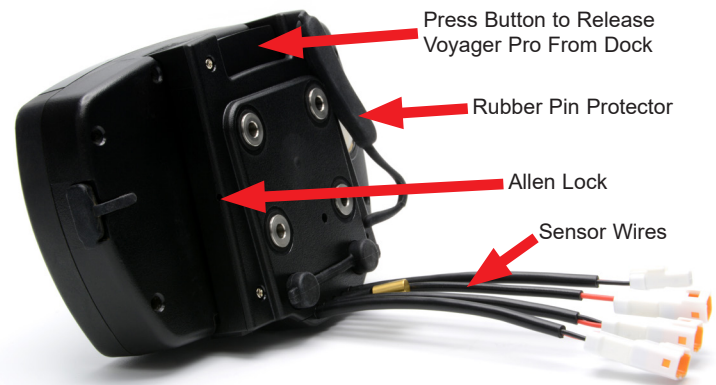


# VOYAGER PRO

## QUICK-START

### 1. MOUNTING THE DOCK:

Voyager Pro's dock is made to be bolted to the vehicle. Use the mounting hardware included in your kit, or use any AMPs style mount from the popular RAM Mounts manufacturer. Voyager Pro quickly snaps in and out of the dock for quick removal when not in use, and can be locked to the dock using a tiny allen wrench in the side of the dock.



### 2. VEHICLE SENSORS:

You should install the wheel sensor, ignition sensor, engine temperature sensor, and vehicle power connection. If you plan not to use one of these sensors, some abilities of Voyager Pro may not function.

### 3. DC POWER:

**DC power required.** Do not connect Voyager Pro to AC power except when using the AC wall charger. Connect to a switched 12V DC power source so that power to Voyager Pro is cut when the vehicle is turned off. When connected to the vehicle battery, charging will begin immediately and Voyager Pro should have full functionality.

**On some bikes, erratic tach readings can be fixed by wiring the power directly to the battery instead of behind the key switch.**

There are few menu options to change when Voyager Pro is used without a connection to vehicle power:

1. *Vehicle Profile > Wake Detection, Speed Source, Charge Mode*
2. *Maps and GPS Setup > AutoLog Source*



### 4. USER MANUAL:

The user manual is embedded in Voyager Pro itself. Access it by pressing the Menu button and looking for "User's Guide" at the bottom of the main menu. The manual is available online at trailtech.net.

### 5. MAIN SCREENS:

Voyager Pro has several main screens. Press UP and DOWN on the buttons to move between screens. Press the menu button to open the main menu. On some screens like the map screen, press the back button to open a sub-menu with screen-specific options.

*Press Here on Map Screen to Open Mini-Menu*



### 6. ENABLE SCREENS:

Voyager Pro has a series of main information screens. Screens can be enabled/disabled in the settings menu. By default, the stop watch and satellite screens are hidden. Available screens include: the gauge cluster screen with a large speedometer, the tach screen with an animated tach graph, the map screen, the user definable screen, the stop watch screen, and the GPS satellites screen.



# VOYAGER<sup>PRO</sup> QUICK-START

## 7. MICROSD CARD SLOT:

A MicroSD card (not included in kits) enables transfer of tracks between Voyager Pro and a PC. During operation, make sure the card slot cover is properly seated to keep debris out. Tracks saved as GPX files on your computer can be placed on the MicroSD memory card, then imported onto Voyager Pro for viewing and route following. This is a great way to share recorded tracks, or for pre-planning trips. Music files saved on the MicroSD card can be played from the Media screen.

*Use exFAT type if you format your MicroSD card on a PC.*



MicroSD Card Slot

## 8. GPX FILES:

In the map screen's mini menu you can record, load, and save GPX files. GPX files are custom made tracks and riding areas that you can follow yourself, or create and share with the community. GPX is an open standard, so there are a variety of tools available to work with GPX files.

## 9. BUDDY TRACKING:

Buddy Tracking connects multiple Voyager Pros to a private location tracking network. Once connected to the buddy tracking group, you will see map markers showing the name and location of all group members. The technology supports up to 20 riders in a single group.

