

Installation Guide

12 Volt ECU (Low Power)

Alcolock V3

ATTENTION: This product is intended for installation in 12V electric vehicles only.



V3 12V Electronic Control Unit (ECU) - Low Power is intended for installation into electric cars with 12V electrical systems.

NOTE: As the Alcolock ECU is not connected to vehicle power in low power (sleep) state, power disconnection events will not be recorded and this CENELEC requirement will not be fulfilled.

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

Kit/Tools Needed

- V3 ECU (low power) (12 Volt) (79-008838)
- V3 Ignition Interlock Handset (79-005555)
- Handset Mounting Clip (58-000144)
- Handset Clip Fixture (58-000257)
- ECU to Interlock Handset Cable 13-001050)
- ECU Wiring Harness (13-001045)
- Installation Kit (Velcro tape, tie wraps, hardware, heat shrink tubing, terminal ring/crimp/nut) (95-000514)
- Round Style 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 ignition interlock is installed, an inspection of the vehicle's electrical system is required.

Check:

- Battery Voltage
- Charging System
- Starting System

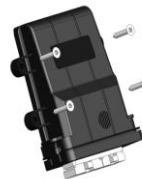
ECU Installation

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 Velcro[®], tie wraps or screws.



4. If Velcro is used to mount the ECU, attach the loop half of the hook and loop tape 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 in the ECU case. If screws are used, try to use existing holes to avoid any modifications to the vehicle.

Connecting the ECU Wiring Harness

Wiring
Harness



The ECU wiring harness consists of 14 colored wires. Only 8 of these wires are connected to specific points in the vehicle's wiring system (see table). Five wires are used to connect optional accessories. The red wire is not used.

1. Prepare the ECU wire harness by stripping all wires 1 to 2", and insert heat shrink tubing to all wires except the brown, 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.

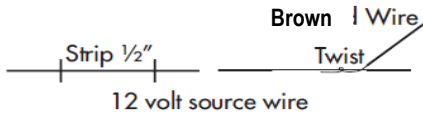
Note: The ground connection is made first to prevent any damage to the ECU.

3. Using the Multimeter, locate a continuous unswitched +12 volt source in the vehicle's main harness. Test the source in all ignition states including Start and Accessory. The +12 volts must be present in all states. Connect the brown 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 volt source wire which is close to the vehicle's fuse box. Using the wire strippers, expose a 1/2" section of the wire (see diagram).

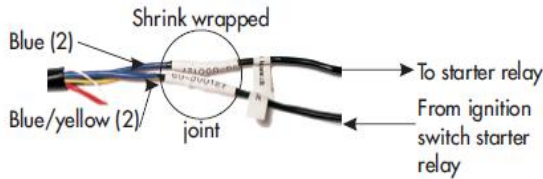
- Twist the exposed end of the brown wire in the wiring harness to the exposed section of the source wire.



- Using the Multimeter, locate a +12 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.
- Using the wire strippers, expose a 1/2" section of the wire. Twist the exposed end of the white wire in the wiring harness to the exposed section of the source wire.
- 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 motor should not start.

- Attach the two blue wires in the wiring harness to the key side of the cut starter cable (see diagram).
- Attach the two blue/yellow wires in the wiring harness to the starter side of the cut starter cable (see diagram).
- Solder all connections. Slide the heat shrink tubing over the joint and apply the heat gun. In other cases, tape the joint.



- 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.

Connecting the Handset

- Mount the handset clip fixture in an accessible location for the driver. Make sure it does not obstruct any of the vehicle's controls.



- The clip fixture can be mounted on the dashboard of the vehicle using Velcro 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.
- 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.
- Perform a visual inspection to ensure that the vehicle is back to its original appearance before the installation.

Activation

All V3 Alcolocks are shipped in pre-delivery mode which does not require a breath test in order to start the motor.

Prior to testing, the Alcolock V3 must be activated. Enter the following code to Activate: 2 1 3 2.

Testing the Ignition Interlock

- Once the ECU is installed and the handset is connected, attempt to start the motor without providing a breath test. The motor should not crank or start.
- Wait for the **Blow for 5 Seconds** message on the interlock handset display. Blow moderately and continuously into the mouthpiece. A tone is heard. Keep blowing until the tone stops.
- Wait for the **Start Motor** message indicating the breath test has passed. Turn the key to start the motor. The motor should start.
- Turn off the ignition and attempt to start the motor again within 30 minutes. The motor should start without requiring another breath test.

Uninstalling the ECU

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

- Disconnect the 8 wires that come from the ECU wiring harness which are connected to different parts of the car's electrical system. Unsolder all connections and tape the wires.
- 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).
- 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.
- Once the ECU is uninstalled (the above 3 steps), attempt to start the motor by turning the ignition switch.

Disposal of Unit at End of Service Life

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

- Return the unit to the dealer for disposal.
- Contact local waste management authority for more information.
- Ask a suitable disposal contractor to dispose of the interlock.

Wiring Diagram

Colour	Location	Required?
Brown	+12 Volts un-switched 10 A	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	Bypass switch	Optional
Yellow/Red	CAN bus 1	Optional
Blue/White	CAN bus 2	Optional
Orange	(+) AUX alarm horn	Optional
Pink	Vehicle parking lamps	Optional
Red	Not Used	No

