ToughTrack PRO

Installation Guide

Overview

A minimal installation requires power, ground and ignition to be connected, and will only deliver GPS data. Before the device and tracking site are able to take advantage of remote **Input and Output (I/O)** functionality**,** the I/O must be wired appropriately **AND** the I/O must be configured on the CovertTrack site. See ***Naming the Inputs/Outputs** for more information.

LEDs   Top   Internal Antenna

Cables

Color	Signal Name	Description
Red	Power	Primary power 6-32 VDC
White	Ignition	Ignition/Input 0
Blue	Input 1 - bias low	Input 1 - Optional
Orange	Input 2 - bias low	Input 1 - Optional
Green	Output 0	Output - Optional
Brown	Output 1	Output - Optional
Yellow	Output 2	Output - Optional
Black	Ground	Vehicle or Chassis Ground

Installation

Check and verify Power, Ground and Ignition sources to ensure that the proper signaling exists. Be sure that the cables to the ToughTrack PRO are not bent or constricted in any way. Keep the ToughTrack PRO free from direct exposure to the elements (sun, heat, rain, moisture etc).

Connect Power, Ignition, and Ground

The power input (red wire) must be connected to a constant (un-switched) 6-32 VDC supply; preferably, connected directly to the vehicle battery terminal or as close to it as possible. This connection point should be fuse protected to not more than 5 Amps. The ignition input (white wire) must be connected to the vehicle ignition or another appropriate key operated line, such as ACCESSORY, ensuring that power to the ignition wire is available only when the vehicle ignition is on. The ground line (black wire) must be connected to chassis ground. Failure to connect these lines in the manner described may result in discharge of the vehicle battery.

For best results, it is strongly recommended that the ToughTrack PRO connection be on its own circuit. Connect the power input directly to the vehicle battery if possible and protect the circuit with an in line fuse. If you must connect through the fuse box, use standard commercial wiring practices to create a permanent installation rather than using press-in fuse clips or other temporary measures.
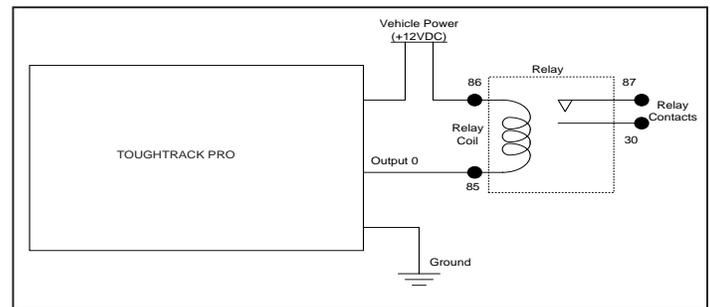
Status LED Behavior

Green   Solid - ON ..... Blinking - acquiring signal (green remains on behind orange LED)

Orange   3 quick pulses plus 1 long pulse – device is ready (standard working mode)

Inputs

The blue and orange input wires are bias low. When a 4-12 volt signal is provided, it trips the input. The inputs are configured so that when they are tripped for one second or longer, an alert is sent and a 15 second timer begins. If the input is tripped again within that 15 seconds, no additional alerts will be sent and the timer is reset. The input must settle before it can be tripped again.

It is important to note that inputs and outputs may not be instant. There may be as much as a few seconds to a few minutes of delay, dependent upon cellular coverage in the area at the time of activation.

Outputs

The ToughTrack PRO offers two outputs that are designed to drive external relays. These outputs provide a high-current, open-collector driver that can sink up to 150 mA. These outputs may be used with most standard 12 Volt automotive relays. Possible functions include, but are not limited to, door lock/unlock, and /or fuel pump disable to prevent unauthorized use of vehicle.

Note: fuel pump disable will cause the vehicle engine to stall and loose power steering, making it difficult for a driver to navigate in hazardous conditions. If a vehicle is in motion, use with caution.

Output Activation Outside Cellular Coverage Area:

If an output is activated while the device is outside of the cellular coverage area, the device will not immediately respond to the sent signal. Instead, the request will be stored and then activated upon re-entry into the coverage area. If the output is activated multiple times when out of coverage, the device will respond to the multiple activations upon re-entry.

