ALCOLOCK™ V3

SERIES B-2 Wi-Fi
12V & 24V ECU

Installation Manual

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TYPE APPROVAL: ECE REGULATION NO.10

1. This type approval follows only the specifications regarding the electromagnetic compatibility.
2. The devices must be installed in such a manner that all applicable technical rules, and also observing other technical directives and regulations, for the vehicles to be modified still apply.

   The ALCOLOCK V3 alcohol interlock can be installed in all 12V & 24V vehicles.

   NOTE: Open vehicles excluded.
3. The national regulations and bahavioral rules must be observed when using this device.

CAUTION!

This manual is intended for use by trained technicians only, having full understanding of electric vehicles and their unique installation requirements.

The ALCOLOCK V3 device can be installed in all 12V & 24V vehicles.

NOTE: Open vehicles excluded.

KIT / TOOLS NEEDED

- V3 ECU (exists in 12V and 24V versions)
- V3 handset
- Handset clamp
- Handset clip fixture
- ECU to interlock handset cable
- ECU wiring harness
- Installation kit (hook and loop tape, tie wraps, hardware, heat shrink tubing, terminal ring / crimp / nut) (**95-000514**)
- Round mouthpieces (bag of 25) (**95-000250**)
- ECU security enclosure
- Antenna
- Optional override switch

Also: wire strippers, soldering iron, heat gun, multimeter, screwdriver.

To order replacement parts, consult the preceding list.

INSPECTION

Before the ALCOLOCK V3 device is installed, an inspection of the vehicle's electrical system is required.

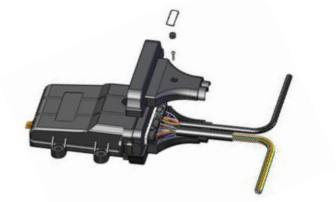
Check:

- Battery voltage
- Charging system
- Starting system

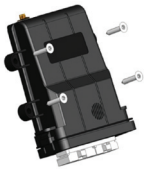
ECU INSTALLATION

MOUNTING THE ECU

1. To install the ECU, locate an easily accessible area that does not obstruct the normal operation of the vehicle (preferably under the dashboard to the right of the driver's side of the vehicle). The area should not be readily accessible to the driver.
2. Mount the ECU with the wiring harness connector opening facing downwards (so that the open part of the ECU case would be facing down). Connect the cord from the handset to the ECU. Install the security enclosure on the ECU as shown in the diagram below:



NOTE: Position the ECU as to not interfere with the normal operation of the vehicle.



3. To mount the ECU to the vehicle use hook and loop tape, tie wraps or screws.
4. If hook and loop tape is used to mount the ECU, attach the loop half to the back of the ECU, and attach the hook half to the vehicle. If tie wraps are used, put them through the screw holes of the ECU case. If screws are used, try to use existing holes to avoid any modifications to the vehicle.

CONNECTING THE ECU WIRING HARNESS

The ECU wiring harness consists of 14 coloured wires. Only 8 of these wires are required to be connected to specific points in the vehicle's wiring system (see table). 6 wires are used to connect optional accessories. Connections are made by splicing in the recommendations below. However, if this differs from the manufacturers' instructions or European guidelines, the guidelines should be followed.

1. Prepare the ECU wire harness by stripping all wires 1 to 2 cm, and apply heat shrink tubing to all wires except the red, black and white wires.
2. Solder the terminal ring to the black ground wire in the wiring harness. Connect to a ground point with the metal crimp ring and nut provided.

   NOTE: The ground connection is made first to prevent any damage to the ECU.

3. Using the multimeter, locate a continuous unswitched +12 or +24 volt source in the vehicle's main harness. Test the source in all ignition states including Start and Accessory. The +12 or +24 volts must be present in all states. Connect the red wire in the wiring harness to this source.

   NOTE: This source should be connected to a source with a 10A fuse.

4. Locate a section of the +12 or +24 volt source wire that is close to the vehicle's fuse box. Using the wire strippers, expose a 2 cm section of the wire.
5. Twist the exposed end of the red wire in the wiring harness to the exposed section of the source wire.

6. Connect the green ECU to the D+ terminal of the vehicle to get the signal from the alternator.
7. Using the multimeter, locate a +12 or +24 volt source in the vehicle's main harness that is present only when the ignition is in the Start and On state (not the Accessory state). The white wire in the wiring harness is connected to this source.
8. Using the wire strippers, expose a 2 cm section of the wire. Twist the exposed end of the white wire in the wiring harness to the exposed section of the source wire.
9. Locate the wire in the vehicle's main harness that runs between the ignition switch and the starter relay or solenoid. Cut this wire and attempt to start the vehicle (see wiring diagram). The vehicle engine should not start.
10. Attach the 2 blue wires in the wiring harness to the key side of the cut starter cable (see wiring diagram).
11. Attach the 2 blue / yellow wires in the wiring harness to the starter side of the cut starter cable (see wiring diagram).
12. Solder all connections. Slide the heat shrink tubing over the joint and apply the heat gun. In other cases, tape the joint.
13. Tape or heat shrink the used wires in the wiring harness and tie wrap the wires. Connect the wire harness to the ECU and replace all vehicle panels.

