



**‘Wired’
Real Time GPS
Installation Instructions**



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1. Introduction

This installation manual covers the installation of the Alltrack USA 'Real Time with History' GPS Tracking Unit. It can be used on 12 volt DC vehicles. And it can be installed with or without the optional Remote Starter Disable relay.

The installation should only be performed by a qualified Automotive Electronics Installer.

3 Very Important points:

- Install device high up behind the dash (may be under plastic dash)
- Install with decal side UP towards the sky
- After powering device, turn Backup Battery on (switch towards center)

Safety statement

***Always disconnect the vehicle battery while installing this or any other automotive electronic product.

This product is connected directly to the vehicle's 12-volt DC system. It operates 24 hours a day and must be energized to log vehicle events and send travel data.

The device is shipped with two in-line 3-amp fuses attached to the power and ignition wires. They protect the wires should there be a short between the fuse and the device. And they provide overload protection for the power wires and the device. Failure to use the proper fuses could cause a vehicle fire hazard.

These fuses must be installed properly. If a fuse is replaced, it should be of the same type as originally supplied from the factory, which is a mini blade 3 amp type and purple in color.

The wiring installed between the fuse and primary vehicle power is not protected from overheating if a short should occur. So use care when routing the power cable and fuse. Route the cables where they will be protected and uses commonly accepted install practices for aftermarket automotive electronic devices.

Wire connections

There are two acceptable methods of making a wire connection:

- Soldering your connections for optimum reliability (recommended)
- Crimp connectors (with the use of the proper crimping tool)

Regardless of the method you choose, ensure that connection is mechanically sound and properly insulated. Use high quality electrical tape or shrink tubing, cheap tape will unravel in hot weather making it a poor insulator.

Never “twist and tape” without soldering your connections.

2. Selecting the Mounting Location for the Device

Precautions and Guidelines

As you determine the mounting location and prepare to install the device, be sure to heed the following precautions and guidelines:

- The device should be mounted in the cab of the vehicle because it is NOT waterproof. It should NEVER be mounted in the engine compartment nor outside of the vehicle.
- Choose a location where the device’s side with the white label on it has the best unobstructed view of the sky.
- Choose a location where metal or cable bundles do not shield the device.
- All connections should be made prior to connecting the device to vehicle power.
- All components should be mounted properly or attached to the vehicle in a way that does not interfere with the normal operation of the vehicle.
- Care must be taken that no components or wires interfere with the operation of the vehicle's airbags.
- Mount all components properly or attach to the vehicle in a way that does not interfere with the normal operation of the vehicle.
- Never mount the device directly on top of the AM/FM radio, by any moving parts, or in a location that would be exposed to the elements.
- Route all device cabling away from vehicle components where it could cause RF interference, such as radio, speakers and speaker wires and GPS.
- Protect cabling through the vehicle chassis against spurs and nicks.
- Do not mount the device where any excessive heat is generated by the vehicle or vehicle components.
- For added security as an indicator against driver tampering, you can use torque/tamper seal on Molex, ground and fuse connections.

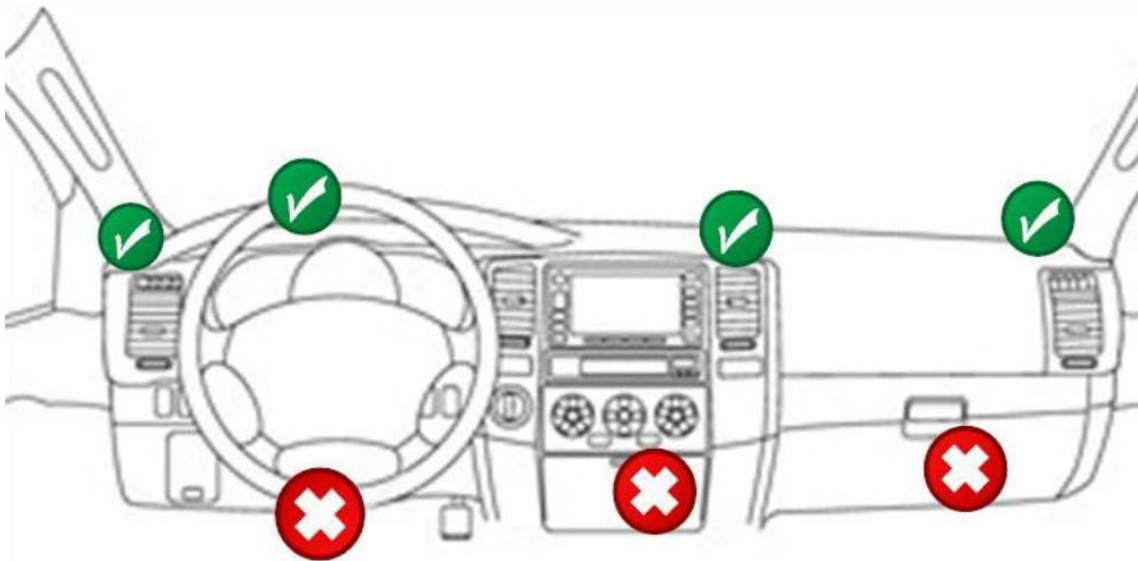
When mounting the device, the white label on the box must be facing UP or out with an unobstructed view of the sky. It can see through plastic and vinyl; but NOT Steel nor Aluminum.

