

Asset 5000 Hardware Installation Guide

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Installation Overview

This document includes detailed instructions for installing the Asset 5000.

Asset 5000 is a certified quad-band integrated platform that provides GPRS/GPS functionality for mobile asset monitoring. The Asset 5000 has the following features:

- Rechargeable battery, 3 hours to fully charge the battery.
- Battery life up to 10 days with continuous tracking and up to 3 months with 2 pings a day.
- Superior GPS Sensitivity & Geofencing.
- Simplified Over the Air Configuration & Provisioning.
- Weatherproof cable to provide external power.
- Length (3.5 inches), Width (2.125 inches), Height (0.93 inches).
- Input Power: 9-30V.



Tools Required

1. Wire Cutters
2. Wire Stripper
3. Multimeter (Voltmeter)
4. Electric tape
5. Plastic cable ties
6. Mounting screws, screw drivers
7. Socket Wrenches
8. MISC Supplies (Velcro Strip, Double stick tape, and wire ties)

**WARNING: DO NOT POWER THE DEVICE UNTIL ALL CABLES ARE PROPERLY CONNECTED
DO NOT MOUNT DEVICE UNTIL YOU MAKE SURE THAT CABLES ARE THE RIGHT LENGTH.**

Please take the following precautions for device mounting.

- 1. For covert installation, under the dash board as high and close to the front shield as possible.**
- 2. There should not be *any metal* around the device to block the radio signals.**
- 3. Make sure the side without the label is facing the sky. Top side should be facing the sky as shown in picture on page 2.**
- 4. In order for Quick breaking, hard acceleration, and cornering to work properly the device must be installed at level and should not be able to move.**
- 5. For external mounting (*such as trailers*) the side where the wires go into the device must be pointed towards the ground (i.e. mounted on a vertical surface with wires pointed down).**
- 6. Device cannot be pressure washed.**

Step 1: Installation planning

Verify Power, Ground and Ignition. Be sure to check each source (power, ground and ignition) to ensure that the proper signaling exists. This is typically accomplished with a multi-meter.

Before drilling any holes or running any wires, decide where each hardware component will be located. Be sure that the cables to the Asset 5000 are not bent or constricted in any way.

Be advised that an installation that violates the environmental specifications of the TTU will void the warranty.

Step 2: Device Installation

1. Please write down the ESN number on the device prior to device installation. The ESN number is located on the white sticker towards the top, as shown in the picture.
2. If mounted outside, orient device so the grommet where the wires exit the device is pointed towards the ground. If mounted inside orient so the sticker faces the ground the LED lights face the installer for visibility.
3. Device needs to be level, and mounted using the provided screws in the mounting holes or industrial strength hook and loop fastener (example: 3M Dual Lock).



ESN Number

Mounting Hole

Important:

If device is being mounted on the outside of a vehicle it must be on a vertical surface with the grommet where the wires go into the device pointed towards the ground. Also, device cannot be pressure washed.

WARNING: Asset 5000 must not be installed near the heating vent and cannot be pressure washed.

WARNING: In order for accelerometer (Quick acceleration, hard breaking, and cornering to work). Asset 5000 must be mounted as shown and leveled.

Step 3: Equipment Wiring with Ignition Wire

We highly recommend this method for installation, so you don't sever any wires in the vehicle:

- 1. Strip about a 1 inch section of insulation off the wire in the vehicle and the same off the end of the wire coming from the device.*
- 2. On the wire from the vehicle, separate the individual wires to make a hole and put the bare end of the wire from the device through the hole.*
- 3. Now wrap the device wire around the outside of the wire from the vehicle.*
- 4. Solder this connection and wrap it in electrical tape. For the ground, use ring terminal end connector and ground to bare metal on the chassis.*

White: *Ignition sense wire* should be connected to *Vehicle ignition sense*, which connects to the battery, only while the ignition switch is on.

Note: NOT the starter wire, the ignition wire.
Find a source of 9-30V that is switched on/off with the ignition key. The connection should produce 9-30V when the vehicle is on and 0V when the vehicle is off.

Red Wire: Constant power wire, connected directly to a line coming from the battery.

Black Wire: Ground wire, must be secured directly to a ground screw tied to the vehicle chassis.

