

Installationplan of the digital cable harness, Version C

We know long manuals are annoying, but please take 2 Minutes of your time to read this manual.
Thank you for your patience!

Installation:

The two parts containing cable harness (frame unit and handlebar unit) makes the wiring more easy and is nearly invisible comparing to other control Boxes on the market. Both units get connected by the two core shielded communication cable. Right now, the C-Boxes are working already! You „just“ have to wire the inputs and the outputs.

When your're mounting the C-Box (the „C“ stands for „communication“) you should make sure, that the contacts of the 12V power supply are secured by a 15 - 20A fuse, depending of your bike. The electrical switches inside the C-Box are short circuit protected, but the electrical switches will get hot (up to 150°C) in case of a short circuit what can result in gaps in the casting compound and your C-Box is not more water proof! The dimension of the input cables can go down to 0,1qmm due to the very low current (4mA while switching). The C-Box itself can be fixed with Velcro tape. The C-Boxes and also the control cables should be placed as far as possible away from the Ignition cables. The ground connection to the frame should be as short as possible. Also all the control cables should be connected on the shortest way to avoid EMC disturbances from the Ignition unit. The C-Boxes are shielded as good as possible but precaution is a good way to avoid EMC troubles and above that, keep your bike clean from (to long) hidden cables. **It's always a good idea to link the Handlebar ground with the frame ground or the both thick black cables of the two C-Box devices!**

The frame unit:

The C-Box frame unit can be hidden under the seat for example. It could be located in the rear part of the bike and work from there. The following named cables come out this box:

Com: This two core and shielded cable is the communication cable. The red core is the com2, the white core is the the com1 and the shield is for the ground line. Just connect com2 from the frame unit with the red cable from the handlebar unit and com1 with the white one. The shield must be connected to the thin black cable

+ 12V Input: Connect the the supply voltage from the Ignition unit with the +12V cable. **But don't forget to install the 15 - 20A fuse as mentioned above! Keep the fuse holder empty until the bike wiring is complete.**

Outputs for turn lights left and right: These are the ouptuts for the turn lights.

Output Horn: This is the switchable output for the horn.

Output Rearlight: Here you can connect the rear light and also the combined rear- and brakelight.

Output start relay: This is the output for the start relay. **Don't connect the starter directly to the C-Box, but always via the present start relay!** The starter output on the C-Box can switch up to 10 Ampere, what is too less for your starter motor direct. Please note that the internal load switches will switch off when the battery voltage drop below 6V. If the battery is too weak the internal load switches would switch off after receiving an impulse from the relay and switch on again after the relay is switched off.

Ignition: This output provides the supply voltages for the ignition. When you press the Ignition button, this line will be switched off.

Brake light switch: Here you can connect the push button for the brake light.

Side stand switch: This cable is connected to the side stand switch. Please consider that one pin of the switch must be wired to ground for enabling ignition and start. You can enable or disable this function in the menue, what is described at page 2.

Neutral switch: This line is to be connected to the neutral switch. Please consider that the switch must be wired to ground for enabling ignition and start. You can activate or disable this function what is described at page 2.

Oil pressure switch: This Input is for connecting to the oil presure switch.

The handlebar-box:

The handlebar-box can be placed invisible somewhere in the front of your bike. It „talks“ with the frame-box via the Com-cable.

Com: As already mentioned in the passage of the frame unit, there is a white cable for com1, and a red one for the com2 that must be connected to the white and the red cable of the handle bar unit. The shield (ground) must be connected to the thin black cable.

+ 12V Input: Connect this line to the +12V cable from the ignition key switch.

Outputs for turn lights left and right: These are the switched outputs for the turn lights.

Output low beam: This output supplies the low beam. While pressing the ignition button and also the start button the low beam will be automatically switched off, to have enough power for the starter.

Output high beam: This output supplies electricity for the high beam light.

Brake light switch: Here you can connect the handle bar brake light switch.

Outputs for control lights: You will find three more cables coming out of the handlebar unit which allows you to connect control lights:

Blue wire:	Connection for control light „Neutral“
Petrol wire:	Connection for control light „Turn“
Pink wire:	Connection for control light „Oil“

The Outputs for neutral and Oil LED switch to ground if the LEDs should be on. The output for the turn light control-LED supplies the LED with +12V if the turn lights are on.

Input for brake light-switch (yellow): This is the connection for the front brake light-switch.

Inputs for the turn light switch left and right (violet and brown): Here will the switches or push-buttons for the turn lights be connected. A hazard light function can be realized by pressing both push buttons simultaneously. The necessary settings for switches or push-buttons can be made in the menu, at point 7.

Input for low beam and high beam-switch (light blue): The switch or the push-button for the low beam and high beam shall be connected here. The necessary settings for switches or push-buttons can be made in the menu, at point 6. In switch mode you can wire your high beam button (if your bike have it) parallel to the switch.

Input for horn-switch (gray): This is the connection for the horn push-button.

Input for start-switch: Here, the start switch is to be connected. The necessary settings for using one push-button or the combined-solution with one switch for start and another one for stop can be made in the menu, at point 5.

Input for ignition-switch (green): This is the connection for the switch or the push-button for the ignition. The necessary settings for switches or push-buttons can be made in the menu, at point 8.