Select the best location for mounting the device within the vehicle, such as one of the following locations:

- Above the air vents
- Above the steering wheel
- Above the instrument cluster
- Above the glove box

NOTE: Avoid locations identified with a red X.

CAUTION! Both the cellular and GPS antennas are internal to the device. Therefore, it is critical to get the device mounted as high on the dashboard as possible with minimal obstructions above it. And the side of the device with the decal faces UP towards the sky.



The device can also go in the vicinity of the rear window/ package tray if it has a clear view of the sky through that window. But the wiring probably isn't long enough to reach the front of the vehicle for power.

3. Mounting the Device

3.1 If using the Optional Mounting Bracket:

The preferred method for mounting and securing the device inside a vehicle is to use the included Mounting Bracket. The bracket allows for mounting the device -- Be sure that **the white label faces UP towards the sky.**



The bracket can be installed using two #6 screws (preferred method) or with double-sided tape.

One end of the bracket has an "L" shaped edge. The device has one end with a connector for the wiring harness. And the other end is just flat (with no connector). The device clicks into the bracket with **the flat end towards the bracket's "L" edge.**

CAUTION! If double-sided tape is used (or another method not described in this guide), note the following precautions:

- Excessive force in the middle of the device may cause damage to the device.
- If using rigid mounting hardware, apply pressure only to the ends of the device.
- Limit the mounting pressure only to the amount needed to secure the device.

To remove the device from the bracket, carefully spread both sides a little bit.

3.2 If NOT using Optional Mounting Bracket:

You can mount the device using plastic cable/zip ties by fastening it directly to the vehicle. The device's case includes molded channels to help secure it to a stable structure or wire bundle. Be sure the device's white label faces UP towards the sky.

4. Optional Starter Disable Relay

Overview

- A 3 amp inline fuse is included with the system to protect the relay. Use it between the relay's red power wire and the where it connects to the vehicle's power source.



- The Starter Interrupt connection should only be made to control the Engine Start Circuit/Solenoid. It should never be wired in such a manner that would stop or stall a running engine.
- It is strongly recommended that the Starter Interrupt relay and Circuit be installed as shown as a Normally Closed Interrupt. This will allow for the vehicle to start should there be a failure to any of the components. 'Normally Closed ' means that the relay will break continuity of the wire between the Ignition Switch and the Starter Solenoid when the Starter Interrupt is engaged. "At rest", the default state of the relay will be in a closed state allowing the vehicle to start. This is the most commonly used method for Starter Interrupt.
- When the Starter Interrupt Relay is engaged, you can expect a small current draw from the relay of roughly 150 mA. But this only happens when the engine is cranking.

Relay Red wire information

In the diagram 2 pages ahead, the relay is shown getting power **ONLY** when the vehicle is cranking. This is recommended. The relay could get 12 volts at all times -- But for extended periods (days or weeks) of having the relay disable feature engaged, it may drain the battery excessively. There's no reason to have the relay energized 24/7 when it only needs to be energized when the engine is cranking.

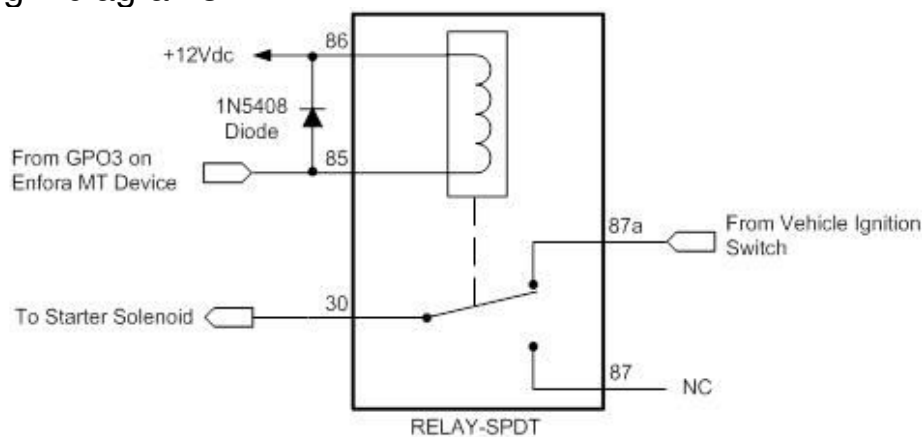
Relay Information

The relay included with the system has Negative Spike Supression built into it. This is because when a vehicle relay coil is de-energized, the collapsing magnetic field across the relay coil generates a substantial voltage transient in its effort to disperse the stored energy and oppose the sudden change of current flow. This large voltage transient can cause damage to the relay driver circuit.

