

INSTALLATION GUIDE

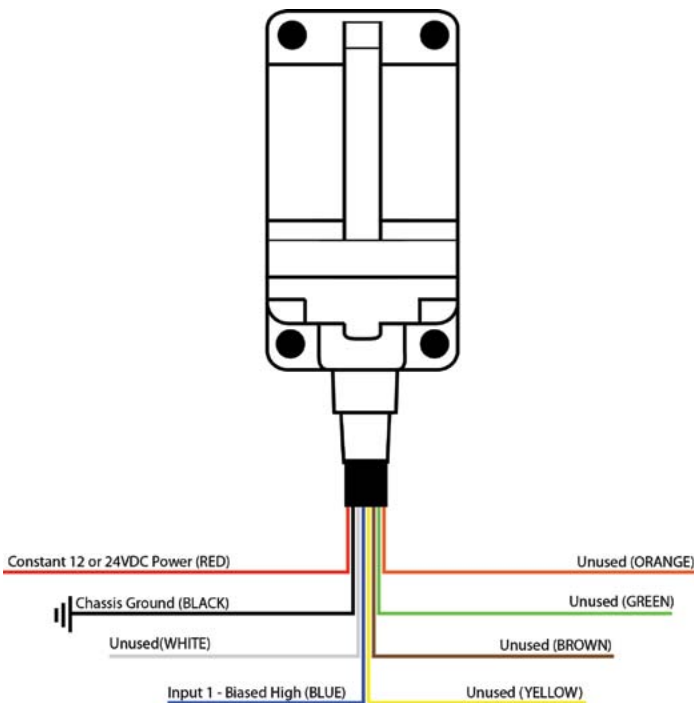


Getting Started

Kit Contents:

- Tracking device (with internal antenna & attached wiring harness)

Wiring Diagram:



WIRING DESCRIPTION:

RED	12/24 VDC Constant Power
BLACK	Chassis Ground
WHITE	Not Used
BLUE	Input 1 (biased high)
YELLOW	Not Used
BROWN	Not Used
GREEN	Not Used
ORANGE	Not Used

Tools Required for Installation:

- Portable 12 VDC power supply
- Voltmeter or test light
- 7-way pigtail adapter
- Cordless power drill
- 1/8-inch drill bit
- Wire stripper/cutter/crimper
- Tube silicone caulk
- 1/8-inch grommet
- Dielectric grease
- Roll electrical tape
- Ring terminal ends
- (6) #10 x 3/4 Teks hex washer-head drill point self-tapping-screws
- 10/32 nuts
- Cable clamps

Biased Low: Input is pulled to ground by default and will sense when voltage is applied to it.

Biased High: Input is pulled to a voltage by default and will sense when it is connected to ground.

Mounting the Device:

Preferred device placement is on forward-facing bulkhead near 7-way receptacle with wires pointed downward.

- List each device serial number and corresponding trailer ID number for the customer.
- The serial number will be covered after installation so be sure to write it down before placing device.
- Locate 7-way receptacle.
- Analyze trailer to determine best place to mount device.
- Device must be within ample reach of 7-way receptacle.

Place device on designated spot and secure with four #10 x 3/4 Teks hex self-tapping screws



Various locations for the 7-way receptacle, photos left and center. Photo on right is an example of proper device placement.

Running the Wiring Harness:

This device requires a constant 12 or 24 VDC power source and an asset ground connection.

- Remove bolts that secure cover to 7-way receptacle.
- Gently pull 7-way receptacle housing cover to expose inside of receptacle.
- There are 3 different routing options for the GPS wiring harness. Select best option for your application from below:
 - Run to inside of 7-way receptacle as shown in photo, OR . . .
 - Drill a hole in housing case of 7-way receptacle and run as shown in middle photo on right OR
 - Drill a hole in trailer close to 7-way, then run to back of 7-way receptacle case, photo right.
- Select your option and route wiring harness.
- If drilling is required, fit hole with 1/8" grommet.
- Apply silicone sealant around grommet.
- Install cable clamps to insure all wiring is secured to trailer.
- Check length of wires on GPS wiring harness and trim excess. Do not coil excess in receptacle housing.
- Locate RED and BLACK wires, pull to the side and fold remaining excess wires over outside of wiring harness.
- Wrap remaining excess wire with electrical tape so all ends are securely covered.



BEWARE! Handle 7-way with care to keep wire connections intact – trailer wiring harness & components are typically attached to cover.



BEWARE! All wires should be flush with the trailer surface. Pay particular attention to recessed areas – to protect wires from hazards that could catch or pull on them, run wire flat against trailer into recesses.



Locate Your Power Source:

Device requires constant 12 or 24 VDC power source to operate and recharge internal battery. Ground wire must be attached to an asset ground.

- Locate AUX/ABS terminal and center pin terminal inside the 7-way trailer plug. The AUX/ABS (+) should be the top terminal. The center pin terminal will be in the middle (-)



Note: The AUX/ABS line is the preferred power source. If unsure about constant power or AUX/ABS lines can't be located, use a digital voltmeter to locate an alternate power terminal.

Connecting to POWER and GROUND:

- **POWER:** Secure RED wire from wiring harness to AUX/ABS terminal blue wire of 7-way (or other constant power source) using wire stripper/cutters and ring terminals.
- **GROUND:** Secure BLACK wire from wiring harness to white wire in 7-way receptacle using wire strippers/cutters and ring terminals
- Secure electrical connections first, then apply dielectric grease to both power and ground terminals to protect connections.

