



S1 Sequential

## Gear indicator and sensor instructions

Updated 4/1/2024



**Please read the entire instructions before starting work**

This is really a job for an auto electrician, I have no doubt that many who are not auto electricians will be more than capable of this and will do a great job at it but if you do not understand anything in this

manual, please get someone who does to complete the job. Every effort has been made to explain everything in great detail but we can not give electrical lessons if you want to learn check out youtube there will be some great videos on there and its a good life skill.

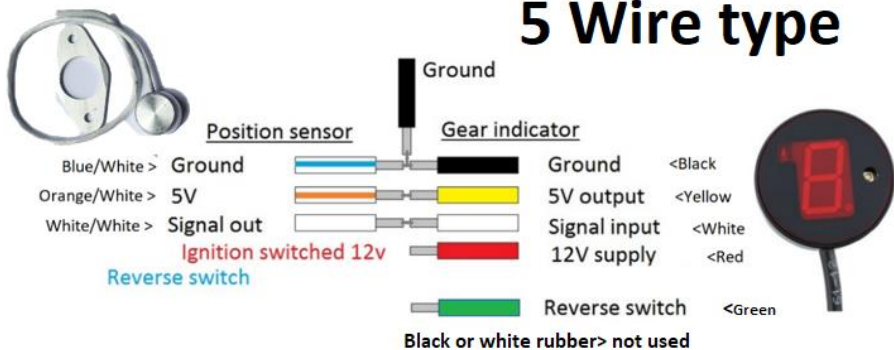
## Fitment

Mount the gear indicator in the desired position using double sided tape or if you want to fit the gear indicator to a gauge cup you can purchase the gauge cup adapter from the accessories section and secure the gear indicator inside that with some glue.

Connect all wires as detailed below. The 6 wire type has not been sold since 2021.

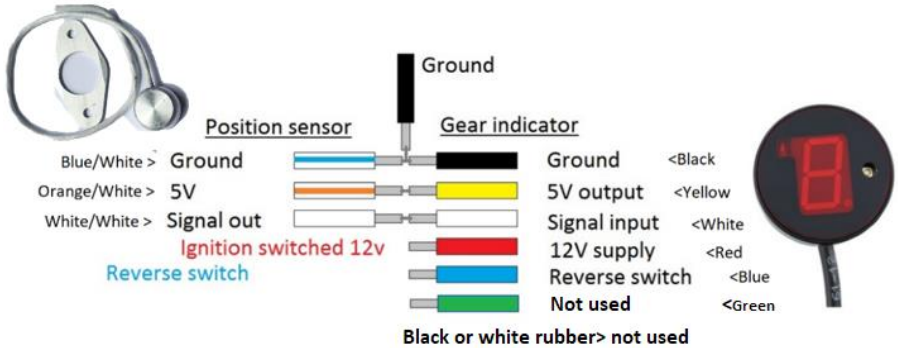
**Your sensor may have a green wire instead of blue but it will function the same.**

5 Wire type



## 6 Wire Type

White or black rubber with no copper = this does nothing, you will not find copper inside this one.



**Make sure your 12V is a constant 12V, We have had a few people test with a multi meter and see 12V but in reality is was a frequency wire that was peaking at 12V so was functioning at an average below the minimum voltage.**

**You must know what the wire does in the car not just randomly choose one that measures 12v.**

## Sensor fitment

**This sensor is a hall effect sensor and detects the angle of a magnet inside the shifter it outputs a voltage, it is not a potentiometer you cannot test it with the ohms setting on**

**your multimeter. It can be tested with dc voltage only any other multimeter settings may damage the sensor.**

**This sensor has no reverse polarity or over voltage protections. More than 5v will damage this sensor. Connecting the output to ground or 5v will damage this sensor.**

The sensor should be mounted so that it does not cross 0V while in operation although as long as 0V doesn't line up with any gears it will function fine.

