PR002 Installation Guide

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Speed Sensor Interface

PR002-EN

For vehicle's with gearbox or differential mounted factory speed sensors.

Operating Principle

The Monit Speed Sensor Interface allows you to use a factory fitted speed sensor to operate a Monit Rally Computer. It will work with most types of sensors that produce either an analogue or digital pulse output.

Note: The interface will not work with ABS wheel speed sensors. Use the PR003 module instead.

Step 1:

Locate your vehicle's speed sensor. This is usually mounted on the gearbox or differential.

- Your vehicle's workshop manual will have details of the sensor's location and wiring connections.

- If your vehicle does not have a suitable sensor, you will have to fit a Monit Wheel Probe (PR001) instead.

Step 2:

There are two types of speed sensors used by the majority of vehicles. You can identify the type you have by the number of wires coming from it.

2-Wires—Passive Type Sensor:

This sensor works like a small electrical generator, producing a low power signal that changes frequency with speed. It should be connected to the interface as follows.

2-Wire Speed Sensor — BLACK, BLUE — PR002 — To Rally Computer
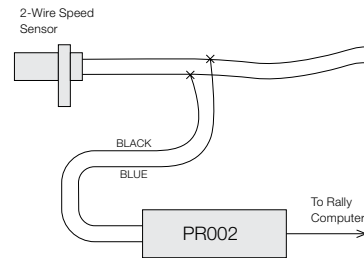
- The polarity of the connections does not matter.

3-Wire—Active Type Sensor:

This sensor contains an electronic chip that produces a digital pulse as the vehicle moves. Its three wires carry the speed signal, provide a ground return, and supply power to the chip. It should be connected to the interface as follows.

3-Wire Speed Sensor — POWER, SIGNAL, GROUND — BLACK, BLUE — PR002 — To Rally Computer
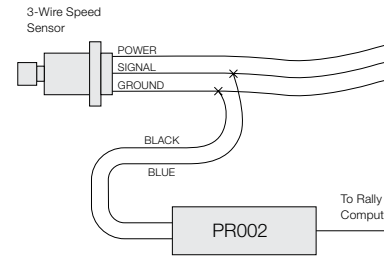
- Refer to your vehicle's wiring diagram to identify the wires coming from the sensor.

- You may also be able to tap into the speed signal from behind the instrument cluster or at the engine computer. If you do this, connect the BLACK wire to a ground point on the instrument cluster/computer itself. Do not use the vehicle chassis.

Step 3:

Connect the Speed Sensor Interface to the Rally Computer wiring loom using the dedicated connector.

- Do not route the cable near high voltage ignition leads.

- If the cable is too short an extension pack can be ordered. Contact your Monit dealer for details.

Step 4:

Apply power to the Rally Computer. Take the vehicle for a test drive and check that the distance increments when the vehicle is moving.

Installation is now complete.

Note: The speed and distance measurements will not be accurate until the system has been calibrated.

Troubleshooting

The distance does not increment

Check all connections and verify that you have correctly identified the wire that carries the speed signal. Use an oscilloscope to check this is a clean pulse or sinusoidal waveform with a frequency proportional to vehicle speed.

The distance is inaccurate / increments when stationary

This can be caused by electrical interference or a sensor that does not produce a suitable signal.

To prevent interference:

- For 3-wire sensors, ensure that the BLACK wire is connected to a clean ground point. Do not use the vehicle chassis for this.

- Check that the cables are not routed close to any sources of interference. Take particular care to avoid parts of the ignition system.

To ensure you have a suitable speed signal:

- Use an oscilloscope to check that the speed signal is a clean pulse or sinusoidal waveform with a frequency proportional to vehicle speed.

- Some older style reed switch sensors can suffer from contact bounce. If you suspect this is the case, try fitting a 0.1uF capacitor across the sensor's terminals.

Technical Specifications

Hysteresis Voltage	2V
Max. Input Frequency	400Hz
Input Impedance	100Kohm
Operating Temperature	-20C to 125C