If using a relay of your own that does not include Internal Negative Spike Supression, external Negative Spike Supression IS REQUIRED, either using a 2A diode or 82Ω resistor in parallel with the relay coil, with the diode cathode connected to pin 86.

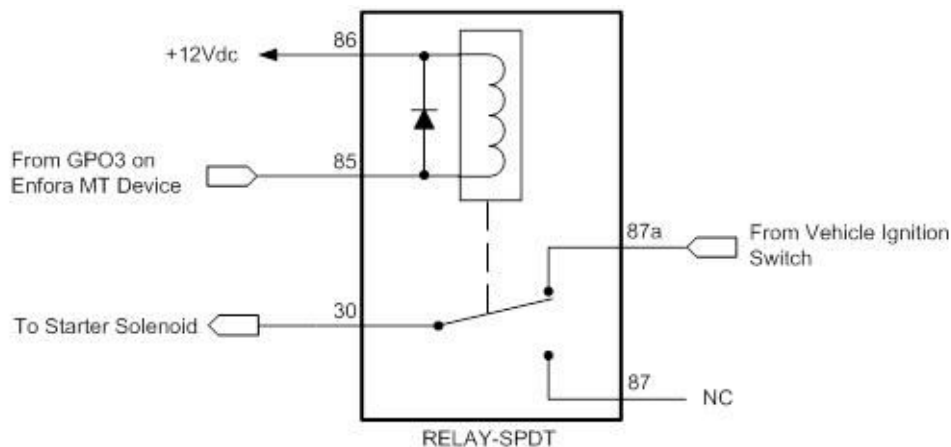
Diode Reference: Minimal 1N4007; Preferred 1N5408.

See the following 2 diagrams.



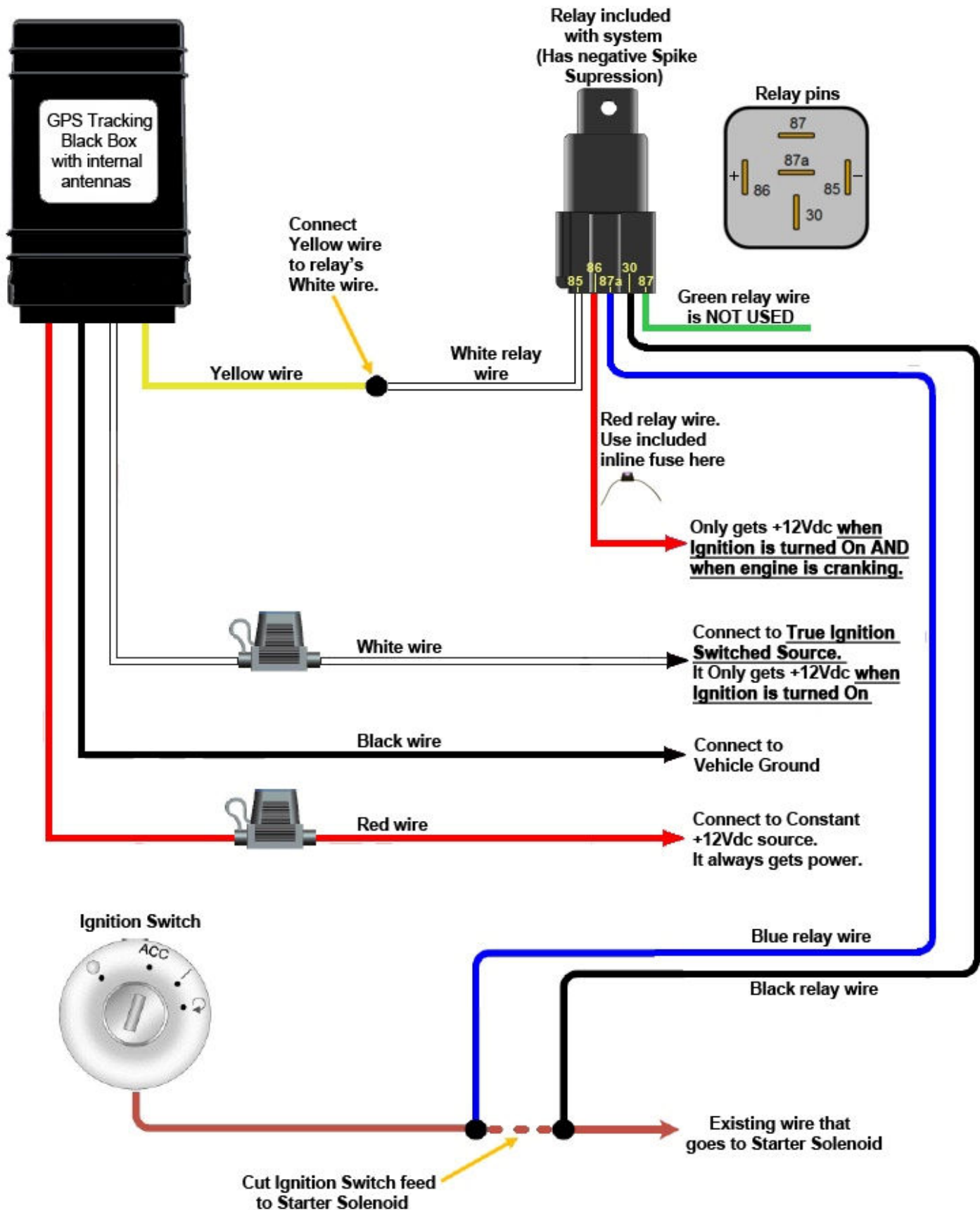
TYCO/ Bosch style relay or equivalent without internal negative spike suppression
(requires external Negative Spike Supression Diode)