The mesh network capability increases the comfortable following distance between you and your buddies. The typical antenna range between buddies is .5 to 1.5 miles, increasing with line of sight and fewer obstructions.

Tap the centering icon in the top left of the map screen to toggle "Buddy Mode" where the map will always keep buddies on-screen. Select a "Destination Buddy" to draw a line on the map between you and your buddy to easily keep track of them.

*The external V2V antenna is required to use buddy tracking features.*



V2V Antenna  
Required for  
Buddy Tracking

## 11. EMERGENCY BEACON:

When you activate the emergency beacon, your map marker flashes red on everyone else's screens. It is not a rescue beacon, the national guard will NOT be notified.

## 12. BLUETOOTH:

Voyager Pro contains two Bluetooth chips that can control two streams each. Connect up to two phones and two headsets or speakers. The headsets can function as an intercom between riders, or as a loudspeaker. Route songs from your phone through Voyager Pro to headset or speaker.

## 13. WARNING INDICATORS:

First set a threshold for max tach and temperature. Whenever Voyager Pro detects the vehicle is exceeding the limit, the indicator lights will alert you of the situation. Tach warnings flash, temperature warnings are solid. Set it up under vehicle profile in the main menu.





# POWER AND TACH SENSORS INSTALLS

## POWER CONNECTION:

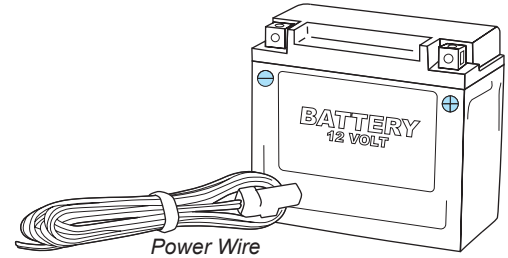
### FOR USE ON 12V DC SYSTEMS ONLY!

Use a volt meter to confirm nominal 12V DC.

Connecting to AC power will damage Voyager Pro and void the warranty.

**Vehicles with DC Power:** Voyager Pro requires DC power. Vehicles with a battery or capacitor and regulator/rectifier produce DC power. Connect the power wire directly to the vehicle's 12V battery. Connect the red wire to the positive(+) battery terminal and the black wire to the negative(-) battery terminal.

**Vehicles with AC Power:** Use the Voyager Pro AC wall charger, or upgrade to a DC electrical system. Most carbureted MX bikes put out AC power, but Voyager Pro requires DC power.

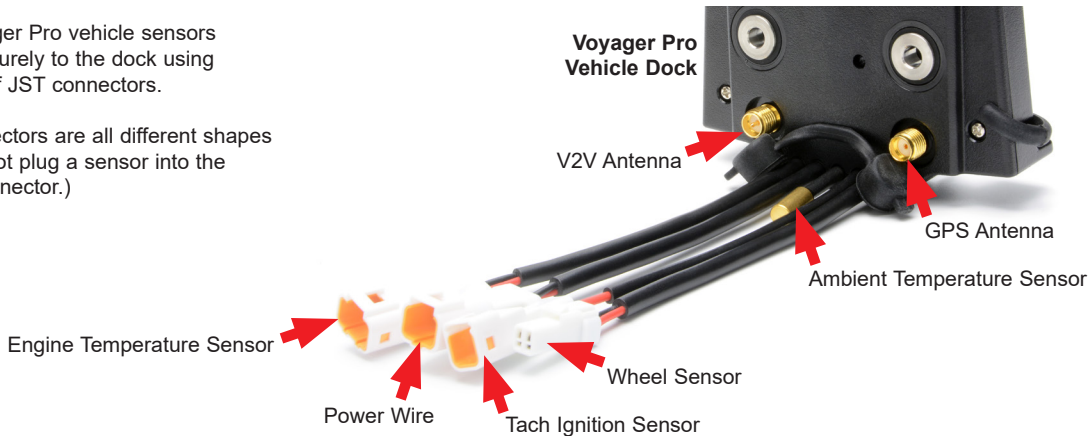


**Fuse:** Introducing a fuse into the circuit before electronics is always a good idea. Use a 2 amp fuse with Voyager Pro (not provided.)

