

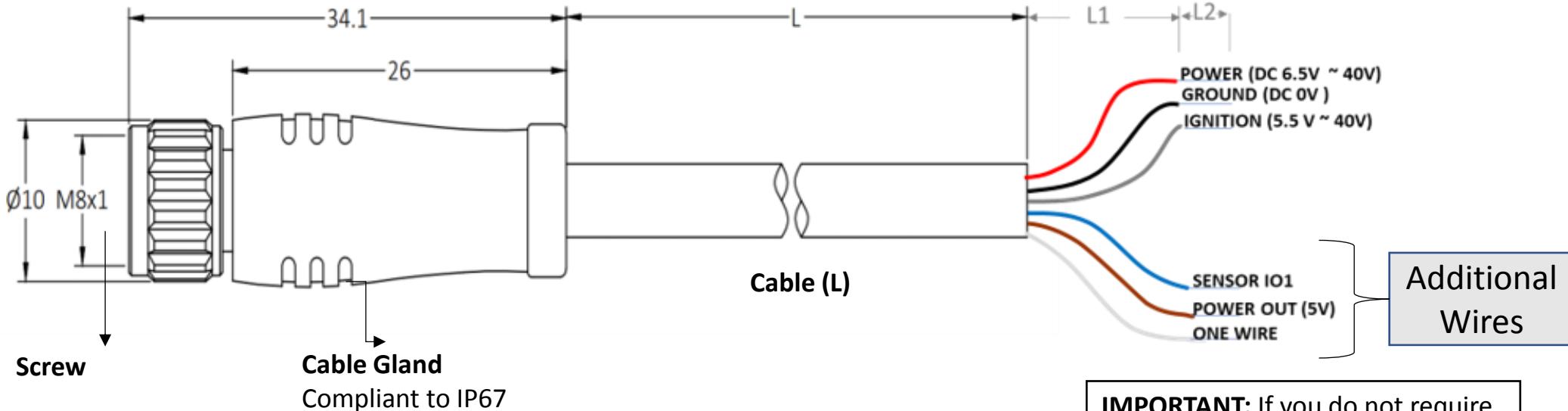
# BEWHERE Installation Instructions

BeWired



# BeWired wiring installation

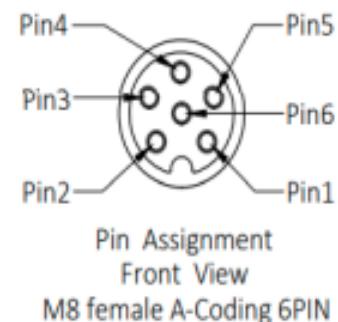
- Disregard Sensor Cable unless you purchased a specific BeWhere Solution.
- Ensure the device is in view of the sky after wiring for GPS and Network optimization



**IMPORTANT:** If you do not require the additional wires make sure you cut or discard them. Also make sure the metal wiring is not exposed or touching each other

## Connections Information

M8 Connector	Wire Color	Wire Length (mm) L+L1+L2	Wire Guage	Label Print
Pin 1	Black	2050	AWG26/ 0.14mm <sup>2</sup>	GND
Pin 2	White	2050		ONE WIRE
Pin 3	Blue	2050		SENSOR IO1
Pin 4	Brown	2050		POWER OUT (5VDC)
Pin 5	Red or pink	2050		POWER IN (6.5VDC ~ 40VDC)
Pin 6	Gray	2050		IGNITION IN (5.5V ~ 40V)



Length (mm)		
L	L1	L2
2000	40	10

## Installer Qualifications

The BeWhere device should be installed properly by a qualified 12V technician, after they have reviewed the installation manual.