INSTALLING THE ANTENNA

Once the antenna is connected to the ECU, make sure it is always in the line of "vision" of the receiver (do not install the antenna in closed compartments).

CONNECTING THE HANDSET

1. Mount the handset clip fixture in an accessible location for the driver. Make sure it does not obstruct any of the vehicle's controls.
2. The clip fixture can be mounted on the dashboard of the vehicle using hook and loop tape (attach the loop half of the hook and loop tape to the back of the clip fixture, and attach the hook half to the dashboard) or using screws. If screws are being used, attach the clip fixture to a flat part of the dashboard for secure mounting.

3. Plug one end of the interlock handset cable into the ECU and the other end into the interlock handset. Place the handset in the handset clip fixture.
4. Perform a visual inspection to ensure that the vehicle is back to its original appearance from before the installation.

INSTALLING AN OVERRIDE BYPASS SWITCH (OPTIONAL)

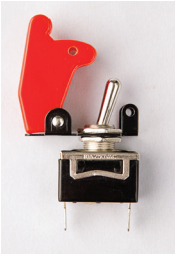
The override bypass switch allows the driver to start the vehicle without providing a breath sample, effectively by-passing the interlock installed in the vehicle. Usage of this emergency feature is indicated by the need to break the seal wire to activate the bypass switch.

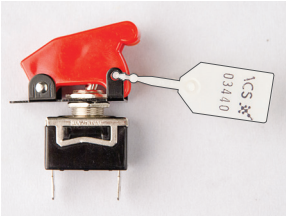
INSTALLATION

The open switch (see photo) is connected in parallel on the two blue wires (to Starter + 50) and 2 blue / yellow cables (to contact + 50) of the ECU by a weld.

Make the connection as far as possible from the interlock system connections.

Seal the cover of the switch so that it is necessary to destroy the seal to activate the switch.





POSITIONING THE SWITCH

It is important that the override bypass switch:

- Does not interfere with the physical operation of the vehicle
- Is able to be in sealed and opened positions
- Is on the dashboard within the vehicle operator's field of vision
- Is clearly identifiable
- Is sealed

ACTIVATION

All ALCOLOCK V3 devices are shipped in pre-delivery mode, which does not require a breath test in order to start the vehicle engine.

Prior to testing, the ALCOLOCK V3 device must be activated. Enter the following code to activate: **2,1,3,2.**

TESTING THE ALCOLOCK V3 DEVICE

1. Once the ECU is installed and the handset is connected, attempt to start the vehicle engine without providing a breath test. Turn the key to the "On" position; the handset should display **Ignition On**. The vehicle engine should not crank or start.
2. Wait for the **Blow for 5 Seconds** message on the handset display. Blow moderately and continuously into the mouthpiece. A tone is heard. Keep blowing until the tone stops.
3. Wait for the **Start Motor** message indicating the breath test has passed. Turn the key to start vehicle engine. The vehicle engine should start. **Drive Safely** should be displayed within 5 seconds. If not, check the engine run connection.
4. Turn off the ignition. The handset will display **Restart Available**.
5. Restart the engine. The handset will display **Drive Safely** within 5 seconds. It will not require a new test.
6. Turn of the engine. The handset will display **Restart Available** for 30 minutes before requesting another test.

UNINSTALLATING THE ECU

To be done only when removing the ECU from the vehicle.

1. Disconnect all wires that come from the ECU wiring harness and are connected to different parts of the vehicle electrical system. Unsolder all connections and tape the wires.
2. Disconnect the terminal ring (which is connected to the black ground wire in the wiring harness) from the ground point on the vehicle (the connection was made with a metal crimp ring and nut).
3. Locate the wire that was cut during installation. This wire was part of the vehicle's main harness and it ran between the ignition switch and the starter relay or solenoid. Reconnect the wire.
4. Once the ECU is uninstalled (the above 3 steps), attempt to start the vehicle engine by turning the ignition switch.

