

The Antenna, Status Light and Valet/Override Switch

The Transmit/Receive Antenna The KeyCounter's antenna installation is critical to the system's performance and operation. The ideal location is mounted behind the steering column trim panel, just below the ignition switch (see the diagram on page 2 of the Owner's Manual). In this location, it is more likely that everyday operation will require no conscious action on the part of the user. However, there are some vehicles which may not allow the placement of the antenna in the optimum location by the ignition switch. In these situations, the system's antenna will be mounted behind a different dash or interior panel, and the key fob disc will have to be presented to this area before the vehicle can be started.

It is also important to firmly mount the antenna. If movement of the antenna is allowed, operational performance will vary. Several mounting methods are allowable. A screw or nut and bolt may be used in the central mounting tab; silicone adhesive may be used to glue the antenna assembly behind a trim panel. Using tape, wire ties, or wedging the antenna is not recommended, as any change in the antenna's position will affect the system's performance.

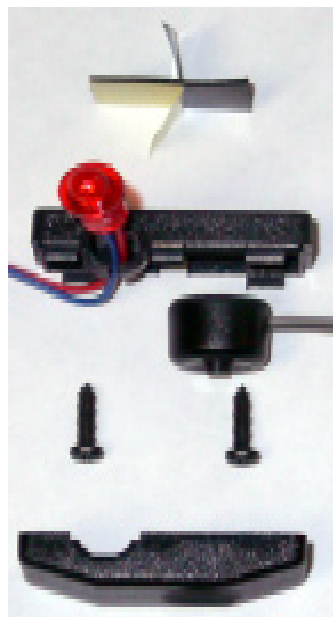
If desired, the antenna coil may be removed from the round plastic housing; the housing can be pried apart and discarded, so that the smaller antenna coil by itself can be installed. This option is most desirable where space is at a premium within the steering column housing, **but it is important to firmly mount it so that the round shape is retained.** Before firmly mounting the antenna, test the operation of the KeyCounter for good range performance. Once the antenna is mounted, carefully route the antenna's wiring harness to the Control Module, and plug its White connector into the KeyCounter control module's White port. **When routing the wiring harness down the steering column, ensure that all moving parts, such as the steering shaft or gear select linkage, will not be affected or impaired.**

It is not necessary to adjust the antenna, and there is no provision for any type antenna adjustment. If the antenna is correctly mounted in the proper location, range between the transponder disc and antenna will be most adequate.

The Status Light and Valet/Override Switch The Status Light and Valet/Override Switch must be installed. These items can be mounted in an included Combination Holder which may be adhered or screwed to the desired mounting location (prepare the mounting area with an interior panel-safe cleaning solvent if using the adhesive pad). The location selected should be easily visible to the vehicle's operator, and also to persons outside the vehicle as a theft deterrent measure. Desirable locations include any overhang of the instrument panel, which can also provide hidden routing of the Status Light and Valet/Override Switch wires to the Control Module. Plug the Status Light's Green connector into the KeyCounter's control module's Green port and plug the Valet/Override Switch's Blue connector into the module's Blue port.

Be sure that the vehicle owner is shown the location of the Valet/Override Switch.

Status Light, Valet/Override
Switch and Combination
Holder, exploded view.



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KeyCounter™ KEY-3.1 Installation Instructions

The KeyCounter Immobilizer System includes the following:

- ☐ The KeyCounter Control Module.
- ☐ Two transponder discs: a Red **Programming** disc and a Black **Daily Use** disc.
- ☐ A main wiring harness, and two Starter Interrupt wires.
- ☐ A circular transmit/receive antenna.
- ☐ A two-color Status Light.
- ☐ A Valet/Override Switch.
- ☐ A no-drill or screw mounting combination holder for the previous two items.
- ☐ The Owner's Manual, 2 KeyCounter window decals, and this installation sheet. After installation and testing, please place the Owner's Manual and decals in a conspicuous location within the vehicle.

"Normally Closed" OR "Normally Open" ???

The KeyCounter KEY-3.1 immobilizes the vehicle by interrupting the starter circuit with its built-in relay. The KeyCounter may be programmed for two types of operation:

"Normally Closed" configuration has the starter circuit intact through the relay when it is at rest. When the KeyCounter is armed and a start attempt is made, the KeyCounter relay activates opens the starter circuit.