## Hardware Included

### BeWired

- Ignition powered rechargeable battery
- GPS, Temp, Light, Air Pressure, Humidity Sensor

IP67 / 100.6 x 56.6 x 33.7 mm / 4x 2.2 x 1.3"

## Tools and Material Required

- BeWhere installation document
- Materials for your chosen mounting method (screw, magnet, or tape) shown below
- Multimeter
- Drill
- Wire cutters
- Wire strippers
- Heat gun
- Crimper

## For screw mounting

- (2) Self-tapping sheet metal screw
- (use provided screws)

## Additional Mounting Options

### For tape mounting

- Double-sided Very High Bond (VHB) tape
- Rubbing alcohol / alcohol wipes

### Cable Tie or Zip Tie

- (2) 5mm diameter zip ties

## Additional Parts (not supplied)

- (2) ATC fuse holders (18 Gauge)
- (2) 3-AMP ATC fuses
- Heat shrink Butt connectors (assorted)
- Heat shrink Ring terminals (assorted)



## Warning Information

⚠ **Tip:** Re-Tighten any screws that loosened during the work period

⚠ **TIP:** Inspect device frequently

⚠ **WARNING:** Do not mount any device with antenna side against metal

⚠ **WARNING:** Please follow safety precautions for operating and servicing the installation on BeWhere devices

# Multimeter



## If you are using a Multimeter:

- Set the meter to read DC volts (200 volt range or auto)
- Ensure that the probes are plugged into the ground and voltage-measuring sockets, not into the current-measuring socket (marked A for amps). Double-check the meter setup before you make any test connections.
- Ensure that the meter's ground lead is securely connected to the chassis of the asset

Measure voltages only at the connection terminals. Never poke into existing wires for testing as this damages the insulation.



## Step 1

### How to find a continuous power source

Using a DC voltage multimeter probe, measure voltage on all three terminals of the alternator (Main power is usually the largest post to the alternator):

**1. For the power source:** Locate a 6.5V-40V(DC) source of continuous power



DC 6.5V-40V Continuous Power Source

**2.** When assets ignition is off, verify that voltage is still present in the constant power source

**3.** Plan the cable routing path(see step 4 for additional information)

**4.** Prepare the tracker's power cables (**red** is constant and **black** is ground) and ignition cable (**grey**)

**Recommended:** Install fuse holders with 3-AMP fuses on constant and ignition power leads

**5.** Install ring terminal connectors on constant, ignition, and ground leads

**Note:** Heat shrink all ring terminal connections after ring terminals have been crimped

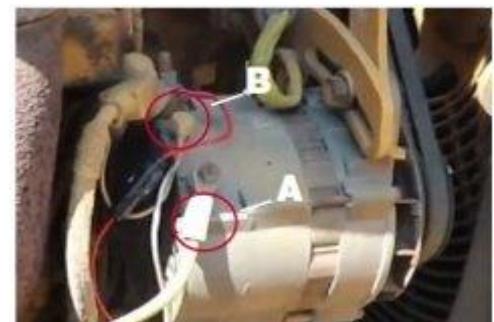
**6.** Connect the **black** wire (with ring terminal attached) to the asset's alternator ground connection.

**7.** Connect the **red** wire (with ring terminal attached) to asset's constant power terminal on the alternator.

**8.** Connect the **grey** wire (with ring terminal attached) to asset's ignition power source.

**9.** If ring terminals are not able to be used for connections wires must be cut and spliced with heat shrink butt connectors

**Example:** **A.** Tracker power cable (black wire) connected to the alternator's ground connection.  
**B.** Tracker's power cable (red wire) connected to positive alternator terminal.



## Step 2

### How to find an ignition source

1. Ensure that the equipment ignition is in the OFF position.
2. Connect the negative lead of a Multimeter to the asset's ground connection which you plan to attach the ground wire on the tracker
3. Use a multimeter to check the voltage. Verify that the voltage is zero.
4. Turn on the ignition and start the equipment.
5. With the multimeter, verify that the ignition source voltage is at least between 5.5V-40V
6. Turn the ignition to the OFF position and verify that the voltage returned to zero.
7. If the voltage at this point cycles on and off with the ignition switch, you have found a suitable ignition-signal source.