DISPOSAL AT END OF SERVICE LIFE

To dispose of the ALCOLOCK V3 device (ECU, handset, or both) when it is deemed to be at the end of its service life:

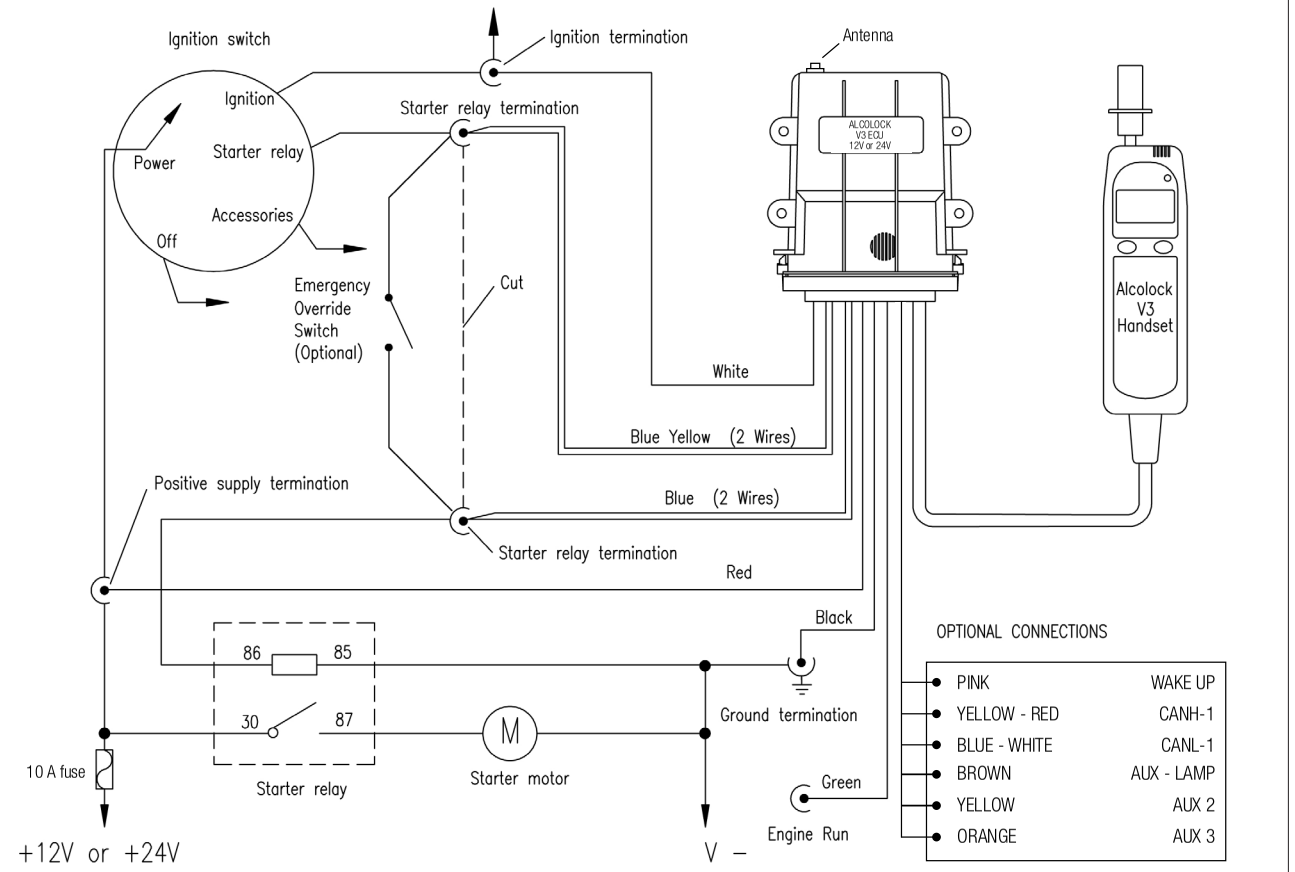
- Return the device to the dealer for disposal
- Contact the local waste management authority for more information

WIRING TABLE

COLOUR	LOCATION	REQUIRED
Red	+12 or +24 volts, un-switched, fused 10A	Yes
Black	Ground	Yes
White	Ignition switch	Yes
Blue (2 wires)	To starter	Yes
Blue / Yellow (2)	From ignition switch	Yes
Green	Engine run signal	Yes
Yellow / Red	CAN-H bus	Optional
Blue / White	CAN-L bus	Optional
Pink	Wake up signal (connected to vehicle parking lamps)	Optional
Brown	(+) AUX lamp	Optional
Yellow	AUX 2	Optional*
Orange	AUX 3	Optional**

** If not used = RS232 (TXD)*
*** If not used = RS232 (RXD)*

ALCOLOCK V3 B-2 Wi-Fi Circuit diagram (12V or 24V)



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