

BTT1200 Series Hybrid Asset Tracker Installation Guide



Your Btracking BTT1200 series tracker arrives ready to install, with the latest firmware and software pre-loaded and an activated data plan. The unit has been tested at our lab and is guaranteed to track once installed into your vehicle, trailer, machine or powered equipment.

Prior to installation, thoroughly review and adhere to the following:

- Use only a Digital or Analog Volt Meter - DO NOT USE TEST LIGHT!
- Check for possible installation locations for the GPS unit prior to permanent installation.
- ALWAYS LOOK BEFORE DRILLING. Make sure that the installation process does not cause damage to any part of the machinery or equipment!
- Make note of the unit ID number (ESN or IMEI number printed on the label) prior to installation.

Tools Needed:

- Metric and standard socket set
- Screwdriver set
- Side cutters, wire cutters
- Wire strippers
- Pliers
- Terminal crimpers
- Digital multimeter
- Electrical tape
- Flashlight

NOTE: It is highly recommended that a digital multimeter be used when probing electrical systems to prevent damage!

Installing and Mounting

The GPS unit works best with a clear view of the sky and as much of the horizon as possible with no metal between it and the sky. Metallic objects between the GPS unit and the satellites will degrade the signal and reduce performance. For best signal acquisition, the roof of the trailer/machine is the recommended mounting position (this requires extending the wires on the unit to reach the trailer/machine wiring socket). You can also mount the device on the front of the trailer/machine as pictured below. For refrigerated trailers, the device can be mounted inside the refer shroud and you can use the refer unit's battery for the external power source.

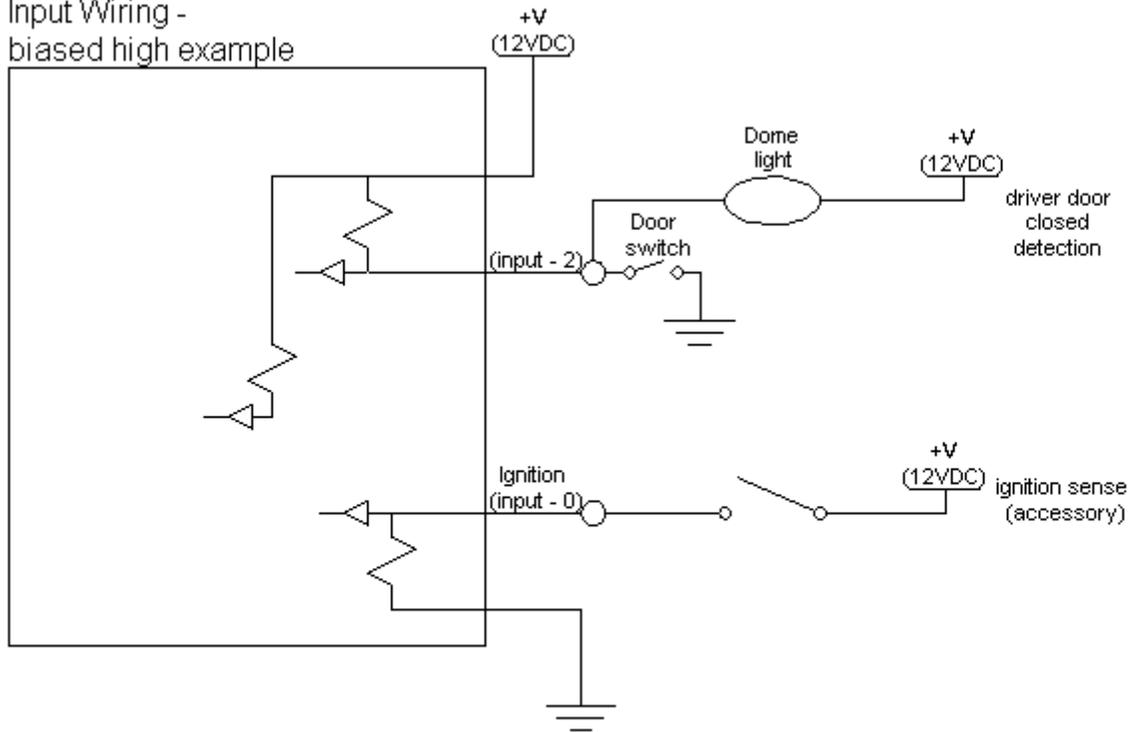
The GPS unit can be installed on any type of vehicle, trailer, machine or powered equipment. The unit should be mounted so it will not be exposed to damage from people or objects. The GPS unit has tabs for mounting screws or you can use epoxy or double-sided tape to attach the unit to your trailer or machinery.



