.

First thread the cables through the rubber grommets in the lid. The cable to the dynamo and the cable to the buttons go through the two smaller grommets. The cable to the rear derailleur is fed through the large grommet in the middle. The cables should sit tightly in the grommets to ensure a tight seal.

Leave the cables outside the E-box enough free length so that they can be laid in soft curves without tension or kinks, even if, for example, the handlebar is fully turned from left to right.

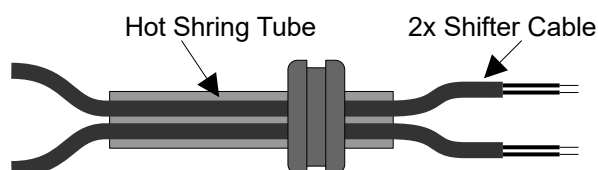
Stripping of Wire Ends



Inside the E-Box you need a total of about 100mm of cable length to be able to connect everything correctly and then close the lid. It is advisable to try this process out 'dry' first before shortening the cables to their final length and stripping them as shown in the sketch.

All cables must be stripped to the appropriate length (see illustration on the left) and then connected to this terminal in the correct position. To do this, be sure to read the connection plan on the next page! The 5mm long bare piece of each wire should be twisted or tinned sparingly to make it easier to insert into the terminal block and to ensure a firm fit. When using the drop bar buttons, first run the cables of both buttons together through the included shrink tubing and then thread them through the smaller grommet together.

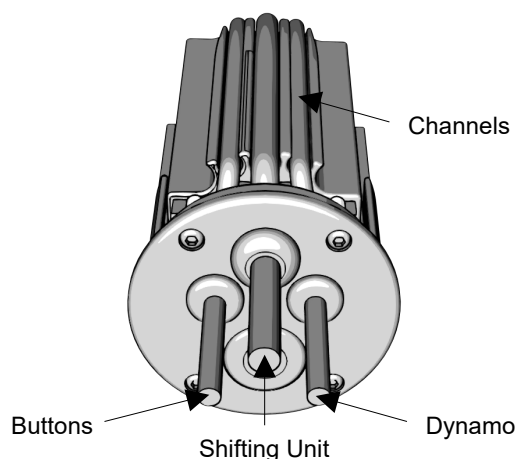
Wire Ends of Dropbar Shifters



* If you use the Campa or Flatbar shifter, this only has a single three-core cable. The shrink tubing is not required.



Arrangement of Cables

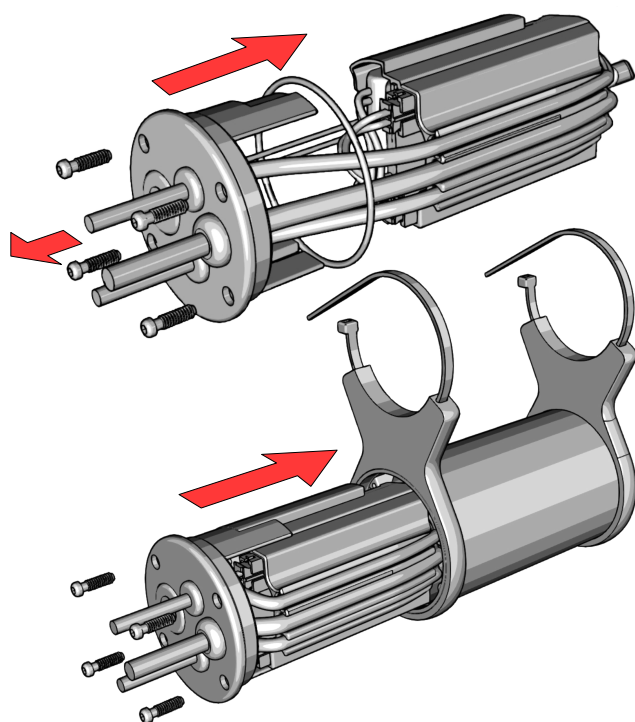


There is only limited space available inside the housing. It is therefore necessary to route the cables in an orderly manner inside.

Three channels are provided on one side of the electronics sleeve, the middle of which holds the Shifting Unit cable and the outer two of which hold the dynamo and button cables. The cables must be threaded through the correct rubber grommets in the cover as shown in the illustration on the left.

To have enough space to handle the cables, first push the cables about 5cm further through the cover. Then connect the individual wires to the terminal block according to the connection plan on page 4 and then push the cables into the channels provided so that the cable sheathing is approximately flush to the end of the channels.

Assembly of Housing



The lid is placed on the electronics only before wiring is done, carefully pulling back the excess cable length until the guide tabs are in place. The entire unit can now be slid into the housing.

Note: The 4 screw mounting holes inside the housing are arranged in such a way that there are exactly two positions, rotated by 180°, in which the electronics can be easily pushed into the housing.

