

Commercial Vehicle Productivity and Security

The Guardian 6200 is a high-performance beacon designed for commercial vehicle applications that require location based services including productivity and security. It is ideally suited to installations in delivery and service fleets as well as public safety, mass transportation, utility, and off-road or construction vehicles.

Security features include vehicle theft detection and recovery as well as a means of connecting optional auxiliary sensors and panic buttons anywhere within the vehicle.



Kit Contents

- GPS Beacon device
- Combined GPS/GPRS antenna
- Wiring harness
- Mounting bracket and hardware
- Fuse panel connector kit

Tools/Supplies Required

- Wire cutters / wire strippers
 - Voltmeter (multimeter)
 - Soldering iron / solder
 - Electrical tape
 - Plastic cable ties
 - Screw drivers
 - Wrenches/sockets
 - In-line fuse holder (optional)
 - 2-Amp fuse (optional)
- } not necessary if using the fuse panel wiring method

1 Install Antennas

The Guardian 6200 comes with a combined GPS/GPRS antenna module. It is to be installed in a location where the GPS performance will be optimum. The integrated adhesive patch will allow easy attachment to a window or non-metallic panel.

Determine the best location for the GPS Antenna

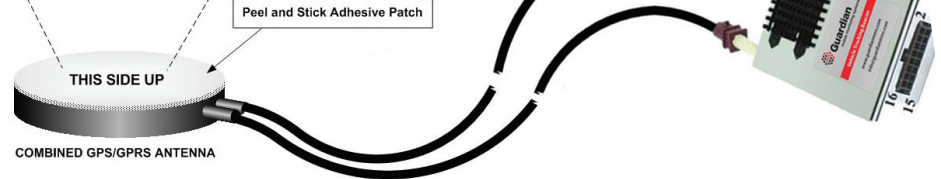
- The antenna is to be installed inside the vehicle – it is not waterproof or weatherproof
- The top side of the antenna module (identified by the peel-and-stick adhesive patch) must have a clear signal path to as much of the sky as possible
- If the installation is not required to be covert, an ideal location is on the front windshield glass
- For covert installations, an ideal location is under the dashboard, as high and close to the front windshield as possible (see diagrams)
- If installing in a car, the antenna can usually be mounted on the rear window or in the trunk, under the rear deck, as close to the rear window as possible

- If there is not a suitable flat mounting surface on which to stick the integrated adhesive patch, affix the antenna module in place with a caulking type adhesive or plastic tie wraps
- Coil and secure any loose or extra lengths of antenna cables - do not allow antenna cables to kink



- Signals will penetrate upholstery, carpet, plastic dashboards, etc., but not metal panels or brackets
- Signals will penetrate window glass but not metallic tinted windows or painted edges of windows
- Radio antenna or defrost wires embedded in glass may degrade signals

For best performance, the adhesive side of the antenna should face the sky through the area of least signal blockage



2 Beacon Installation Position

- Determine beacon installation position but do not fasten it in place until all wiring is complete
- Determine the best location for the beacon – a strong flat surface that can be drilled to accommodate the mounting screws is ideal. Any spot where the beacon can be fastened in place with plastic cable ties is suitable
- Under a seat is often a suitable location for beacon installation. Be sure it is not close to any heat sources or areas that experience moisture or vibration
- Visibility of the indicator LED will be useful for testing and troubleshooting. Adequate space for wiring must be available at both ends of the beacon

3 Connect Power & Ignition Sense

There are two options for connecting power and ignition sense

Option 1 – Direct connection to vehicle wiring

- Connect the wiring harness to all the vehicle's connection points before attaching the harness to the beacon
- If wiring harness wires need to be extended, use the same grade wire and solder the extension wire on, then insulate with heat shrink tubing or electrical tape
- Ensure that no wires are routed near heat sources
- With the vehicle's ignition turned off, use a voltmeter to assist in finding a suitable, uninterruptible 12 Volts power connection point – directly to the vehicle's battery may be best. Connect the yellow/white (power) wire to this point through an in-line 2-Amp fuse. (optional)

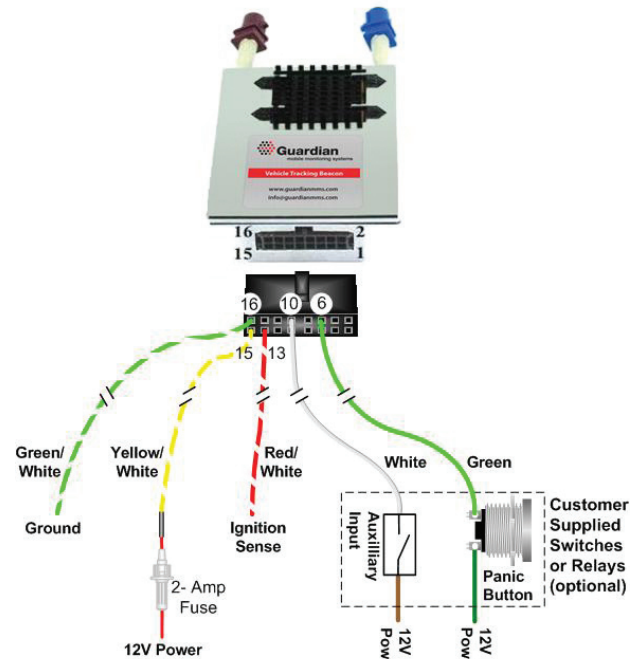
Power Connections

- Connect the green/white (ground) wire to battery negative or the vehicle chassis – this wire **MUST** be connected first, before the power or ignition sense wires. If a grounding screw is available, use the supplied ring terminal and crimp it on to the green/white (ground) wire. Be sure the grounding screw is not painted or coated with an insulating material.