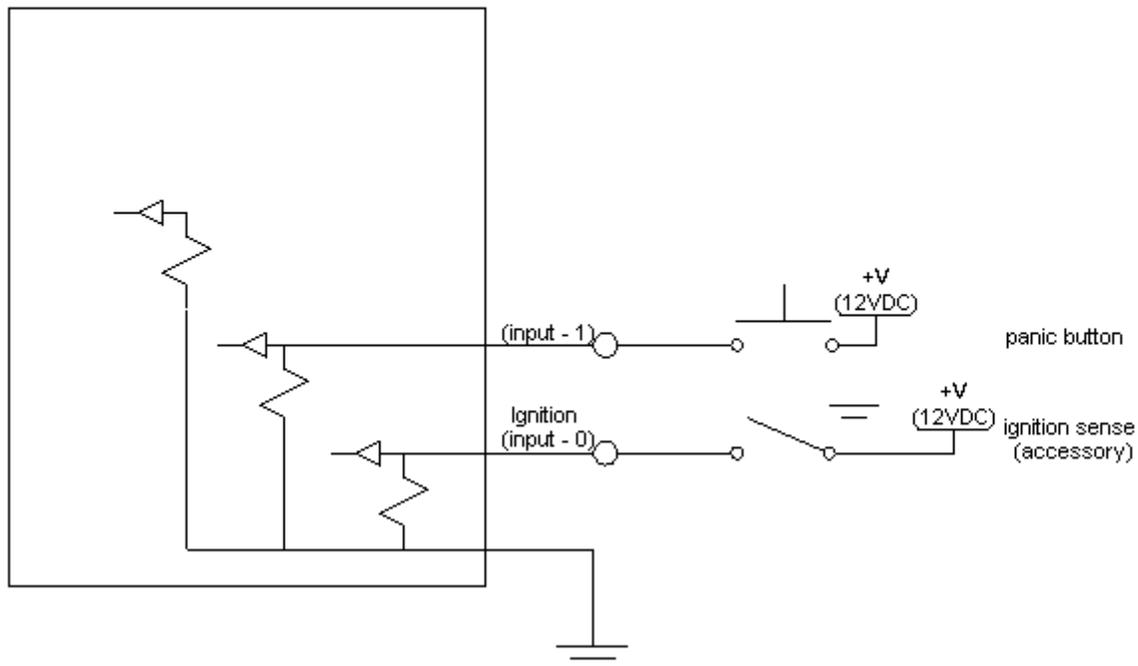
The BTT1200 provides up to 5 external inputs and one internal. The external inputs are protected from typical vehicle/machine transients and can be directly connected to most vehicle level logical inputs from 4 volts up to the vehicle/machine power input level (typically 12 VDC). Their input impedance is approximately 10k Ω . One of these inputs is dedicated to sensing the ignition status to provide for flexible power management. The other two inputs may be used to sense inputs such as cooling unit operation, a hidden driver "Panic" switch, taxi on-duty/off-duty meter status or many others.

The ignition input is pulled to ground through the 10k resistance, where the other inputs can either be normally High (i.e. pulled to +12v through a 10k Ω resistor) or Low (i.e. pulled to ground through a 10k Ω resistor). Input 1 is always biased low, while inputs 2-4 are biased high. The sample diagrams below show how to connect the inputs in both a high and low-biased configuration:

Input Wiring -
biased high example

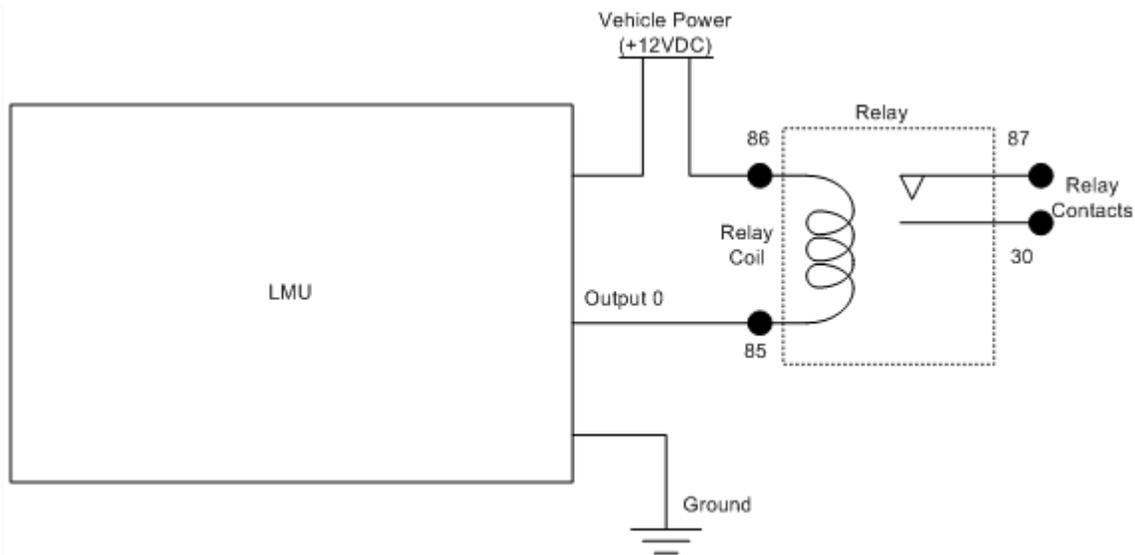


Input Wiring -
biased low example



Outputs

The BTT1200 outputs are designed to drive external relays. These outputs provide a high-current, open-collector driver that can sink up to 150 mA each. These drivers may be used to drive external relays that can then control vehicle functions such as door locks, fuel shut-off valves, sirens and lights. If additional current is required to drive the relays, external circuitry can be added to source the current. This diagram is a typical use of an output to drive a relay.