*Naming the Outputs/Input

To name the input and outputs, choose the ACCOUNT link, found in the upper right corner of the CovertTrack tracking page. Find your tracker from the device list and choose Select for Update. Edit the text box adjacent to each colored wire. Name the wires according to the triggered event or alert programmed for that color during installation.

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Select Update. Repeat for as many outputs as required. Select the TRACKING link at the top of the page to return to tracking.

You will find the updated input and output names in the "Reports Panel" on the right side of the CovertTrack tracking page.

The control for the input is located within the SMS/Email section of the "Report Panel." The control for the outputs is located just beneath the Geo-Fence Settings.
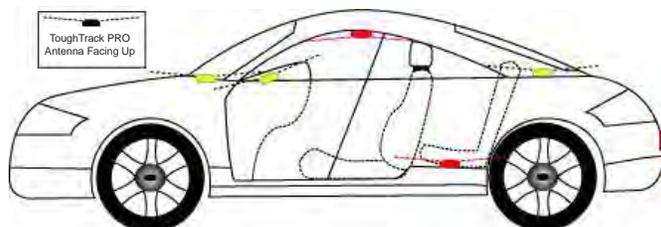
Placement of Tracking Device
Be certain that the installation point will not violate any of the ToughTrack PRO's environmental specification (temperature, moisture, etc.) as improper installation of the ToughTrack PRO may void the warranty. See the ToughTrack PRO Environmental Specifications for the exact specifications.

For best satellite reception, the unit should be placed horizontally with the light panel side facing up. Satellite signals will not penetrate through metal, therefore do not place the device in a location where it would be surrounded by metal such as in the vehicle trunk.
A typical installations will place the ToughTrack PRO under the vehicle dash board. Attach the ToughTrack PRO to the solid body of the vehicle, not to plastic panels. Make sure you can get access to the unit afterwards as under some circumstances it may be necessary to add additional wiring or connections to the ToughTrack PRO.

Internal Antenna Placement
The ToughTrack PRO uses an internal antenna for both GPS and Cellular. The GPS and Cellular antennas are located on right hand side of the ToughTrack PRO when looking at the front (see image above). It is more important to consider GPS performance over cellular performance, as GPS signal strengths are much lower than cellular network signals. Any blockage of the antenna can affect the tracking quality. In order to maximize performance, make sure that there are as few obstructions as possible close to the ToughTrack PRO that might block the view 360° to the horizon, with the best location being near the center of the dash with a full view of the sky through the front windshield.

Examples of OK (yellow) and Poor (red) internal antenna placements

ToughTrack PRO
Antenna Facing Up

Protection from Heat
It is best not to place the ToughTrack PRO unit in an unusually warm location such as directly near heater vents, near hot engine components or in direct sunlight. The maximum temperature that can be tolerated by the ToughTrack PRO is described in the ToughTrack PRO Environmental Specifications section.

Visibility of Diagnostic LEDs
Status LED lights on the front of the ToughTrack PRO unit can provide valuable information about the operation of the ToughTrack PRO. When feasible, attempt to install the ToughTrack PRO in such a way that these lights can be seen with reasonable ease.

Moisture and Weather Protection
Although the ToughTrack PRO unit is built with a fully-sealed, weather-resistant casing, it must be installed in a protected location, where it will not be exposed to direct or indirect water spray. Improper installation of the ToughTrack PRO may void the warranty.

Environmental Specifications
Operating Temperature	-30° C to 75° C (-22° F to 167° F)
Storage Temperature	-40° C to 85° C (-40° F to 185° F)
Humidity	0% to 95% relative humidity, non-condensing

Activation
Visit www.coverttrack.com to activate your ToughTrack PRO. Activation requires the barcode number found on the silver label at the bottom of the device. Allow up to 10 minutes to download the satellite data, while the ToughTrack PRO is outside with a clear view of the sky.

Coverage Area
The tracking device must be within AT&T/Cingular coverage to function. Coverage maps are available at: www.wireless.att.com/coverageviewer

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