Confirm Connectivity:

- Confirm all splices made for power & ground connections are firmly attached.
- Confirm all splices are well-insulated from other connections or potential shorts.
- Confirm all loose wiring and slack has been reduced and secured.
- Place the 7-way receptacle cover on the housing.
- **Beware! Do not pinch wires during re-assembly.**

Operation Verification:

- Connect an external 12 VDC power source to the 7-way receptacle and power on. You must have 12V to wake each device from the shipping hibernation mode.
- A SOLID RED LED on the GPS device should illuminate.
- When device is powered, the YELLOW (GPS) and AMBER (cell) LEDs will flash on and off while searching for signals. When full signal strength is achieved (generally 2 -5 minutes), both LEDs will continuously illuminate.
- Log-on to the web-based control panel to verify the installation after the YELLOW and AMBER LEDs are solidly lit.

GPS and Cell Signal Basic Information:

- GPS signal strength is measured by the number of satellites detected by the device. A minimum of six satellites should be reporting when the vehicle is in the open with fewer satellites reporting when tested in or near buildings.
- Cellular signal strength is reported as RSSI (Received Signal Strength Indication). Acceptable RSSI readings are any value greater than -110dBm.



LIMITED WARRANTY:

WHO IS COVERED?

Only the purchaser that first activates the GPS product is covered.

WHAT IS COVERED?

The Spireon, Inc. ("Spireon") GPS product you just purchased is warranted to be free from defects in materials and workmanship.

WHAT IS THE WARRANTY PERIOD?

The warranty begins on the date a rate plan is assigned to your Spireon GPS product and lasts for one year, unless you have purchased a two or three year warranty in which case the warranty lasts for the amount of warranty coverage you purchased, which cannot exceed three years. When the warranty on the original product expires, the warranty on any replacement product also expires.

HOW TO OBTAIN WARRANTY SERVICE?

1. Contact the Customer Service Department using the support number located within this installation guide or the authorized reseller from which you purchased the product ("Authorized Reseller"). Provide them with the ESN (Equipment Serial Number) for each product for warranty coverage verification.
2. Upon verification of coverage, all efforts will be made to resolve the issue remotely. If the issue cannot be timely resolved then an RA# will be issued and provided to you by Spireon or the Authorized Reseller via fax, email, or over the phone.
3. If there is an Authorized Reseller, then the Authorized Reseller may provide you with a replacement product and Spireon will replace the Authorized Reseller's inventory.
4. You or the Authorized Reseller must package the product(s) and send to Spireon with the RA# clearly written on the outside of each package (returns without an RA# will be rejected) and ship to:

Spireon Returns

1350 Reynolds Avenue, Suite 121
Irvine, CA 92614

Note: You are responsible for shipping charges to the returns department.

5. Spireon will test all properly returned products to determine if they are defective. If the product is defective Spireon will provide replacement of the defective product(s) and Spireon is responsible for shipping charges back to you or the Authorized Reseller.

WHAT IS EXCLUDED?

Your warranty does not cover:

- Product damage caused by normal wear and tear.
- Product damage caused by tampering, misuse, accident, abuse, neglect, improper installation, misapplication, alteration of any kind, disaster, or defects due to repairs or modifications made by anyone other than Spireon or an authorized service representative of Spireon.
- Physical damage of any nature whatsoever to the Product, including any opening or attempted opening of the Product.
- Reception problems caused by signal conditions or cable or antenna systems outside the product.

WHAT ARE THE WARRANTY LIMITATIONS? TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, Spireon DISCLAIMS, AND YOU EXPRESSLY WAIVE, ANY AND ALL OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND OR NATURE, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE TERM OF ANY IMPLIED WARRANTIES THAT CANNOT BE DISCLAIMED UNDER APPLICABLE LAW SHALL BE LIMITED TO THE DURATION OF THE FOREGOING EXPRESS WARRANTY PERIOD. SOME STATES DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES AND/OR DO NOT ALLOW LIMITATIONS ON THE AMOUNT OF TIME AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU. THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

WHAT IS THE LIMITATION OF LIABILITY? This Limited Warranty is solely for the benefit of the purchaser that first activates the GPS product and Spireon, and shall not create or evidence any right in any third party. THE REPAIR OR REPLACEMENT OF THE PRODUCT AS PROVIDED UNDER THIS LIMITED WARRANTY IS THE SOLE AND EXCLUSIVE REMEDY. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL SPIREON BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL, INDIRECT, PUNITIVE OR EXEMPLARY DAMAGES OR LOST PROFITS WHATSOEVER ARISING OUT OF THE USE OR INABILITY TO USE THE PRODUCT, OR FOR ANY BREACH OF THIS LIMITED WARRANTY OR OTHERWISE, EVEN IF SPIREON HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR SUCH DAMAGES COULD REASONABLY HAVE BEEN FORESEEN BY SPIREON. However, some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

PRODUCT WARNING – COMMUNICATION FAILURES ARE NOT COVERED. Your GPS product utilizes cellular telephone and Global Positioning Satellite communication networks in order to provide service. Spireon is not liable for any failure related to these communications networks. Refer to the Subscription Service Agreement for a complete description of the limitations related to the services provided.

This Limited Warranty constitutes the final, complete and exclusive statement of warranty terms, and no other person or entity is authorized to make any other warranties or representations on behalf of Spireon.