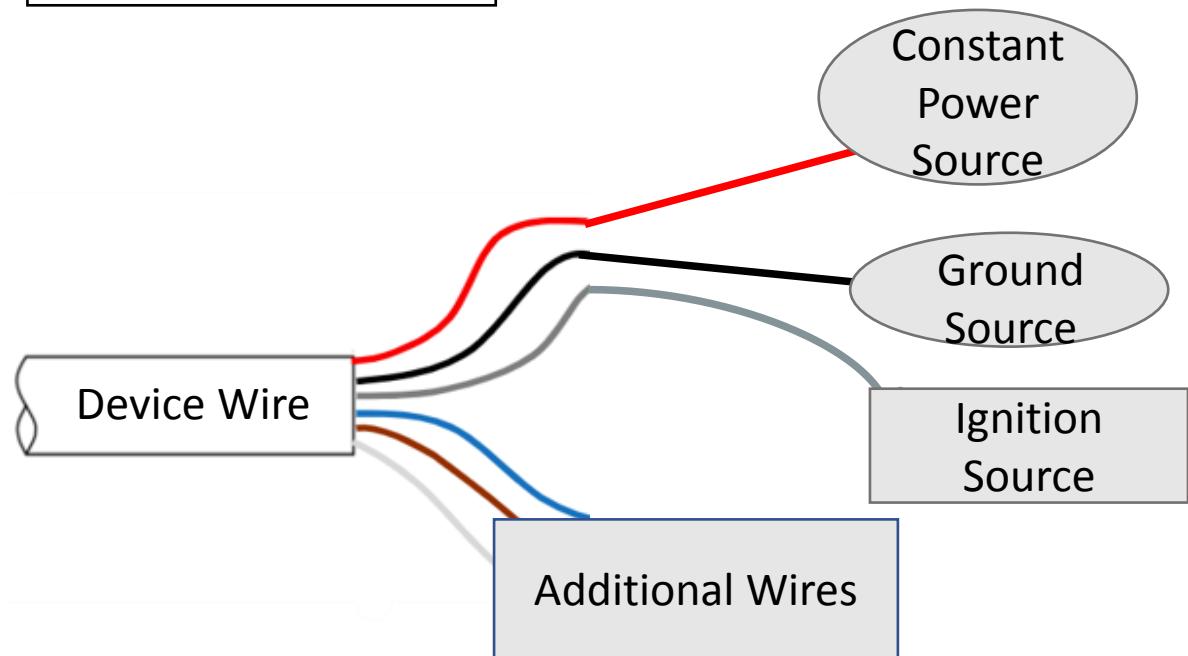


- If the voltage did not drop to zero after you switched off the ignition, that connection is not an ignition-signal source. Find a suitable ignition source.

## Secure the cables

1. Inspect the wire connections to ensure safe conditions:
  - All wires are connected correctly.
  - All connections are watertight.
2. Inspect the routing for the tracker's power, ignition, breakout, and tracker cables to ensure safe conditions:
  - Cables are not pinched.
  - Cables are not exposed to sharp edges.
  - Cables are not near a heat source.
  - Cables are not near moving parts.
  - Cables are not swinging or dangling.
  - There are no long, unsecured runs.