## SENSORS:

The Voyager Pro vehicle sensors fasten securely to the dock using waterproof JST connectors.

The connectors are all different shapes (you cannot plug a sensor into the wrong connector.)



## TACH IGNITION SENSOR:

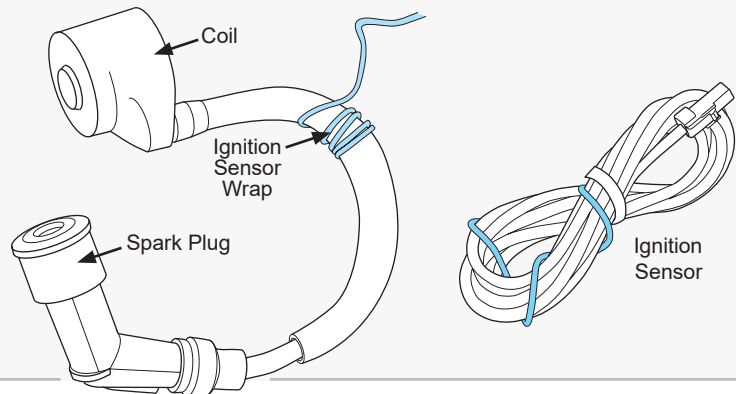
The ignition sensor enables tachometer readings and the animated bar graph on the tach screen of Voyager Pro.

### OPTION 1: (Preferred option for most vehicles.)

Capacitive coupling to spark plug wire:

1. To install ignition sensor wire, wrap the red part of the sensor wire around the spark plug wire 5 times.

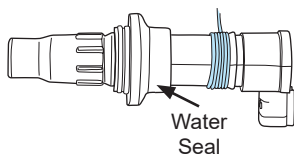
If required, you may shorten the length of the ignition sensor. Be very careful when stripping back the black casing to avoid damaging the inner red wire.



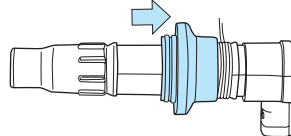
### OPTION 2:

If the coil is attached to the spark plug, then wrap the sensor like this:

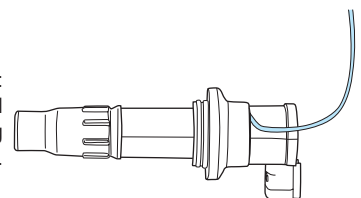
Step 1:  
Pull water-seal down. Wrap ignition sensor around spark plug.



Step 2:  
Replace water-seal.



Step 3:  
Reinstall spark plug into motor.



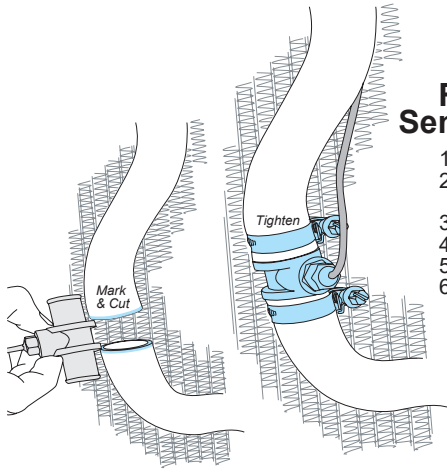


# TEMPERATURE SENSORS AND ANTENNAS INSTALLS

## TEMPERATURE SENSORS:

Most Voyager Pro kits contain a model-specific temperature sensor. Installing the temperature sensor enables temperature readouts on Voyager Pro's gauge screens. Alternative sensors are available.

Vehicles cooled with water use sensors to measure the fluid temperature, while air-cooled machines take the cylinder head's temperature at the spark plug. The radiator fin sensor is the easiest installation.

