

## Introduction

The Contigo 1600 is a versatile GPS tracking beacon with many installation and configuration options. This installation guide provides instructions for an installation in a vehicle or asset with constant DC power, using the 1600 Vehicle Adapter Module (VAM).



## Applications and Contents

The 1600 is designed for productivity management and theft recovery of vehicles and other assets that have a DC power source available. It is ideally suited for installations in construction machinery, trailers and portable buildings, off-road, utility, and field service vehicles.

The beacon must be connected to an external DC power source but it contains an internal, rechargeable, backup battery that keeps it running for up to 4 hours even if main power is cut.

Please check the contents of the beacon kit to ensure it contains all of the following:

- 1 x GPS Beacon
- 1 x SIM card (installed)
- 1 x Vehicle Adapter Module (VAM)
- 1 x External GPS Antenna (optional)
- 1 x Mounting Bracket (optional)

## 1 Select Installation Location

It is important to select your preferred beacon location prior to beginning the installation to achieve the best combination of performance and suitability for your application.

The 1600 comes equipped with internal cellular and GPS antennas, but there is also the option of using an external GPS antenna. You would use the external GPS antenna option in cases where the beacon itself needs to be installed covertly or in a location that would impede the GPS signals (such as under the dashboard of a backhoe or other construction equipment). Note that the external GPS antenna must be purchased separately.

The guidelines below apply to either the beacon itself when using the internal GPS antenna or the beacon with the external GPS antenna attached. Make note of suggested alternatives for the two antenna options to help in your installation decision.

**Installing for optimal GPS performance:** To ensure the best GPS performance, select an installation location where as little metal as possible is between the beacon (or the external GPS antenna) and the sky. It's not the thickness of metal that counts — it's the percentage of the sky that is blocked by metal. Blocking the horizon is not as bad as blocking the view straight up. Non-conductive materials such as glass, plastic, wood, or fabric do not block signals.

**Orientation:** For best performance of both satellite signal reception and weather resistance the beacon should be mounted horizontally with the top facing the sky. It can be mounted on top of a horizontal surface or under a horizontal surface (non conductive). If you are using the external GPS antenna, the top of the antenna should face to the sky. Also, if using the external GPS antenna, the orientation of the beacon is not as important, as cellular signals are more robust than GPS signals.

**Environment:** The beacon is weather resistant but can not be submerged or exposed to forced water spray such as in the wheel well of a vehicle. It may be enclosed in a sealed plastic container for added durability.

**Visibility:** As a theft recovery device the beacon should be installed covertly. If it is easily seen and identified it will likely be removed or destroyed.

**Power proximity:** If DC power is not available near the mounting location, extension wires will need to be added.

**Temperature:** The beacon is specified to function between 15°F and 130°F (-10°C and +55°C). Do not mount the beacon near hot engine components.

**Vibration:** Do not attach the beacon to vehicle components that experience high levels of Vibration.

**DO NOT mount the beacon yet.** All wiring must be completed first.

**Suggested installation locations  
(if they meet the parameters described above):**

- Under the dashboard or control panel
- Under a seat
- On the roof (consider enclosing in a sealed plastic housing for added durability)
- Under any non-metallic shroud or cover plate

## 2 Installing the External GPS antenna (optional)

If you are using the external GPS antenna with your installation, start by selecting the location for the antenna. Mount the antenna with the top of the antenna facing the sky. The antenna has a built-in magnet for quick installations, but you may wish to use glue or epoxy for a more secure installation.

Run the antenna wire to the beacon, ensuring that the wire will not be pinched or kinked, as this will degrade the GPS signal transmission to the beacon.

On the beacon the external antenna plug should be capped with a circular screw cover (see photo). Remove the screw cover and plug the antenna into the connector. The antenna should click into place and create a secure, tight connection. Do not force the antenna into place as this may damage the beacon or the antenna.

**Note: if you are using the external GPS antenna, the beacon is no longer entirely weather resistant and should be enclosed in a weatherproof container if you are installing the beacon outside of a vehicle.**



## 3 Connect Power and Insert VAM

If the Vehicle Adapter Module (VAM) is attached to the beacon, first remove it by unscrewing the cover plate, pressing the two release mechanisms, and pulling the VAM out of the beacon chassis. The VAM must be disconnected from the beacon prior to connecting power.

The VAM must be connected to a continuous, non-switched source of DC power in the range of 9 to 32 volts DC. The red wire is the positive lead and the black wire is ground. Ensure with a voltmeter that the voltage source remains on when the vehicle's engine is off.

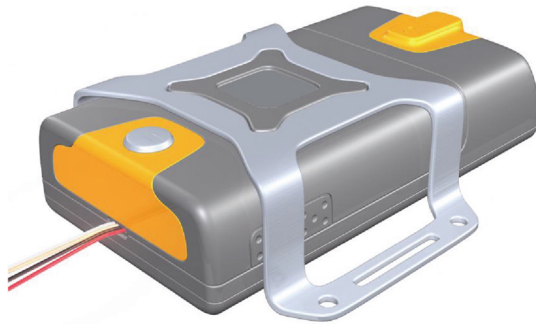
The two yellow wires are not used in this installation. Coil them up and tape the ends off using electrical tape, but do NOT clip the wires off as they may be used for future features as they become available.

Once the power connections are complete, insert the VAM into the beacon. You may need to remove a molded rubber spacer from the channel where the VAM wiring exits the beacon. Secure the VAM to the beacon by first snapping it in place then positioning the wires into the channel with the molded rubber sealer. After the VAM is in place, position the removable cover over it and fasten it in place by tightening the threaded fastener—do not over tighten.

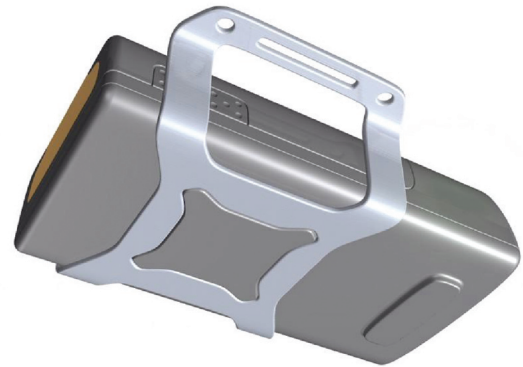
### 3 Mount and Test The Beacon

Check the indicator LED to see that power is on. For the first few minutes the indicator LED may be on steady but should begin flashing, especially after commands have been sent to the beacon from the servers. Control commands are initiated via the user's portal.

Fasten the beacon solidly in place (at the previously selected installation location) using either the optional mounting brackets (sold separately), cable ties, or another secure and robust mounting method.



Mounting above a surface



Mounting below a non-conductive surface

If you are using the mounting bracket, note that the bracket fits either over or under the beacon. Attach the bracket to the vehicle or asset using either screws or plastic cable ties.

When the initial installation is complete, you can use the Scenario Manager in your Commercial web portal to configure the beacon settings.

**IMPORTANT NOTICE:** It may take 20 minutes or longer for a beacon to acquire GPS signals when it is first installed. The beacon will require a clear view of the sky during this time.