**Note:** The red wire may appear as pink

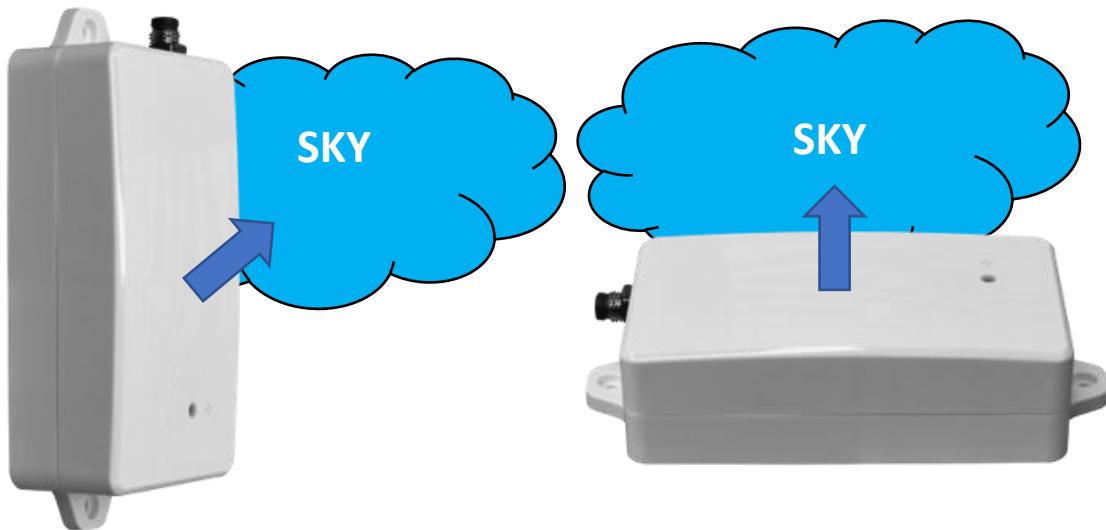


**IMPORTANT:** If you do not require the additional wires make sure you cut or discard them. Also make sure the metal wiring is not exposed or touching each other

For  
GPS

OK

Ideal



- Make sure the surface of the tracker has a clear view of the sky
- Choose a location where tracker will not be damaged or knocked off
- While vertical installation is ok horizontal installation is ideal

- If you must enclose the tracker, use a nonmetallic housing and ensure that the tracker has good visibility to the sky through enclosure.
- The tracker will not function well when placed in an area where the **GPS** or **cellular antenna** is facing **metal** such as inside a metal cabinet or case, or on the underside of the equipment.
- If you use screws to mount the tracker, choose a location that is not backed by any component that the screws could damage, such as coolant lines, radiators, electrical wiring fluid tanks, or moving components.
- You must be able to route the cables from the tracker to: battery, ignition, and ground sources safely.

Ensure there is:

- ❖ No possibility of wire pinching
- ❖ No interference with moving parts
- ❖ No unsecured cables

## Step 4



### Plan cable routing path

Make sure cable routing path meets these requirements:

- All cables must be clear of any moving parts when the asset is operating.
- Cables must not extend across segments of the equipment that are routinely separated. The entire tracker installation must be on one contiguous section of equipment.
- Cables must be able to reach the desired mounting location for the tracker without being pulled or stretched and without interfering with asset operation.

**Note:** If you need more length to achieve a safe cable route, you can extend the wires with a colour-matched silicone coated wire. (Use 18AWG UL3135 type wire for flexibility and heat resistance.) When joining wires, always heat-shrink the butt splices after crimping to provide protection against weather.



## STEP 5

### Mount the tracker on asset

Follow the instructions below for screws, or alternate options on page 11, depending on your preferred mounting method.

#### Screws



### Clean the selected location

1. Scrape any loose debris from surface
2. Use the rubbing alcohol or alcohol wipes to remove grease, oil, and dirt from the mounting location.
3. Wipe the area dry with a clean, absorbent rag or towel.

Alternate Mounting Options on page 11

4. Using a Phillips Pan Head driver, screw the provided stainless steel self-tapping screws through the mounting holes of the tracker into the asset.

Ensure that each screw is seated securely.

## STEP 6

### Route the tracker cable into the asset enclosure.

1. If a suitable hole does not exist, drill a 1-inch diameter hole for the tracker cable in the asset enclosure.
2. Route the tracker cable through the hole.
3. Use the grommet (already present on the cable) to plug the hole.
4. Align the pins of the cable to the tracker, connect and secure

**IMPORTANT:** Do not drive screws into coolant lines, radiators, electrical wiring, fluid tanks, or moving components.

**IMPORTANT:** Do not over tighten screws as it may break the base of the device.

**IMPORTANT:** When mounting with screws use the screws that are provided with the device

**Remember:** When mounting the device, the antenna needs to have an unobstructed view of the sky for optimal performance

### Verify the tracker

Complete the remaining steps through the BeWhere Web app. See onboarding document for more information