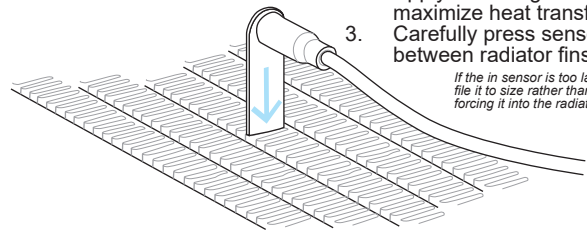


### Radiator Hose Sensor Installation:

1. Drain fluid.
2. Measure inner diameter of hose *before* cutting.
3. Mark hose.
4. Cut hose.
5. Slide on hose clamps.
6. Install sensor & tighten hose clamps.

### Radiator Fin Sensor Installation:

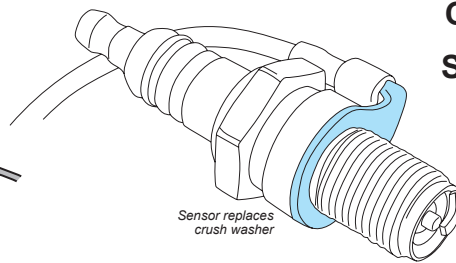
1. Confirm correct size.
2. Apply thermal grease to maximize heat transfer.
3. Carefully press sensor between radiator fins.



*If the in sensor is too large, file it to size rather than forcing it into the radiator.*

### CHT Cylinder Head Spark Plug Sensor Installation:

1. Remove crush washer from spark plug.
2. Replace with temperature sensor.
3. Re-install spark plug.



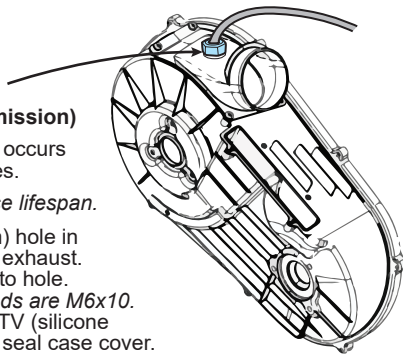
*Sensor replaces crush washer*

### CVT Sensor Install: (Continuously Variable Transmission)

200°F+ Warning: CVT Belt wear occurs more rapidly at high temperatures.

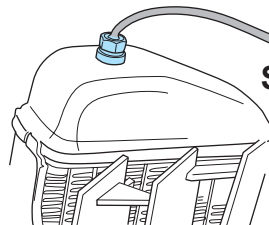
*Let the belt cool down to increase lifespan.*

1. Drill 13/64" (5mm) hole in hard plastic CVT exhaust.
2. Thread sensor into hole.  
*The sensor threads are M6x10.*
3. Use high temp RTV (silicone gasket sealer) to seal case cover.  
*Not included in kit.*



### Screw Sensor Installation:

- 1.
- 2.



## V2V AND GPS ANTENNAS:

### V2V Antenna:

The vehicle-to-vehicle antenna sends radio signals between your vehicle and other vehicles with Voyager Pro. It works well and is included in most Voyager Pro kits.

The plastic V2V antenna is designed to be mounted to a non-metallic surface like a number plate or shroud, with the ears aimed vertically, up and down. Higher up on the vehicle is better, as the engine and metal panels can block reception.



V2V Antenna  
*Required for  
Buddy Tracking*

GPS Antenna

### GPS Antenna:

The *internal* GPS antenna is adequate for normal use. If there is excessive metal around the Voyager Pro mounting location, the reception may be affected.

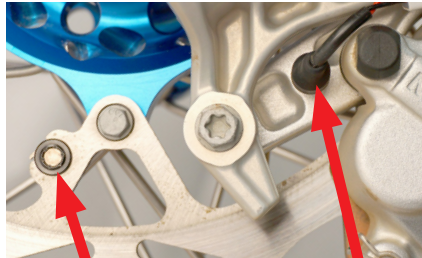
An *external* GPS antenna can be installed into the dock's GPS antenna port to achieve a better antenna mounting position. The external GPS antenna available from Trail Tech should be mounted flat, on a non-metallic surface.

## WHEEL SENSORS INSTALLS

### KTM WHEEL SENSOR

Trail Tech wheel sensors work with the KTM and Husqvarna OEM install location.

