

## GEARTOOTH SPEED SENSOR

# GS1001–GS1002 Series



**Circuit-protected, Hall-effect geartooth speed sensor with adjustable stainless steel housing.**

### Features

- Senses motion of ferrous geartooth targets
- Near zero speed sensing capability
- Immune to rotational alignment
- 10 bit dynamic threshold detection offers
  - Automatically adjusting magnetic range
  - Self compensating to target geometry
  - Immune to target run out
- Compatible with unregulated power supply
- Reverse battery protected to -24VDC
- Internal circuit protection to IEC529 1000
  - EMI resistant to 10V/m, 30MHz to 1GHz
  - ESD resistant to 4kV (contact discharge)
  - Fast transient resistant to 2kV
- Conducted immunity resistant to 10VRMS@150kHz to 80MHz
- EMC compatible 30A/m@50Hz
- Meets IEC529 IP67 for dust and water protection
- Cable version: 22 AWG, tin plated with drain wire and polyolefin insulation
- Connector version: M12 integral connector meets IEC 60947-5-2 for low voltage devices
- Stainless steel housing

### Applications

- CNC machine tools
- Transmission speed
- Industrial feedback control

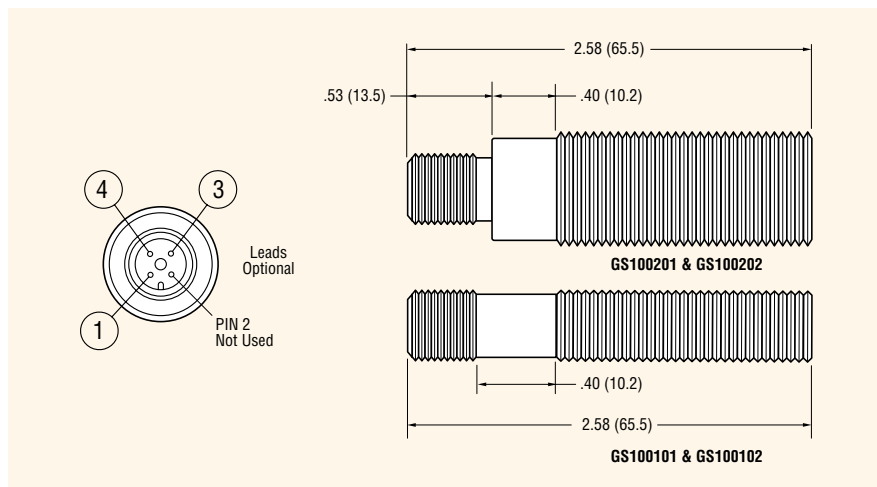
### Specifications

| Part Number | Operating Voltage Range (VDC) | Supply Current (mA max.) | Output | Output Saturation Voltage (mV max.) | Output Current (mA max.) | Operating Temp Range (°C) | Storage Temp Range (°C) | Thread | Barrel Length | Cable           | Connector     |
|-------------|-------------------------------|--------------------------|--------|-------------------------------------|--------------------------|---------------------------|-------------------------|--------|---------------|-----------------|---------------|
| GS100101    | 4.5 – 24                      | 6                        | sink   | 700                                 | 25                       | -40 to 105                | -40 to 105              | M12-1  | 65mm          | —               | 12mm circular |
| GS100102    | 4.5 – 24                      | 6                        | sink   | 700                                 | 25                       | -40 to 125                | -40 to 125              | M12-1  | 65mm          | 22 AWG x 1m BBB | —             |
| GS100201    | 4.5 – 24                      | 6                        | sink   | 700                                 | 25                       | -40 to 105                | -40 to 105              | M18-1  | 65mm          | —               | 12mm circular |
| GS100202    | 4.5 – 24                      | 6                        | sink   | 700                                 | 25                       | -40 to 125                | -40 to 125              | M18-1  | 65mm          | 22 AWG x 1m BBB | —             |

Notes: These sensors require the use of an external pull-up resistor, the value of which is dependent on the supply voltage. See page 18 for recommendations. Pull-up resistor should be connected between output (Black) and Vcc (Brown).

### Dimensions inches (mm)

All tolerances  $\pm 0.005$  (0.13) unless otherwise noted.



### Open Collector Sinking Block Diagram