Programming the C-Box:

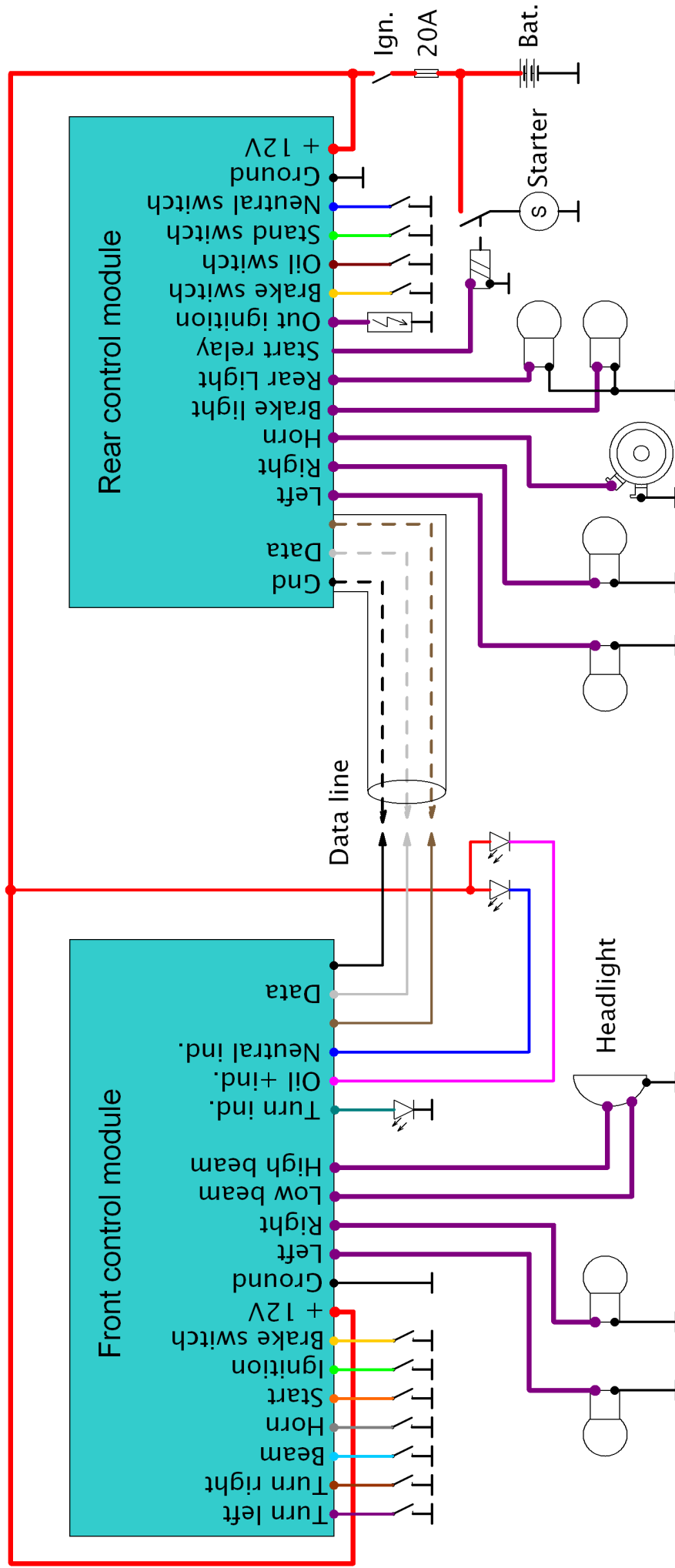
The different functions of the C-Box can be changed instantly and very easy as well. Before switching on the power supply, keep the horn button pressed and switch on power. After releasing the horn button, the C-Box is in the programming mode. A single hazard flashing shows the first menu item. By pressing the turn left or turn right switch you can select the menu items and make your individual selections as shown in the table below. Every press on a direction button brings you to the next menu option and is indicated by a number of flashes. The following options are possible:

Flashing quantity:	Mode:	Turn left push button:	Turn right push button:	Description:
1 x	Show flasher	Off	On	2 flashes at starting and stopping
2 x	Auto off flasher	Off	On	Flashers turns off autonomously after 30 or 60 flashes
3 x	Auto off flasher	30 x	60 x	Adjustment of flash quantity before turn off, if auto off activated.
4 x	Stand / Neutral-switch	Switch activated	Switch not activated	Ignition and starter only active if the switches are connected to ground.
5 x	Start / Stop-push button	1 push button f. Start / Engine off	2 push buttons f. Start / Engine off	Using 1 push button for both (start/stop) or 2 separate buttons.
6 x	Light switch / light push-button	Light switch	Light push-button	This input can be used for switches or push-buttons.
7 x	Turn switches / Turn push-buttons	Turn switch	Turn push-button	This input can be used for switches or push-buttons.
8 x	Engine off switch or push button	Engine off switch	Engine off push-button	This input can be used for switches or push-buttons.

The functions will be programmed into the E-Eprom after having pressed a turn button for 8 times, but could be changed again at any time.

Please consider that this device shall only be installed by authorized service technicians. The C-Box works until the battery has reached at least 6V. The producer cannot assume liability for inappropriate use or installation. We declare the disclaimer of liability for damages on material or persons. Please attend the corresponding traffic regulations in your country. The company Axel Joost Elektronik declares above that, that this Elektronikbox device complies to the nameable CE-Norms and ROHS regulations.

For further information please contact: info@elektronikbox.de



Connect all ground cables to the minus pole of the battery !