Screw the wheel sensor into the OEM caliper position. Insert the black magnet into the pre-drilled hole in the rotor and secure with the retainer clip.



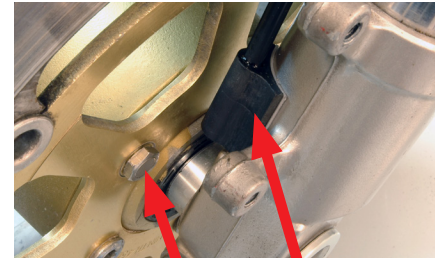
KTM Magnetic Retainer

KTM OEM Wheel Sensor Position

### INVERTED FORK WHEEL SENSOR

If the fork is close to the brake rotor, then the VHB fork sensor can be used. Peel and stick the sensor to the fork.

Try to have the tip of the sensor about 1/2 inch away from the magnet in the rotor.



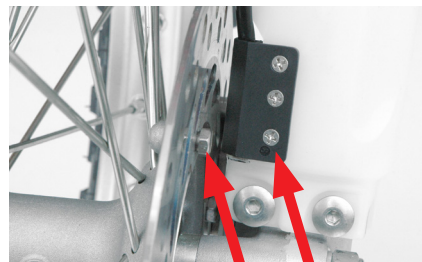
Rotor Bolt Magnet

Inverted Fork VHB Wheel Sensor

### FORK GUARD WHEEL SENSOR

If there are fork guards next to the brake rotor, then the fork guard wheel sensor can be installed as shown.

Try to have the tip of the sensor about 1/2 inch away from the magnet in the rotor.



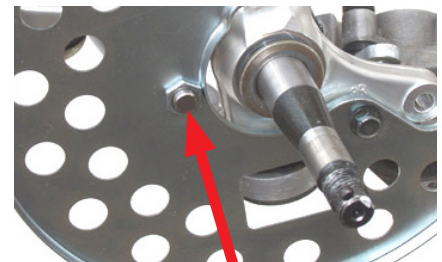
Rotor Bolt Magnet

Fork Guard Wheel Sensor

### ROTOR SHIELD WHEEL SENSOR

For UTVs and quads with a rotor shield, position the sensor there.

Drill a 3/8" hole and use the jam nuts to secure the sensor to the rotor shield. Use loctite rather than over-tightening the jam nuts.

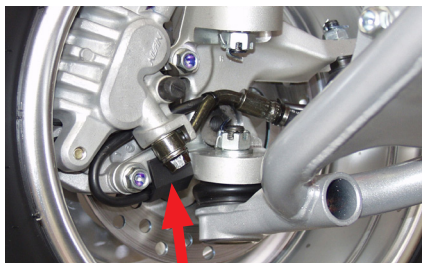


Rotor Shield Wheel Sensor

### BRAKE CALIPER WHEEL SENSOR

Some ATVs require mounting the wheel sensor directly to the brake caliper.

Drill a 1/8" hole through the caliper mount, then use the self-tapping screw to secure the sensor.

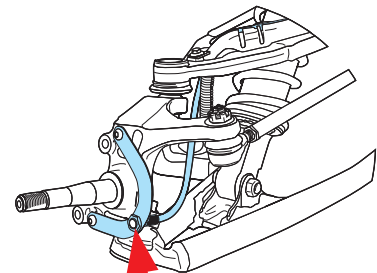


Brake Caliper Wheel Sensor

### C-BRACKET WHEEL SENSOR

Some kits include a metal C-bracket to help mount the sensor, as shown.

Use the jam nuts to secure the sensor to the C-bracket. Use loctite rather than over-tightening the jam nuts.



C-Bracket Wheel Sensor

### MAGNET INSTALLATION:

Install a magnet on the brake rotor to trigger the speed sensor each wheel rotation.

Remove one of the stock rotor bolts and install the magnetic rotor bolt as shown, do not over-tighten past 10 ft-lb of torque. If the magnetic bolt will not work, the kit includes a spare magnet that can be installed into one of the rotor spaces. Use the included retainer clip or epoxy such as JB Weld to secure.