- ② "Normally Open" has the KeyCounter activate its relay to connect the starter to ignition switch, but only when the KeyCounter is disarmed and the ignition switch is in the "start" position.

- ◆ Normally Open offers more security advantages, whereas Normally Closed has more reliable "daily use" operation.
- ◆ In either configuration, the vehicle will not start if the control module is removed.
- ◆ Normally Closed is rated at 20 Amps, Normally Open is rated at 30 Amps.
- ◆ The KeyCounter's default setting is Normally Closed.

Installation Overview

Installing the KeyCounter requires cutting and splicing the vehicle's starter wire, and splice-to connection of the ignition, battery power and "exciter" circuits. Make the (-) ground connection first, followed by plugging in the 5-way harness connector into the KeyCounter control module. After plugging in the two Black interrupt wires, the remaining electrical connections are then made. Upon completion of all wiring connections, and the placement of the antenna, Valet/Override Switch and Status Light, test all of the system's operations. The permanent mounting of the control module is one of the last steps performed in the installation.

Wiring Connections / 5-Pin Connector

Black Wire (-) Chassis Ground: This wire supplies chassis ground for the unit's operation. Connect the Black wire to the metal frame of the vehicle, preferably using an existing machine-threaded bolt and the proper size ring terminal. Make sure that the Black wire's ring terminal has contact with bright, clean metal. If necessary, scrape any paint, rust or grease away from the connection point until the metal is bright and clean; a good ground connection is essential.

Red Wire (+) 12 Volt Constant Power: This wire supplies constant (+) 12 volts for the unit's operation. This wire must have (+) 12 volts at all times. The recommended connection for the Red wire is to the constant (+) 12 volt supply wire at the ignition switch harness.

Yellow Wire (+) Ignition Power: This wire supplies "Primary Ignition" (+) 12 volts to the unit. Primary Ignition has 0 volts when the ignition key is in the "Lock", "Off" and "Accessory" positions; and 12 volts in the "Run" and "Start" positions (the unit's Yellow wire must be supplied both Run and Start voltage). This connection should be made at the ignition switch harness, to the primary ignition circuit.

Gray Wire (-) "Wake-up" Circuit: The KeyCounter emits RF energy to activate the transponder inside the key fob disc. This emission only occurs for a 30 second period upon the ignition switch being turned "on" (as indicated by a steady Red Status Light). This operation reduces the parasitic current draw on the vehicle's battery well within acceptable specifications. The current draw of the system while armed and at rest is less than 10 milliamps; the current draw during the 30 second RF emission period is approximately 250 milliamps.

This Gray wire also activates the 30 second RF emission period; the activation occurs if the vehicle's wire changes polarity from Positive to Negative.

Suggested connection points of the Gray wire are to the vehicle's courtesy light circuit or the key-in-ignition switch circuit; provided that the target circuit changes from Positive to Negative when the door is opened or the key inserted into the switch. The key-in-switch circuit in the vehicle must be configured to operate regardless of whether the driver's door is open or closed. A final point for the installer to note is that while this circuit is not absolutely needed

Orange Wire for OPTIONAL Starter Interrupt: The Orange wire is used for an optional external starter interrupt. This wire can be used with Omega's plug-in Quick InterConnect wiring harnesses, or in some cases, to substitute a larger capacity external relay should the vehicle circuit to be interrupted have a load greater than 20 Amps. See the Wiring Diagram.

Wiring Connections / Starter Interrupt

2 Black 14 Ga. Wires for Starter Interrupt Connections:

1) Plug the 2 Black wires onto the KeyCounter module; one to "COM" and the other to "N/C".

See the diagram and following section regarding the "N/C" and "N/O" terminals.

2) Locate and cut the vehicle starter wire, securely connect the KeyCounter's Black wires to the cut vehicle starter wires (there is no difference between the two KeyCounter Black wires).

This connection should be made as close to the ignition switch as possible. Use a voltmeter,

CAUTION! Avoid the airbag circuit! Use of a test light can cause deployment of the airbag, which can result in injury! Test lights can also damage computers and associated sen-

The starter wire will read Positive 12 Volts only when ignition key is in "start" position (cranking the engine). Cut this wire at a suitable location. Confirm that this is the correct wire by turning the ignition switch to the "start" position; the starter should not engage. **Be sure that good, solid electrical connections are made, as this generally is a higher amperage circuit.**

KeyCounter™ Wiring Diagram