OR,

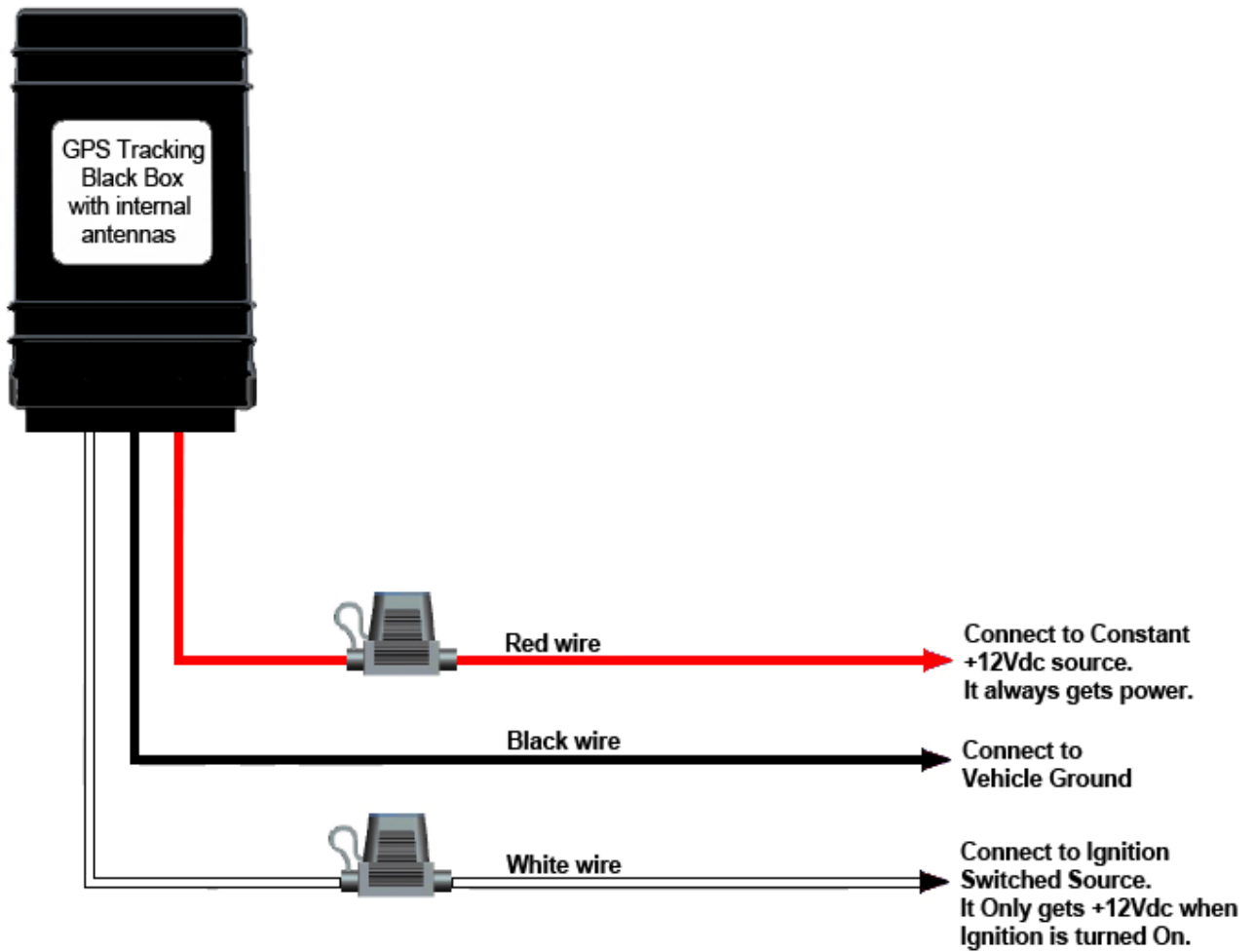


Beuler BU5084 Relay or equivalent
(with built-in Negative Spike Supression Diode)