Ignition Sense

- Find a source of 12 Volts that is switched on and off with the ignition key. This connection should produce 12 Volts when the vehicle is ON and 0 Volts when the vehicle is OFF. Connect the red/white (ignition sense) wire to this point.
- Ensure that any wires in the wiring harness that are not to be connected do not come in contact with power, ground, or any other voltage. Insulate them with electrical tape.

WIRING CONNECTIONS			
Colour	Function	Pin #	Specification
Yellow/White	12V Power	15	+10.8 ~ +32 VDC (2A max draw)
Green/White	Ground	16	0V
Red/White	Ignition Sense	13	High: +10.8 +32 VDC Low: 0V
Green	Panic Button (optional)	6	High: +10.8 +32 VDC Low: 0V
White	Aux Input (optional)	10	High: +10.8 +32 VDC Low: 0V
All other wires require no connection			

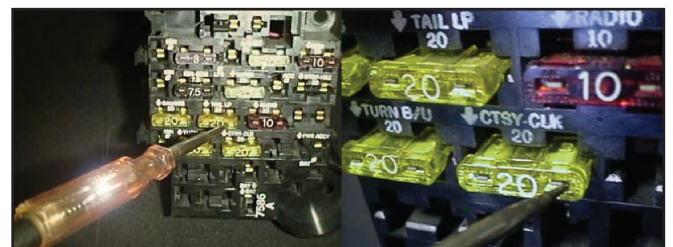
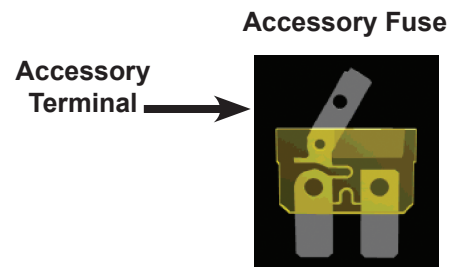


Option 2 – Fuse Panel Wiring Method

As an alternative to soldering connections into vehicle's wiring, the supplied fuse panel connector kit can be used for both the continuous power connection and the ignition sense connection. These accessory fuses are used as replacements for existing 20A (Yellow) vehicle fuses, and provide a fused connection point for the beacon, removing the requirement for an inline fuse.

Many vehicles have extra power connections available in the fuse box. These connections are also an ideal source of 12 Volts provided they are never switched off by any other vehicle function. Many vehicles have more than one fuse box or fuse block - check the vehicle's owner's manual.

- For the beacon's power connection, use a voltmeter or test light to find a fuse for a circuit that has continuous power when the ignition and all vehicle accessories are off.
- Replace this fuse with a supplied accessory fuse, flip up the accessory terminal, crimp the supplied spade connector to the power wire of the beacon wiring harness, and slide it onto the accessory terminal.
- Repeat the above procedure for the ignition sense connection, except select a fuse for a circuit that is switched on and off with the ignition.
- The beacon's ground wire will still have to be connected to the vehicle chassis or an electrical wire or connection point that is grounded to the vehicle. This can be done using the supplied ring terminal. Crimp it to the ground wire and screw it to the vehicle chassis. Make sure the screw and chassis are not painted or coated with anything insulating.



4 Connect and Mount Beacon

- Connect the two antenna cables to the beacon using the corresponding coaxial connectors
- Attach the wiring harness to the beacon and ensure that the retaining clip snaps in place
- Affix the beacon securely to the vehicle using the mounting plate and screws provided. Drill mounting holes as required
- If a suitable panel for affixing the supplied mounting plate is not available, fastening the beacon to a bracket or wire bundle with plastic cable ties is also adequate
- Coil and secure any loose or extra length wire

5 Optional Auxiliary Input and Panic Button

A auxiliary input and/or panic button may be connected to the beacon.

Auxiliary Input

- The Auxiliary input can be used to detect and report a change of voltage – both low to high and high to low. Connect a switch or relay from your alarm system or any other switched device to be monitored. When closed, the switch must connect 12 Volts power to pin 10 (white wire) of the wiring harness connector. When open, the switch must connect pin 10 of the wiring harness to ground (0 Volts) or to nothing at all.

Panic Button

- Following the wiring diagram, connect a panic button to pin 6 (green wire) of the wiring harness connector, connect the other terminal of the button to 12V power. The Panic button must be a momentary contact switch that connects 12 Volts power to pin 6 when it is pressed.

6 Test

- For the first test, the vehicle should be outdoors in an open area where GPS signals can be readily received
- Watch the indicator LED on the beacon for the first few minutes after all power and antennas have been connected. It indicates the following status:

Color/Action	Function
Green/Steady	GSM Connection established
Green/Flashing	GPRS Data being transferred
Orange/Steady	Searching for satellites – no fix
Orange/Flashing	GPS fix acquired

NOTE

It may take up to an hour for the wireless network and the GPS receiver to synchronize the first time the beacon is powered up.

- Ensure that the indicator LED is showing flashing orange.
- Perform an end-to-end system test by locating the beacon via the user portal