To determine the correct position it is best to use a multimeter on the dc volts setting between the white signal wire and ground to ensure the sensor is positioned so it will not cross the zero spot in operation where the output will instantly jump from a low to high voltage. The sensor is secured with the supplied 4mm stainless steel screws. Be sure to fit the bracket around the sensor before joining the wires

### **Integrating sensor to an aftermarket dash.**

**This is not something we can provide detailed instructions on Programming the dash is a question for the supplier of the dash we only sell the sensor.** Just keep in mind this is a standard 0-5v sensor like every sequential transmission uses, Take great care to not exceed the 5V limit on the sensor or it will break. On these shifters reverse will be the same position on the sensor as first or second so it needs to be activated by a digital trigger on the reverse switch.

## **Gear indicator Programming**

1. Hold the programming button down before and during turning the power on this will put the gear indicator into programming mode. The programming button can be accessed through the 4mm hole on the front of the gear indicator. This should be done with a nonconductive object to prevent any accidental damage.
2. The gear indicator will now pulse the gear it is waiting to be entered starting with neutral. (the pulsing can be hard to see under some conditions but if it's displaying the n and doesn't change when you shift gears is probably ready to go)
3. Select the gear displayed on the shifter/transmission then press the program button to set the position in the gear indicator. Its best to do this with the engine running and to release the clutch slightly each time to ensure the gear is fully engaged,
4. Once you have programmed the number of gears your transmission has turn off power to the gear indicator for all the settings to be saved.
5. Reverse can be displayed my either a high or low power (under 1V=low, over 4V= high) on the blue wire this will come from the reverse switch on the side of the transmission.

The reverse input will override all other gear position displays.

Generally earlier cars and most conversions switch to 12v with reverse is engaged and many late model cars have 12V through a resistor that is gets switched to ground through the reverse switch, in this case when

testing the wires to the switch with a multimeter when the car is not in neutral one wire will show 12v and the other 0V, When the switch is triggered by reverse it will take the 12V from the wire. This is the wire you will need to use, not the wire that is initially 0V like the older cars.

To select positive or negative trigger press the program button for 1 second any time at least 5 seconds after power on and the input trigger behaviour will switch. When you select positive trigger, the display will flash "P" with you select negative trigger the display will flash "N".

If you're not sure what to do and you definitely have a reverse switch wire that changes when reverse is selected just try pushing the button at least 5 seconds after power on and see what happens.

## Trouble shooting

### **Step by step fault finding below**

**1, If gear indicator does not turn on with power:** Check for 12v between black and red wires, if this is ok disconnect sensor and test again. If the indicator still does not power on providing you have a stable 12v power supply your gear indicator may be faulty. (we see more with bad power supply than faulty sensors)

**2, Check that the Yellow wire has between 4 and 5V,** If it does not have between 4 and 5V disconnect the Yellow 5v wire and the 5v wire on the sensor and measure the voltage again on the yellow wire, if you

now see 4-5v on the yellow wire you may have a faulty sensor. If you still do not have voltage on the yellow wire you may have a faulty gear indicator.

**3, If the gears do not save :** Check that the white signal wire from the sensor is changing voltage with gear position, Check that you see a change in voltage between the black ground wire and the white signal wire if there is no change in voltage with gear position disconnect the White sensor and gear indicator wires and measure the voltage again on the white sensor wire. If it now changes with gear position you may have a faulty gear indicator. If there is still no voltage change on the white sensor wire the sensor may be faulty.

If the sensor has supply voltage and the output voltage does not change with position there is a slim chance the magnet could be faulty, we have never seen this but it is possible you can firstly use small magnet no greater than 4mm between the poles and rotate it under the sensor to see if the output changes, you can also see if there is some magnetic attraction on the shifter with something light and made from steel, with this step the force will be very faint.

**4. Gear indicator only shows “R” or “A”:** This is the same letter the “A” is the closest we can get to an “R” on the seven-segment display. The “R” will mean that the reverse input is triggered so invert its behaviour by pressing the program button for one second at least 5 seconds after power has been switched on.