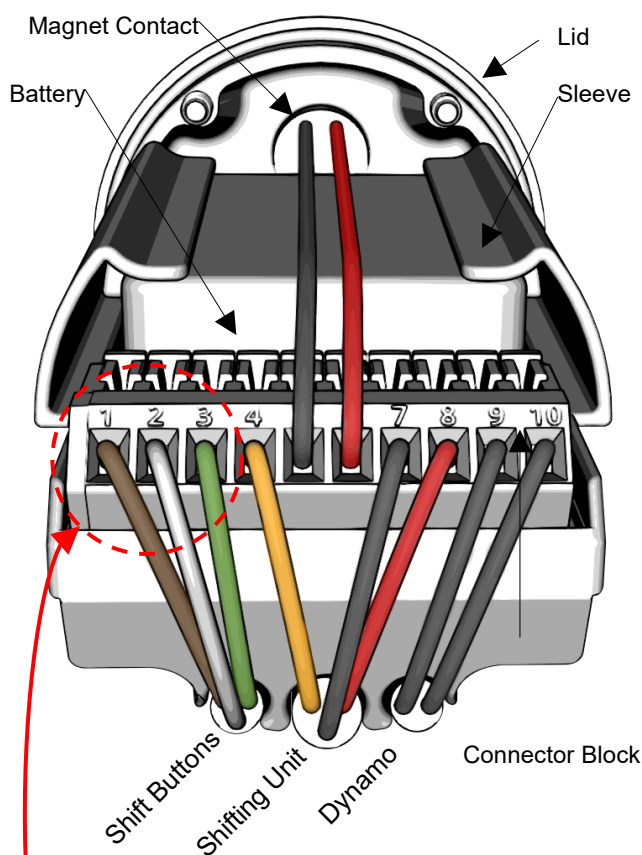
When putting the lid back on, make sure that no cables are trapped and that the narrow O-ring is undamaged and is correctly seated on the collar of the cover. Without this, protection against water ingress is not complete.

Replacement O-rings 31.5x1.3mm are available from specialist retailers. Do not tighten the 4 screws with force.

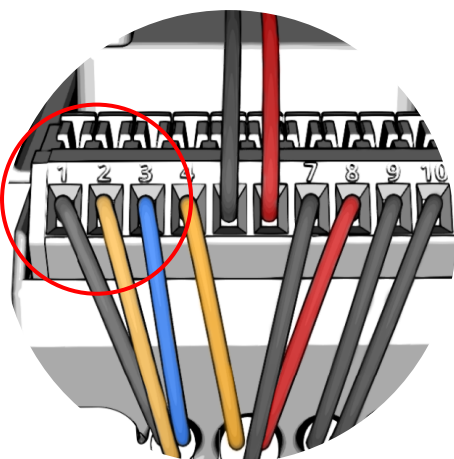


Instructions for Elektronics Box

Connector Standard Pinout



With TRP-Shifters



The principle of the terminal block is that cables inserted into the openings are held in place by a spring as soon as the small slider on top of the terminal block is pushed back. This means that assembly is possible without screwing. It is important to ensure that the insulation always extends far enough into the terminal block so that no copper filaments touch the adjacent wire, which could else cause a short circuit. Ideally, you should use a small flat screwdriver with a blade about 2 mm wide to operate the slider. Be careful not to damage the batteries!

Exactly one wire belongs in each opening of the terminal. There is an exception when using the flatbar shifters: In this case, connect one wire from each of the two switch buttons to terminal 2. The cables for the magnetic charging socket are preferably connected last.

Terminal assignment from left to right:

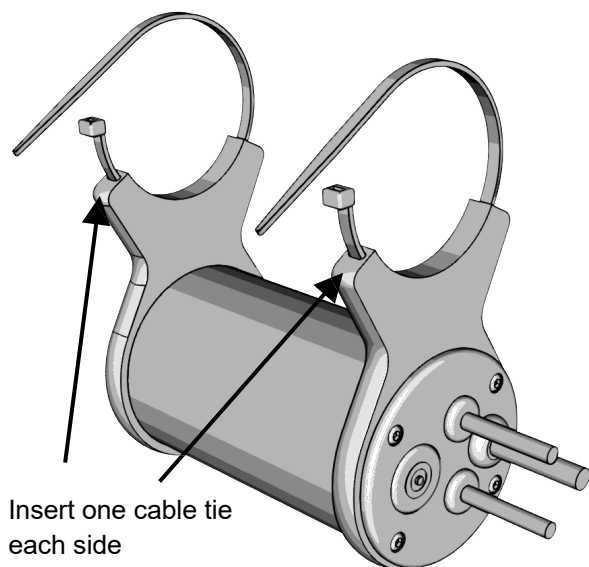
- | | |
|----------------------|------------------------------------|
| 1) Black** or brown* | Down button |
| 2) Black** or white* | Buttons Ground |
| 3) Black** or green* | Up button |
| 4) Yellow | TX SternShift Shifting Unit |
| 5) Black | Magnetic charging socket -5V= |
| 6) Red | Magnetic charging socket +5V= |
| 7) Black | SternShift Shifting Unit ground |
| 8) Red | SternShift Shifting Unit pos. 8.4V |
| 9) Black | Dynamo 6V ~ |
| 10) Black | Dynamo 6V ~ |

The positions marked with ** apply to SternShift dropbar shifters. The positions marked with * apply to SternShift flatbar and SternShift Campa integrated shifters. Please note the color coding of all wires. Mixing them up will lead to malfunctions.

After assembly, be sure to carefully check the assignment of the wires to the terminals BEFORE you put SternShift into operation!



Instructions for Elektronics Box



Fasten the box to the location you have chosen using two of the cable ties provided. To do this, push these through the channels in the holders so that the clamping pieces of the cable ties face outwards. Then place the box with the cable ties around the handlebar below the stem clamp and pull the cable ties tight. Cut off the excess length. Two replacement cable ties are included, more can be purchased from retailers.

The box attachment is designed for the most common handlebar clamp diameter of 31.8 mm. For thinner handlebars, please insert a shim such as a suitable piece of rubber under the box attachment.

Replacing the batteries:

Even though batteries last quite a long time these days, the battery cells contained in the electronics box can of course be replaced if necessary. Replacement cells are available from the manufacturer.

To remove the battery cells, first remove the housing cover. Then pull the electronics out of the housing. To access the batteries, carefully slide the cover back a few centimeters on the cables. Then carefully pull out the two plugs. Do not pull directly on the cable! The batteries can now be removed.

Re-assembly is carried out in reverse order as described in detail on page 3. It does not matter which plug goes into which socket.

