

# ALCOLOCK™ V3

SERIES B-2  
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 behavioral rules must be observed when using this device.

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# 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 (12 volt or 24 volt)
- V3 handset
- 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)**

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

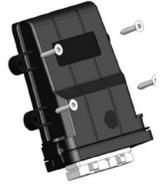
# ECU INSTALLATION

## 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).
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).

**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.



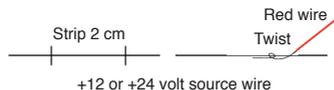
1. Prepare the ECU wire harness by stripping all wires 2 to 4 cm, and apply heat shrink tubing to all wires except the red, black and white wires.
2. Solder the terminal ring to the black ground wire in the wiring harness. Connect to a ground point with the metal crimp ring and nut provided.

**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 (follow next two steps for instructions).

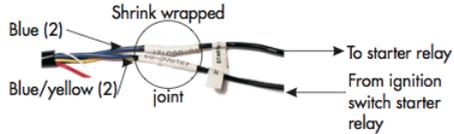
**NOTE: This source should be connected to a source with a 10A fuse.**

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 (see diagram).
5. Twist the exposed end of the red wire in the wiring harness to the exposed section of the source wire.



6. 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.
7. 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.

8. 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 diagram). The vehicle engine should not start.
9. Attach the 2 blue wires in the wiring harness to the starter side of the cut starter cable (see diagram).
10. Attach the 2 blue / yellow wires in the wiring harness to the key side of the cut starter cable (see diagram).



11. The V3 ECU is shipped with the Engine Run signal set to "Level". In this configuration, the green wire must be connected to a point that is +12 or +24 volts only when the engine is running, and 0V when the engine is off. In most cases this connection can be found at the alternator D+.

**NOTE: Failure to locate a suitable Engine Run condition will prevent proper operation of the V3 device and could prevent detection of an illegal engine start. Contact your V3 dealer for other Engine Run configurations.**

12. This step describes the optional connections:

- CAN H / CAN L - yellow-red wire / blue-white wire

These connections are only available to vehicle manufacturers or for optional fleet management systems. Contact your dealer for more information before attempting to connect to the CAN network.

- Wake-up Signal - pink wire

This wire can be connected to signals such as vehicle parking lights. Operation of a keyless entry often flashes the parking lamps. When connected to a signal that goes from 0 to +12V or +24V, the handset is automatically woken up from Sleep State, reducing the wait time for the driver.

- Relay Output 1 - brown wire

Failed alcohol test. Maximum current supplied is 10A. Momentary output of either 12 or 24V each time a breath test result above the preset limit occurs.

- Relay output 2 - yellow wire

Passed alcohol test. Maximum current supplied is 100mA. Momentary output of either 12 or 24V each time an alcohol test result below with preset limit occurs.

- Relay output 3 - orange wire

Start violation (illegal engine start). Maximum current supplied is 100mA. Momentary output of either 12 or 24V each time the engine is started without a breath test.

13. Solder all connections. Slide the heat shrink tubing over the joint and apply the heat gun. In other cases, tape the joint.
14. Tape or heat shrink the used wires in the wiring harness and tie wrap the wires. Connect the wire harness to the ECU.

# 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 and replace all vehicle panels.
4. Perform a visual inspection to ensure that the vehicle is back to its original appearance from before the installation.



# 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 ALCOLOCK V3 has been activated, attempt to start the vehicle engine without providing a breath test. 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 and attempt to start the vehicle engine again within 30 minutes. The vehicle engine should start without requiring another breath test.

# UNINSTALLING 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 starter 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
- Ask a suitable disposal contractor to dispose of the device

## 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 wires)	From ignition switch	Yes
Green	Engine run signal	Yes
Yellow / Red	CAN bus 1	Optional
Blue / White	CAN bus 2	Optional
Pink	Wake up signal (connected to vehicle parking lamps)	Optional
Brown	Relay Output 1	Optional
Yellow	Relay Output 2	Optional
Orange	Relay Output 3	Optional