5. Wiring Schematic with Optional Starter Disable Relay



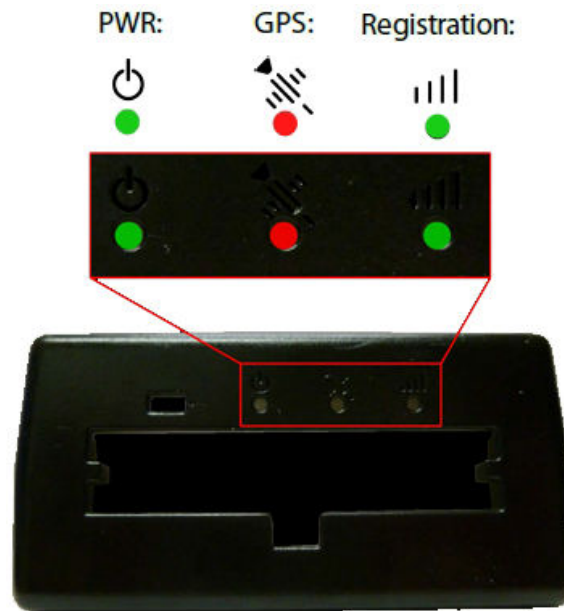
6. Wiring Schematic without Optional Starter Disable Relay









Note: There may be a yellow wire on the wiring harness. This is in case you'd like to utilize the starter disable/enable feature in the future. This yellow wire would then be used.

7. Powering the Device & Confirming Proper Operation

The device includes LEDs to indicate Power, GPS, and Registration status. All 3 LEDs will be On if everything is working alright. The following image shows the location of each LED.



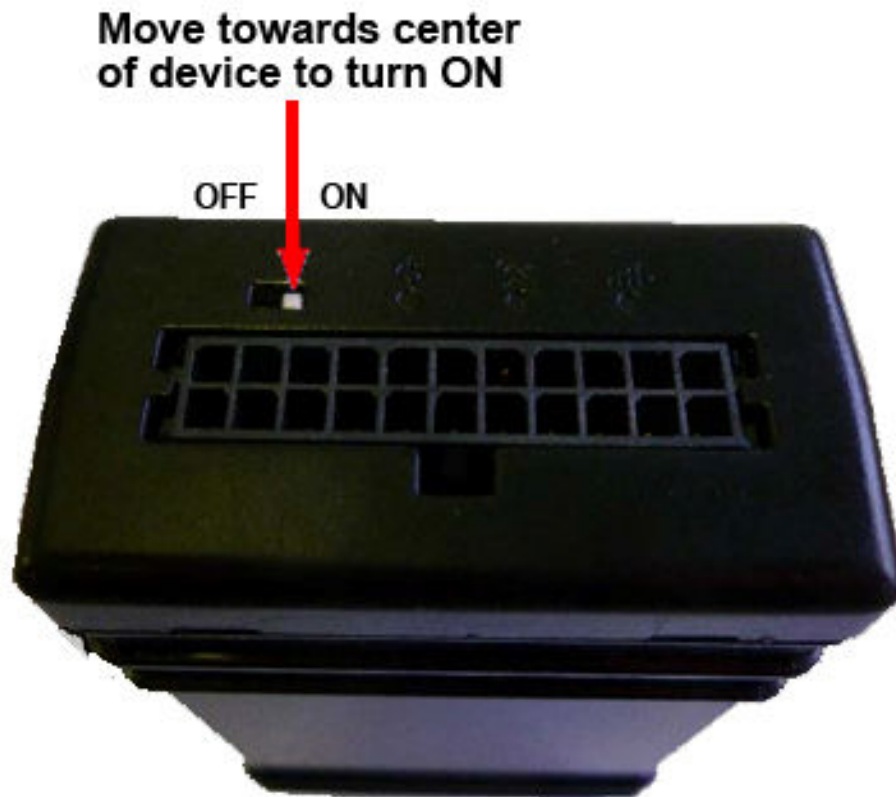
The LEDs are described in this table:

PWR:  	This LED indicates power to the GPS module. LED is on ~1 second after powered on and the GPS module is operational. This LED is off when powered off or when the device enters Low-Power Sleep mode.
GPS:  	This LED indicates GPS fix status. The LED remains On when it receives valid GPS data. The LED remains Off when it receives invalid GPS data.
Registration:  	<p>This LED indicates network registration status. If the LED blinks, it indicates that the device is trying to connect to the network. If the LED is always on, this indicates that the device has connected to the network. If this LED stays off, this indicates that the device is not attempting to register to the network.</p> <p>Approximately 3 hours after the ignition is turned Off, the device goes into a Low-Power Sleep mode. This LED is then the only one illuminated. In this mode, remote Starter Disable still works as usual. The device will awaken when the Ignition is turned On.</p>

8. Turn on Backup Battery

After the device is powered up, turn On the backup battery by moving the tiny switch toward the center of the device.

