

EROAD ETrack Wired

Installation Guide



Safety & Best Practice

EROAD RECOMMENDS THAT CUSTOMERS USE A SUITABLY QUALIFIED TECHNICIAN TO INSTALL EROAD HARDWARE ON YOUR HEAVY EQUIPMENT, TRAILER OR ASSET ("ASSET"). EROAD expects such installers and contractors to understand and follow all relevant health and safety regulatory requirements and this Installation Guide. **If you are attempting to perform the installation yourself, please ensure you have appropriate credentials and qualifications to do so.**

This unit requires a GPS signal to operate. While installation on an Asset may occur indoors, the Asset and the unit must be moved outdoors to properly register on EROAD Depot.

The installer must wear appropriate personal protective equipment (PPE). PPE may include safety glasses, safety shoes, work gloves, hard hat, high visibility vest, sunscreen, sun hat and coveralls. The installer may also be required to understand and comply with the safety requirements of customers or third parties who own or are in control of the Asset on which the unit is being installed.

Avoid fitting EROAD equipment in locations that could obstruct or cause injury to people. This includes potential head strike zones on the windshield or dashboard, airbag deployment locations, seat-belts, and other safety-relevant units.

The Asset to which the unit(s) will be attached must be parked and level, with the parking brake engaged.

Before installation, the installer must check that other safety-relevant equipment is working properly and, where relevant, report any issues to the customer.

Before installers are permitted to work under or around suspended equipment – held aloft with slings, hoists, or jacks – ensure the equipment is secured to prevent collapse or falls.

Avoid running cables close to heat sources, sharp edges, obstacles or safety-relevant units.

After installation, check that all other safety-relevant equipment continues to work properly.

While this unit has been extensively tested against corrosion and water ingress, it is not invulnerable to water, fire or impact damage. Do not subject EROAD units to extreme heat, water force or intense forces.

Consult the specifications table in this guide for this unit's optimum operational temperature range.

IMPORTANT

Do not install or use the unit until you have thoroughly read the Installation Guide.

This unit was designed to track land-based Assets that may be subjected to rain, light impacts and general mud and dust. Installation in or on water-borne equipment is not recommended, and is not covered by EROAD's warranty.

This unit is factory-sealed; tampering will void the warranty.

Do NOT cut the cable (or any of the wires). This will also void the warranty. Paring/stripping wire tips for connections is permitted, but inline fuses must remain attached.

Only use 32V, 3A ATC standard blade fuses connected as detailed in the following instructions.

Introduction

ETrack Wired is EROAD's next generation asset and trailer tracking unit. ETrack Wired conveniently tracks equipment activity and uploads it to the EROAD Depot application, which provides efficient location reporting for performance verification.

The ETrack Wired unit provides full fleet coverage with its discreet, durable design. ETrack Wired connects to the power system and provides accurate reporting of engine hours and location, so that customers can boost uptime, maintenance, and operator safety.

Box contents

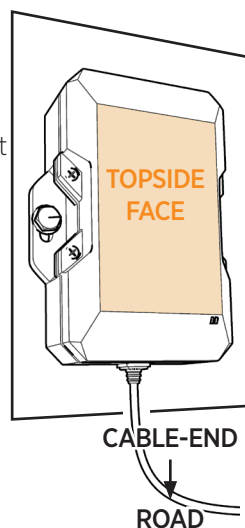
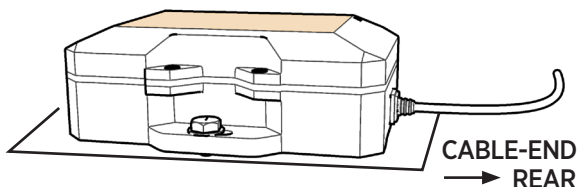
- ETrack Wired unit with integrated 10ft cable
- Battery (pre-installed)
- Qty 2 - Machine screws (with hex washer head; self-tapping, M5 x 12.5 mm nominal length)



Screws can be replaced, pending installation location and requirements. Nuts are recommended, if alternate screws are used through a mounting plate.