Magnetic Rotor Bolt



Magnetic Retainer or Spare Magnet

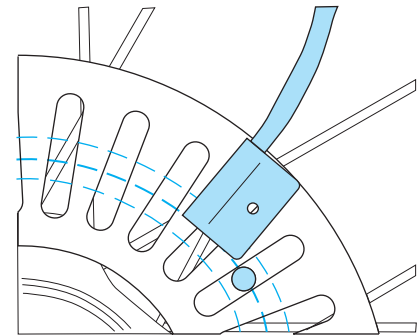
## WHEEL SENSORS SETUP

### WHEEL SENSOR TEST:

Test for correct sensor/magnet placement before permanently mounting.

1. Set the vehicle on a stand so that the front (left) wheel spins easily.
2. Plug the wheel sensor cable into the computer.
3. Install the magnetic bolt.
4. Hold the sensor in place on the caliper mount by hand. While someone watches the computer, roll the wheel. If the computer does not register, move the magnet or sensor and try again. There should be 1/2" or less gap between the sensor and magnet.

**Do not mount so that the magnet passes the middle section of the sensor. Either the sensor will not register at all; or the sensor will register twice, causing a "double trigger" effect (computer displays twice the true speed.)** If a double-trigger is unavoidable, divide the wheel size setting in the computer by 2 to correct the problem.



Magnet Rotation Path

### MEASURE WHEEL SIZE:

Knowing your exact wheel size is critical for the wheel sensor to calculate correct speed and distance data.

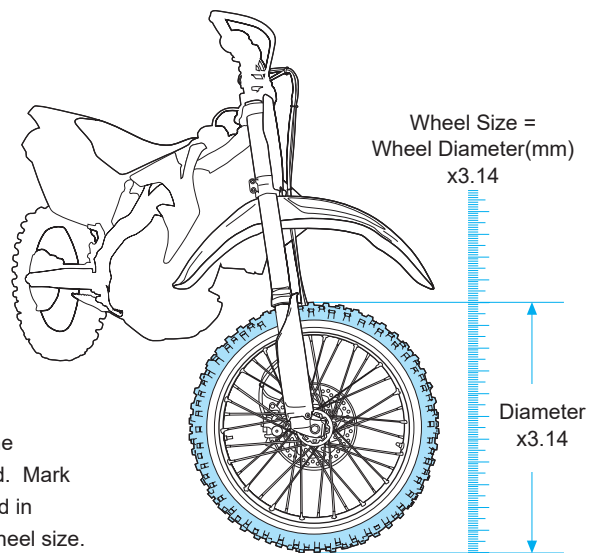
When comparing calibration to GPS data, use a long straight section of road with no tight corners or small vertical movements.

#### Method 1: Ruler

Find the circumference of front wheel by measuring its diameter in millimeters. Multiply the Wheel Diameter by 3.14. The result is your wheel size.

#### Method 2: Rolling

On a flat surface, mark the tire sidewall and the ground with a marking pen. Roll the wheel until the mark on the tire completes one revolution and is back on the ground. Mark the ground at this location. Measure the distance between the marks on the ground in millimeters (multiply inches by 25.4 to convert to mm). Use this number for your wheel size. For accuracy, the rider's weight should be on the bike when making the measurement.



#### Method 3: Distance Measurement

This is the most accurate method.

1. Set the wheel size to 2110mm (motorcycle) or 1675 (ATV).
2. Find a length of road where the distance is known.
3. Ride the distance, noting how far the computer reads (i.e. the road is known to be 5 miles and the computer shows 4.95 miles.)
4. Use the numbers to solve for X in the following equation:

$$(\text{new wheel size}) = \frac{(\text{actual miles}) \times (\text{current wheel size})}{(\text{current miles})}$$

$$X = \frac{5 \times 2110}{4.95} \quad \Rightarrow \quad X = \frac{10550}{4.95} \quad \Rightarrow \quad X = 2131$$

#### Generic/Average Sizes:

Motorcycle: 2110 mm  
ATV: 1675 mm

#### Wheel Size:

Enter the number you calculate from one of the above formulas into setup mode.