**Using VHB Tape**— Must be purchased up front at time of order (ie. 3M™ VHB™ Tape is a high-strength, double-sided acrylic adhesive tape)

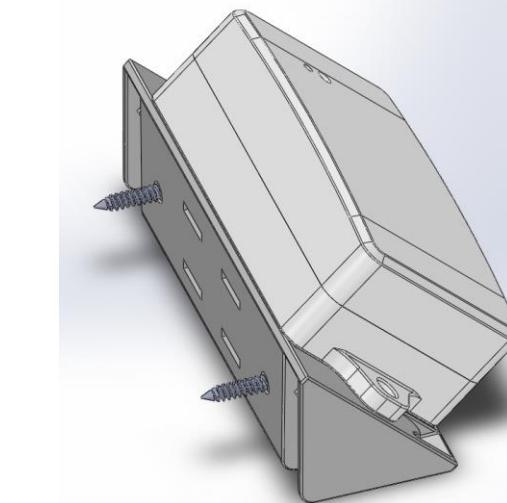
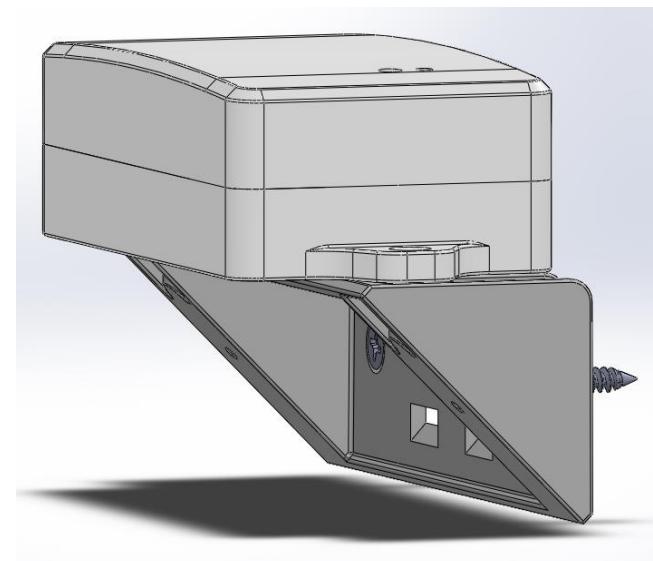
**IMPORTANT:** The setting temperature must be above 0 °C to ensure proper stick.  
Recommended for lower temperature to heat mounting surface before applying tape.

1. Turn the tracker upside down to expose the underside.
2. Measure the VHB mounting tape to cover the entire bottom of the mounting surface. Cut the tape to fit so that it does not extend beyond the ends of the trackers.
3. Remove the backing from the VHB tape.
4. Following the tape manufacturer's recommendations, adhere the tracker to the clean, dry surface of the asset.



**Using Bracket** Must be purchased up front at time of order

1. Locate area on asset you would like to install the bracket and device
2. Determine the way you would like your device to sit on the bracket
3. Attach your device to the bracket and then install the bracket to the asset



4. Bracket can either be mounted vertical or horizontal – as long as the GPS/Antenna are away from metal and facing the sky

Must be purchased up front at time of order

## Using Magnets

Industrial strength magnets are a useful mounting option if the equipment might be re-purposed in the future.

1. Locate area on asset that device will be mounted to with magnetic mount.
2. The magnet bolt is wider than the mounting tab hole on the device. This will need to be drilled out for magnet bolt to fit.



Strong magnetic grip connects to any metal for reliable stability and support



### Magnet Mount DY32MM

Sizing needed shown below:

D (mm)	M(mm)	H(mm)	h (mm)	G	KG	
D32	32	6	18	7.8	43	34



## Compliance Statement

A separation distance of 20 cm must be maintained between this device and nearby persons.

Une distance de séparation de 20 cm doit être maintenue entre cet appareil et les personnes à proximité.

FCC statement: "This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation."

"Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment."

IC statement:

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) L'appareil ne doit pas produire de brouillage;
- (2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.



Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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BEWHERE

LET'S GET TRACKING