Mounting

- 1 Position the ETrack Wired unit to reduce exposure to elements, without compromising the view of the sky:
 - For best transmission, the unit's topside should face upwards/outwards (the unit's underside features a label).
 - Avoid engine-warmed locations, such as heater vents or exhausts.
 - Avoid the unit's exposure to grease or other chemicals.
 - Ideally, the unit's cable-end should point down/away from splash direction, to avoid water being trapped around the cable-end.
 - Do not impair the Asset operator's vision, pose an accident risk, or interfere with moving parts.
- 2 Cable length should reach the power connection and ignition source (if present):
 - Avoid kinks or knots in the cable, which could prevent the unit from operating properly.
 - The operating status LEDs on the unit should be easily seen in its mounted position.
- 3 **Do not cut the cable;** instead, coil excess cable length.



Two mounting orientation examples

CAUTION

Mount the unit to a stable surface to avoid excessive vibration.

Only the RED wire should be used to connect to the 12V DC power source.

Installation for an UNPOWERED Asset: Red wire to AUX Power

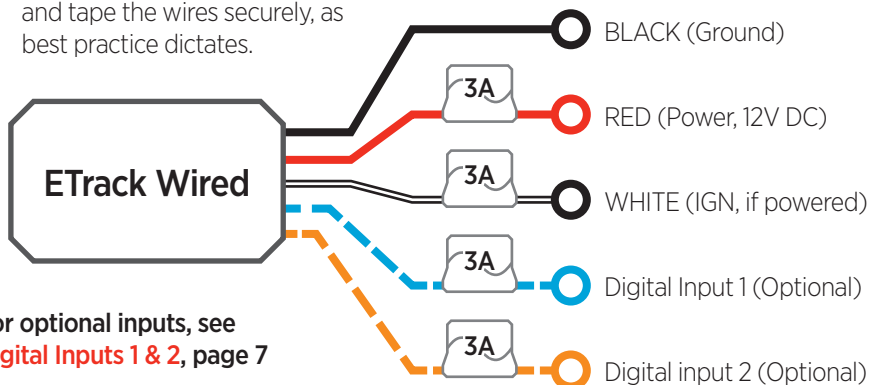
Unpowered Assets generally don't have their own power, but draw power from a separate source – most often from the vehicle towing the Asset, or from a portable generator feeding other Assets.

- 1 Verify power and ground from the supply (vehicle battery power, or remote power source).
- 2 Connect the Red wire (power input) to a constant 12V DC power source. In the fuseholder, **ONLY 32V, 3A ATC FUSES MUST BE USED**, and securely inserted (see diagram below).
- 3 Connect the Black wire to the chassis ground.
- 4 **Do NOT cut the cable.** Instead, provide a loop or slack in the cable. Wrap/coil and tape the wires out of the way securely, as best practice dictates.

Installation for a POWERED Asset: Red wire to AUX Power; White Wire to Ignition (IGN)

Typically, a powered Asset is a piece of heavy equipment (eg. backhoes, bulldozers, pumps), industrial generators, something with its own engine. A powered Asset has its own ignition switch.

- 1 Verify power and ground from the supply (vehicle battery power, or onboard power source).
- 2 Connect the Red wire (power input) to a constant 12V DC power source. In the fuseholder, **ONLY 32V, 3A ATC FUSES MUST BE USED**, and securely inserted (see diagram below).
- 3 Connect the White wire to the Asset's IGN. Ensure that power is only available when ignition is ON. (Check the connection point is protected with the supplied 3A fuse.)
- 4 Connect the Black wire to the chassis ground.
- 5 **Do NOT cut the cable.** Instead, provide a loop or slack in the cable. Wrap/coil and tape the wires securely, as best practice dictates.