The following figure shows the MT 4100 Battery Disconnection Switch in the **ON** position.



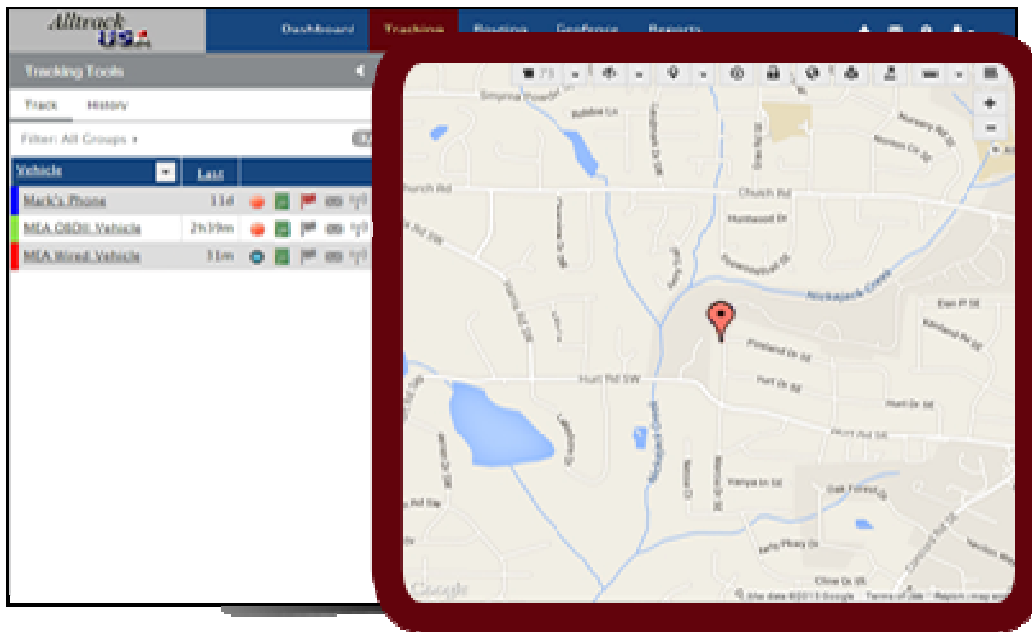
NOTE: If the Battery Disconnection Switch remains in the **ON** position with no external power applied (from the RED Power wire) for an extended period of time, then the battery may significantly lose its charging capability.

NOTE: When transporting the device by air, move the Backup Battery Switch to the **OFF** position before transporting.

9. Testing

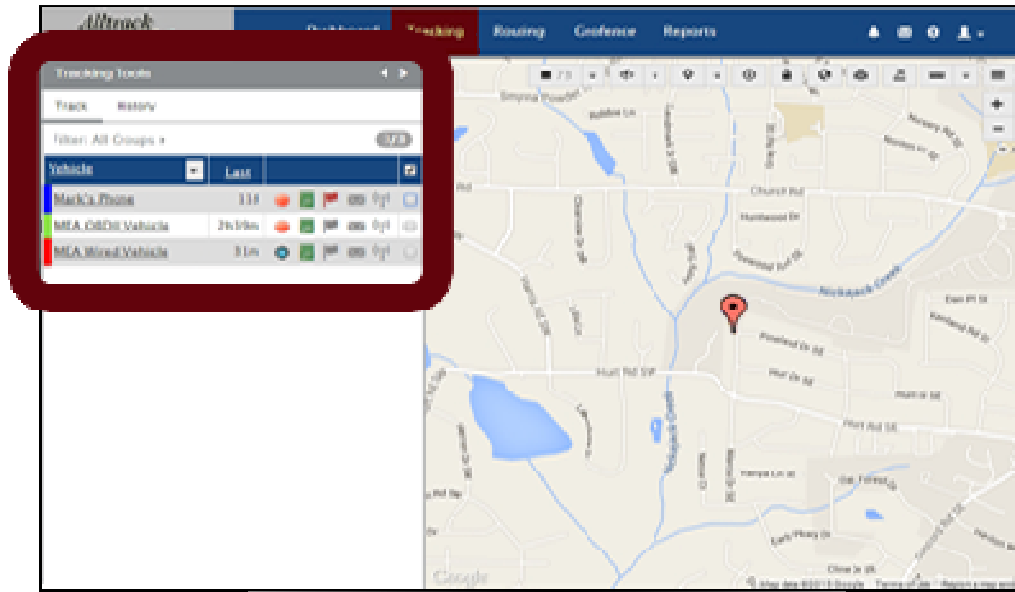
Congratulations, you have just installed the Internet based vehicle GPS telematics system. Now on to testing:

- Turn On the Ignition on for a few minutes (you don't have to start the vehicle) and then back off again.
- Go to a computer and access the Internet using your standard Internet browser.
- Go to the web page track.alltrackusa.com
- Enter customer login and password. Then click login.
- You will now see the tracking map. The vehicle should be where the map shows it to be.



