# Technical Bulletin 02-2019 FE/FE2 SADEV Gear Position Sensor

The SADEV SL75-14 LW specific to the SCCA FE/FE2 has a dedicated Gear Position Sensor to read the shift barrel position as a voltage output.

There is a narrow window of voltage for each gear position, for the ECU to output the correct gear position in the data stream, also for the flat shift to function properly.

If you have moved or replaced the sensor on the rear transmission cover, you will need to check the voltage reading in Neutral or 1first gear.

Voltage setting, lower and higher limit and the set to value in the middle, it's important to be as close as possible to the middle value.

| Gear | Lower limit | Setting | Upper Limit |
|------|-------------|---------|-------------|
| N | .69 | .79 | .92 |
| 1 | .96 | 1.12 | 1.27 |
| 2 | 1.63 | 1.77 | 1.92 |
| 3 | 2.27 | 2.41 | 2.57 |
| 4 | 2.90 | 3.05 | 3.22 |
| 5 | 3.55 | 3.69 | 3.84 |
| 6 | 4.18 | 4.32 | 4.47 |

You will need to connect to the ECU with PE Monitor, **use only supplied COMM cable black RJ45 X USB type B**. Once you have a connection with the ECU, use PE Monitor live data display there are blue rows 2 X 5 or 2 X 6 of readings. Choose one of the boxes and right click on it, use the down arrow on the right of one of the positions to select a new channel to display. The Gear position sensor is "Analog #6" select by left clicking analog # 6 and left somewhere on the screen to close the dialog box.

You are now able to view the live voltage reading from the "Gear Position Sensor" Select Neutral or First gear and adjust the output of the sensor close as possible to the "set to" reading in the above table.

The sensor is free rotating, meaning it turns 360 deg. If you are 180 deg out, the reading will be grossly wrong. Remove the sensor and turn the body or the shaft 180 deg and reinstall. The sensor is meant to be installed with the wires pointing down.

To adjust the sensor, loosen the two screws that hold it in place and rotate it clockwise or counterclockwise very slowly, until you achieve the desired reading. Retighten the screws. It's a good idea to shift the gear box up and down through the gears a couple of times and check the reading again.

You are done.