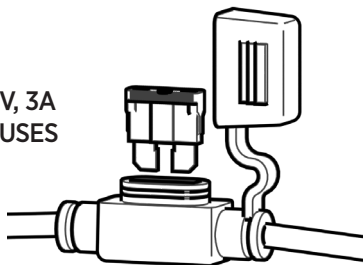


For optional inputs, see
Digital Inputs 1 & 2, page 7

Replacing fuses and sealing the fuseholders

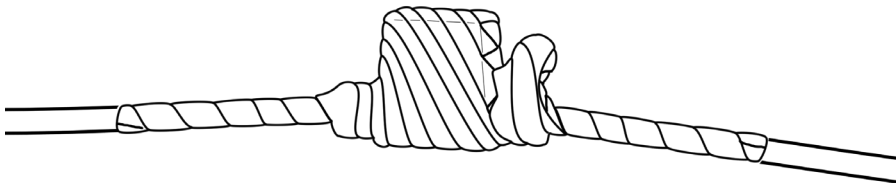
The fuseholders attached to the ETrack Wired loom work well against light water and dust, but they are NOT WATERPROOF. EROAD recommends the use of amalgamated tape around the fuseholders to ensure it has the best protection against the elements.

**ONLY USE 32V, 3A
ATC BLADE FUSES**



Replacement

- 1 If a fuse needs replacement, remove any existing tape or sealant around the fuseholder, open it, and remove the fuse.
- 2 **Inspect the fuseholder before fuse replacement.** Debris or faulty wiring could be shorting out fuses prematurely, or cause incorrect seating.
- 3 Insert a 3A fuse, and close the top.















Sealing

- 1 Wrap the fuseholder and 2-3 inches of wire either side of it in amalgamated tape.
- 2 Do this for EVERY fuseholder attached to the ETrack Wired loom.

Best Practice

**Industrial trailers and large assets often have a fusebox attached.
Store your fuse-related wiring in this box.**

ETrack Wired Cable Guide

Wire	Color	Signal Name	Description	Input/Output	Comments
1	 Black	GND	Ground	Ground	Required
2	 Red	Vcc	Primary Power	Input	Required
3	 White	IN-0	Input 0 - Ignition	Input	Required [†]
4	 Blue	IN-1	Input 1 - Digital	Input	Optional
5	 Orange	IN-2	Input 2 - Digital	Input	Optional
6	 Green	OUT-0	Reserved	Output	D.N.C.*
7	 Brown	OUT-1	Reserved	Output	D.N.C.*
8	 Yellow	OUT-2	Reserved	Output	D.N.C.*
9	 Green/Black	SER_OUT	Reserved	Output	D.N.C.*
10	 Blue/Black	SER_IN	Reserved	Input	D.N.C.*
11	 White/Blue	1BB	Reserved	Input	D.N.C.*
12	 Pink	ADC	Reserved	Input	D.N.C.*

[†] Required only if the asset has **its own** ignition source. If none, DO NOT USE DAISY-CHAINED OR TEMPORARY IGNITION SOURCES – secure the white wire out of the way.

* Do Not Connect.

Digital Inputs 1 & 2 (Blue & Orange)

Optionally, you may connect up to two digital inputs from the ETrack Wired, **but you must install an in-line 3A ATC fuse for each input you connect.**

The Blue and Orange digital inputs are available for other vehicle status uses, such as a powered asset: proprietary pumps, P.T.O. switches, cement barrel activation, etc.

Most vehicle inputs can be connected from 4-to-12 V DC.

The input impedance is about 10 k Ω .

Caution

Unused wires should be labeled, taped up securely and left disconnected, so as not to risk a short.

LED status

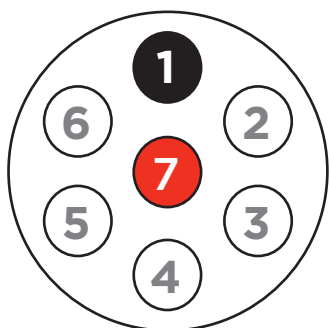
On power-up, the LEDs in the unit will go through a start-up sequence and settle on one of several statuses.

