

Gear Position Sensor Setup Guide

For Online Motorsports gear position sensors OM-GP-50, OM-GP-75 and OM-GP-100

1. What you need

- Online Motorsports gear position sensor (50, 75 or 100 mm stroke)
- Mounting brackets for the sensor body and the rod end, plus bolts and threadlocker
- A spare 0–5 V analog input on your ECU or data logger
- A connector such as a Deutsch DTM 3-pin or Molex, so the sensor can be removed easily

2. Choose the right stroke

Measure how far the shifter lever or linkage moves at the mounting point, from one end of its travel to the other (for example, first gear to top gear). Pick a sensor whose stroke is longer than that movement, so the sensor never reaches full extension or full compression while shifting.

Part	Stroke	Closed length	Open length
OM-GP-50 (50-F)	50 mm	165 mm	215 mm
OM-GP-75 (75-F)	75 mm	190 mm	265 mm
OM-GP-100 (100-F)	100 mm	215 mm	315 mm

3. Mounting

- 1 Mount the sensor body to a fixed point (chassis, transmission case or shifter base) and the rod end to the moving shifter lever or linkage.
- 2 Line the sensor up with the direction the lever moves. It should slide in a straight line, not be forced sideways.
- 3 With the sensor half extended, shift through every gear by hand. Check it never bottoms out or tops out and nothing binds.
- 4 Use a small amount of threadlocker on the mounting bolts. They do not need to be over-tightened.
- 5 Route the cable away from exhaust, hot surfaces and moving parts, and secure it with ties.

4. Wiring

Connect the sensor to your ECU or logger following its wiring guide.

Wire colour	Connect to
Brown	5 V DC sensor supply (reference)
Blue	Clean sensor ground
Yellow	0–5 V signal to your analog input
Black	Not required

5. Calibrate the gears

- 1 Turn the ignition on (engine off) and open the live data or sensor view for the input you wired.
- 2 Select each gear in turn, including neutral if fitted, and write down the voltage the sensor reads in each one.
- 3 Set a switch point halfway between the voltages of neighbouring gears. The logger then shows the gear whenever the voltage is inside that gear's range.
- 4 Shift through all gears again and check the correct gear is displayed every time.

Example only. Your voltages will depend on how the sensor is mounted.

Gear	Measured voltage	Gear range used
1st	1.20 V	0.50 – 1.65 V
Neutral	2.10 V	1.65 – 2.55 V
2nd	3.00 V	2.55 – 3.40 V
3rd	3.80 V	3.40 – 4.50 V

6. ECU and logger setup

The sensor gives a standard 0–5 V analog signal, so it works with Racepak, Holley EFI, FuelTech, Haltech, Emtron, MoTeC and other systems with a spare analog input.

- Set up the input as a 0–5 V analog (voltage) input and name it **Gear Position**.
- Enter the voltage range for each gear from your calibration to create a gear channel, or use the voltage directly on your dash or in your data.
- Menu names differ between brands and software versions. Check your ECU or logger manual for the exact steps.

7. Care and maintenance

- Check the sensor, rod end and mounts for wear after each event.
- Keep the sensor clean and remove it before welding on the car or pressure-washing.
- Recheck your gear voltages if you move the sensor or change the shifter.

Warranty and support

Covered by our 12 month warranty against defects in materials and workmanship. See onlinemotorsports.com.au/warranty for full details. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. Need help with setup? Call 0405 154 628 or email info@onlinemotorsports.com.au.