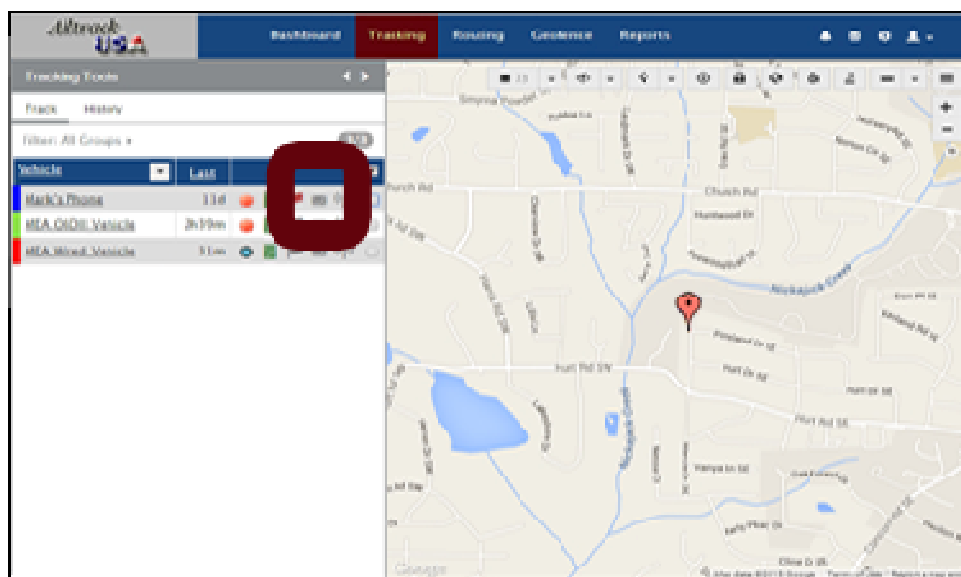
- On the left is a row listing the vehicle. The column 'Last' shows when the vehicle last called in, which should have been when you just turned On and Off the Ignition. So this should say something like '1m' for 1 minute or so.

If it says a high amount like 60 minutes, check that the white wire is connected to an Ignition Switched Source (Gets 12 volts when ignition is On only).

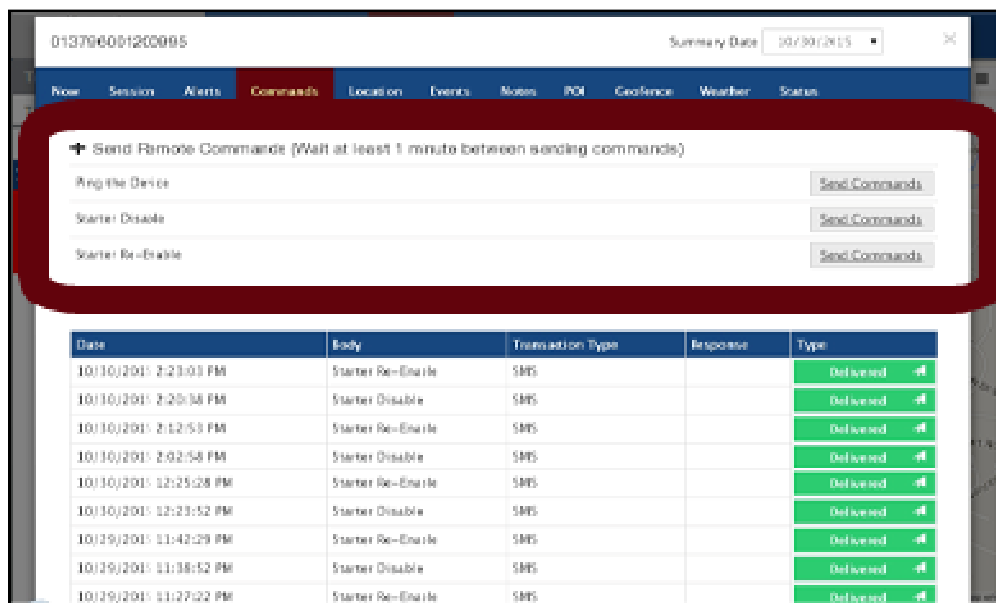


To test the optional Starter Disable:

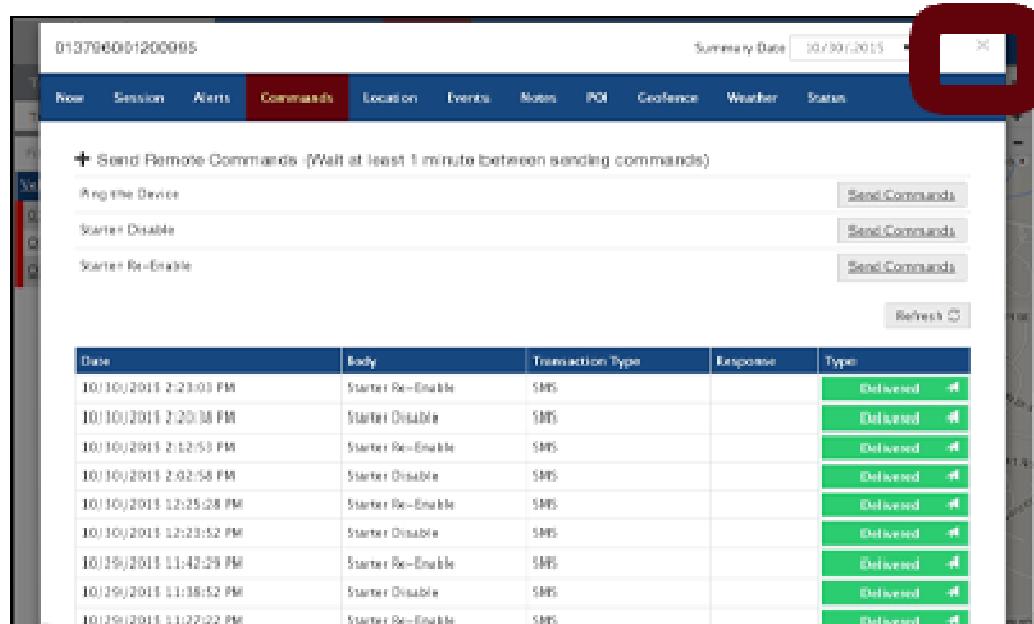
- On the left is a row listing the vehicle.
- Click on the 'Envelope' to communicate with & send a message to the device.



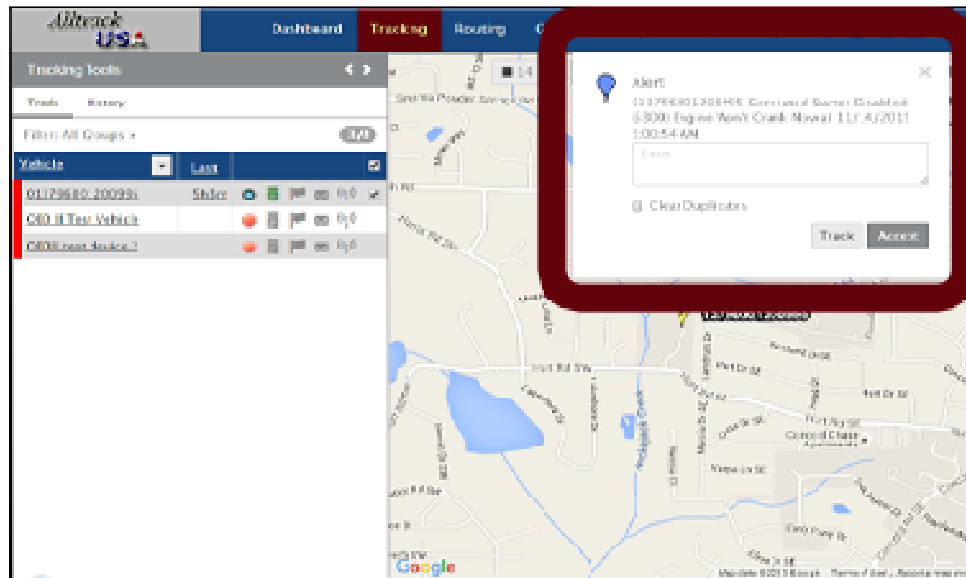
- Click on this text to see a pull-down list of available commands:
'+ Send Remote Commands (Wait at least 1 minute between sending commands)'
- To the right of the command 'Starter Disable', click the button 'Send Commands'.
(Only 1 command can be executed per minute. So if you'd like to send another, wait at least 1 minute.)



- Close the white popup by clicking the icon in the upper right corner.



- In the upper right corner, a popup should appear confirming that the Starter is Disabled. This means that the device should be sending a ground (through the yellow wire) to energize the relay to disable the starter.
- At the popup, click 'Accept'.



- Go the vehicle and try to start it. It should Not crank. If it does, check your wiring.

To Re-Enable the Starter:

- Click on the 'Envelope' to send communicate with and send a message to the device.
- To the right of the command 'Starter Re-Enable', click the button 'Send Commands'.
- Close the white popup by clicking the icon in the upper right corner.
- In the upper right corner, a popup should appear saying that the Starter is Re-Enabled.
- At the popup, click 'Accept'.
- Go the vehicle and try to start it. It should crank normally. If it doesn't, check your wiring.

To test the Backup Battery:

- On the vehicle, temporarily stop sending power to the device.
For example:
 - unplug it.
 - or pull the red power wire's fuse.
 - or disconnect the red power wire that's connected to the vehicle.
- In the upper right corner of the computer screen, a popup should appear saying that the Main Power was lost and device is on backup battery power now.
- At the popup, click 'Accept'.
- Re-attach red power wire fuse or wire to vehicle.

That's it for testing !!