Comm LED - Orange	Description
Off	Modem OFF
Slow blinking	Comm ON - searching
Fast blinking	Network available
Alternates from solid to fast blinking every one second	Registered - no inbound confirmation
Solid	Registered - received inbound confirmation

GPS LED - Green	Description
Off	GPS OFF
Slow blinking	GPS ON - searching
Fast blinking	GPS time sync
Solid	GPS fix

SAE J560 Trailer Pin Diagram

The following diagram is for a qualified technician's reference only, should they judge that the use of auxiliary power through the SAE J560 connector is reliable, appropriate and safe. **THIS IS NOT AN ENDORSEMENT FOR USING AUXILIARY POWER. PLEASE EXERCISE CAUTION.**



J560 Pin	Function	ETrack Wire
1	Ground	Black
2	Clearance/ Side Markers	
3	Right Turn/ Hazard	
4	Stop Lamps	
5	Left turn/Hazard	
6	Clearance/ Side Markers	
7	Aux Power	Red

On powered Assets, there are no White wire (IGN)-compatible pins on the SAE J560.

Troubleshooting

- 1 Ensure that the ETrack Wired unit is installed properly to avoid personal injury or property damage, and has a view of the sky.
- 2 Verify connections using a multimeter.
- 3 ETrack Wired units can be fully tested when they are identified in the EROAD Depot application after installation.
- 4 Check LED functionality. Cellular coverage can vary, and real-time reporting is dependent upon signal strength.

Legal Notice And Disclaimer

The legislation and rules concerning the installation and operation of GPS driver aids such as the ETrack Wired unit vary. You are required to be familiar with the laws of the jurisdiction(s) in which the vehicle will be operated. This includes the rules governing installation of GPS driver aids, distracted driving legislation and other road rules.

It is your and your vehicle driver's sole responsibility to install and use the unit in a manner that complies with the law and will not cause accidents, personal injury or property damage. To the fullest extent permitted by law, EROAD disclaims all liability and excludes all warranties for installation or use of the ETrack Wired unit in a way that may violate such laws and regulations.

As EROAD is continuously improving its products, EROAD may make changes to the ETrack Wired unit at any time, which may not be reflected in this document. Please contact your nearest EROAD office if you require any further assistance.

If you think that the installation of the ETrack Wired unit may have caused your vehicle's performance to be impeded, please contact EROAD Technical Support immediately to resolve the issue. EROAD is not liable for any costs or expenses incurred by engaging a third party to repair the fault without EROAD's prior consent.

Specifications

Dimensions	4.5 x 3.2 x 1.6 in (114 x 80 x 39 mm)
Weight	340g (12oz) with harness
Voltage	12/24 VDC Vehicle Systems 9-30VDC (start-up, operating) 7-32VDC (momentary)
Fuse Type	32V, 3A ATC blade fuses
Power Consumption	Typical 400uA @ 12V (deep sleep) Typical 15mA @ 12V (radio-active sleep) Typical 60mA @ 12V (active tracking; GPS & cell-enabled)
Battery (pre-installed)	5200 mAh, Lithium-ion
Cell Network	4G LTE, Bands B2, B4, B5, B12
GPS Constellation	Hybrid GPS, GLONASS, SBAS Engine (WAAS, EGNOS, MSAS)
Location Accuracy	2.0m CEP
Humidity	95% RH @ 50°C (122°F) non-condensing
Shock and Vibration	U.S. MIL-STD 202G; SAE J1455
Ingress Protection	Enclosure: IP66. Supplied fuseholders: IP54
Operating Temp.	-40° to +60° C (-22° to +140°F) operating -20° to +25° C (-4° to +77°F) storage

Notes

EROAD Technical Support

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