Note: Trackers are shipped with NO charge on the internal battery. It **MUST** be attached to a power source to be powered; it takes 24-48 hours to completely charge the internal battery.

Details for Truck Trailer Connections

RED and White (+) 12 volt input when connected to truck

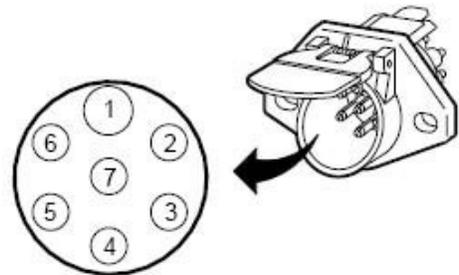
Locate the Red wire and the White wire found on the cable connected to the GPS unit. The red wire AND the white wire must be connected to a 12-volt source from the vehicle that will be connected to the trailer. It's important that the 12 volt power source maintains 12 volts at all times the trailer is in motion.

BLACK (-) chassis ground input

Locate the Black wire found on the cable connected to the GPS unit. The black wire must be connected to a solid chassis ground uninhibited by paint or plastics. It is important that you do not use any floating grounds from the vehicles electrical system. Always connect the ground directly to the chassis body and secure with a factory bolt or aftermarket screw insuring wire to metal connection. It is also advised that you connect a jumper to the pin in your trailer wiring socket that is the "Ground return to towing vehicle"

SAE J560 and J1067 Wiring Circuits

Terminal	Color	Lamp and Signal Circuits
1	White	Ground return to towing vehicle
2	Black	Clearance, side marker,
3	Yellow	Left turn signal and hazard lamps
4	Red	Stop lamps and antilock devices
5	Green	Right turn signal
6	Brown	Tail and license plate lamps
7	Blue	Auxiliary



Note: It is imperative that the unit's wiring is connected to pins that will be powered by ALL trucks in your fleet. Use a multimeter to check the connection coming from your trucks to verify how your trucks are wired. If a large percentage of your trucks do not provide power to the auxiliary power pin you may consider wiring the units to the marker lights. (Under this scenario the device will ONLY receive external power when the lights are on. If you use this method we strongly recommend you have your drivers always drive with their lights on.)

WARNING: IT IS IMPORTANT THAT ALL WIRING CONNECTIONS ARE SECURE AND WATERTIGHT FOR RELIABLE OPERATION OF THE UNIT.

Activating the BTT1200 Series

Prior to the initial powering of the unit, move the vehicle or machinery outside so that the GPS receiver can receive signals. Upon initial power up of the BTT1200, the LEDs on the side of the unit should begin flashing. If after 60 seconds no LED is flashing, check the power connections.

LED Status Indicators



Orange LED (GSM/GPRS Cellular)	Green LED (GPS)
Blinking-Tracker on, searching for wireless signal	Blinking - GPS is on, searching for satellite signal
Patterned Blinking - Signal acquired, unit trying to establish connection to the communication server	
Solid - 2-way communication with server is established	Solid - GPS lock is established

View on Your Mapping Platform

Once the unit has been powered on for 5 to 15 minutes, it will send a “power-up” message to the mapping platform. To view the location of the vehicle/machine/equipment on your mapping platform, contact support@btracking.com or call 1.866.233.0953 and provide your account name, group name, machine or equipment identifier, and the ESN or IMEI number printed on the label of the tracker.

Troubleshooting

Issue	Possible Cause
Unit Does Not Power-up	Power is not connected to the unit. With a digital volt meter, measure the voltage at the input to the unit. A positive voltage should be measured on the + terminal of the unit when measuring between the + terminal and the - terminal or chassis ground. This voltage should also measure 12 VDC. Correct the wiring to assure the correct polarity and the correct voltage level. Check fuse. Make sure the ground is connected directly to metal with no paint or residue. Use a digital multimeter to test continuity to ground to ensure good connection.
Unit Does Not Find Cellular Service (Orange LED is not solid)	Usually due to poor signal strength or interference. Move the unit outside (or outside of vehicle/machine if necessary) and re-apply power to the unit. Move vehicle/machine to try to acquire a better signal. If problem persists, contact Tech Support to troubleshoot as it may indicate an improper configuration or an issue with the tracker's modem.
Unit Does Not Receive a GPS Signal	Make sure GPS (Green) light is solid if not, make sure that the unit's label is facing skyward and that there is no metal between it and the sky including but not limited to the roof of the vehicle and any dash bracing. If it is, the move the vehicle outside of or away from any building/garage to allow the internal GPS antenna in the unit to have a clear view of the sky. You may need to power the unit outside of the vehicle as some vehicles may have metallic or leaded windshields. Contact tech support if problem persists.