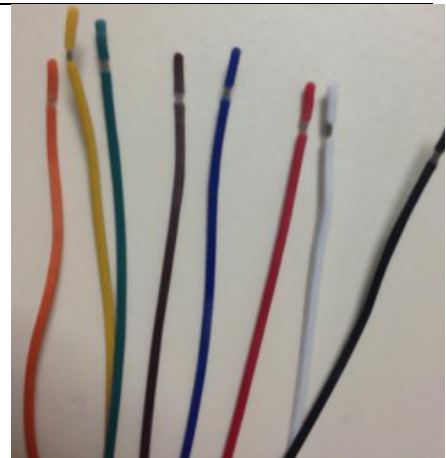


Step 3b: Trailer Tracker wiring with NO ignition wire

The manufacture recommended way to hook up this device is through the running lights, but this only works if it is standard operating procedure for the vehicles to drive with running lights on. The red and white wire need to be connected together to constant power when the trailer is hook up to a tractor. Alternative option is to connect through the ABS brake system.

Red and White wire: connected directly to a line coming from the battery or constant power.

Black Wire: Ground wire, must be secured directly to a ground screw tied to the vehicle chassis or ground wire.



WARNING:

- Operating Temperature: -30°C to +70°C when on direct power.
- Operating Temperature: -10°C to +60°C when on internal battery power.
- The battery is able to charge only between temperature +5°C to +45°C.
- Storage -40°C to 85°C.

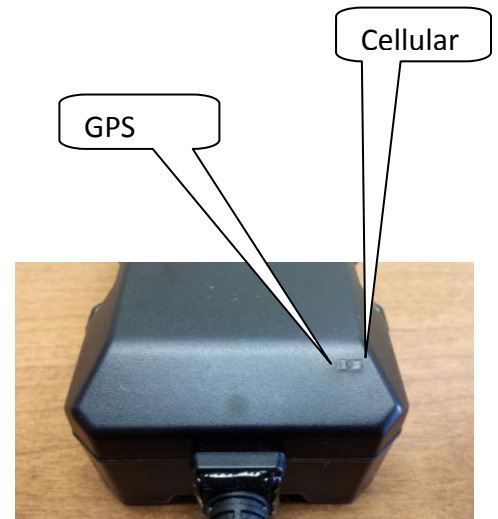
Step 4: Verification

After the installation is complete, turn on the vehicle ignition (it is not necessary to start the vehicle). After 1 minute, please observe the LEDs. They should be illuminated and not blinking. If any of the LEDs are blinking check the connections.

POWER: **Amber LED** indicates power to the module. This LED is on when power is turned on and the GPS module is operational. The LED is off when power is removed and the internal battery is dead or when the Asset 5000 enters standby mode.

Cellular: **Amber LED** also indicates Cellular connection status. The LED state of slow blink indicates that the device is not attempting to connect to the cellular network. A rapid blinking amber LED indicates that the device is trying to connect to the network and a solid amber LED indicates that the device is connected to the cellular network.

GPS: **Green LED** indicates GPS fix status. The LED will flash slowly when invalid GPS data is received. A rapid blinking green LED indicates that the device is trying to connect to satellites. The solid green LED means that it has a valid GPS lock.



WARNING: When the device starts, LED is blinking, if it stays blinking than there is problem with cellular connection.

Step 5: Installation Verification Process

Have the vehicle outside so it can get a good GPS and Cellular signal.

1. Install the device and wait for 5 minutes.
2. Turn the vehicle on and let it run for 5 minutes.
3. Turn the vehicle off and wait for 5 minutes.
4. Turn the vehicle on again and let it run for another 5 minutes.
5. Turn the vehicle off and wait 10 minutes.
6. Installer or customer will call IndusTrack support to confirm correct installation of device. Support phone number is 612-746-4017 x2
 - a. IndusTrack Support will confirm
 - i. Ignition On/Off working as expected
 - ii. RSSI number of the cellular signal strength
 - iii. Number of satellites and HDOP number
 - iv. Check PTO if applicable
7. Installer should also provide pictures of wiring (only for units that has wires) as well as location of devices (non OBD ii devices only) in the vehicle.
8. One week following the installation of the final device, IndusTrack support will have a call with customer to confirm device behavior and sign off on installation.

Connector Pin Out

Pin Number Functionality

Lead Color	Description	Input or Output
Black	Ground	Ground
Red	Power	Power
White	Ignition	Input
Blue	Input 1--Panic Switch	Input
Orange	Input 2--PTO	Input
Green	Output 0	Output
Brown	Output 1	Output
Yellow	Output 2	Output

Table 1 - 8 Pin I/O Connector Interface

Tie all the unconnected PINS and use the electric tape to seal.



FAQ

Q) What causes Intermittent failures?

A). The main cause of system failure over time is vibration causing metal fatigue in wires. The key to dealing with this is to secure all the wiring so it doesn't flex with the vibration. Zip-ties, electrical tape and silicone glue are all good choices for securing elements of the system.

Contact Information

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