

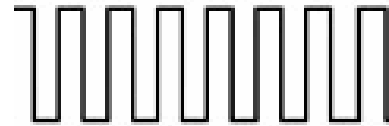
Hall Effect Gear Tooth Sensors CYGTS99

CYGTS99 Hall Effect Gear Tooth Sensor uses a magnetically biased Hall Effect integrated circuit to accurately sense movement of ferrous metal targets. This specially designed integrated circuit, with bias magnet and discrete capacitor, is sealed in plastic or metal package for physical protection and cost effective installation.

The units function under power supply from 6V to 24V DC. Output is digital, current sinking (RC). Reverse polarity protection is standard. The sensor will not be damaged if power is inadvertently wired backwards.

Features

- Sensing ferrous metal targets
- Digital current sinking output (RC)
- Good signal-to-noise ratio
- Excellent low speed performance
- Output amplitude not dependent on RPM
- Fast operating speed, over 15kHz
- EMI resistant
- Reverse polarity protection and transient protection
- Wide operating temperature -40°C ~ +135°C.



Applications

Automotive and Heavy Duty Vehicles:

- Camshaft and crankshaft speed and position
- Transmission speed
- Tachometers
- Anti-skid/traction control

Industrial Areas:

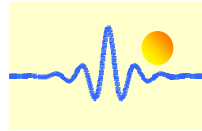
- Sprocket speed
- Chain link conveyor speed/distance
- Stop motion detector
- High speed low cost proximity
- Tachometers, counters.

Absolute Maximum Ratings

| | |
|-----------------------------|--|
| Supply Voltage | -30V~+30V |
| Output Voltage | -0.5V~+30V |
| Output Current | Sinking 50mA |
| Operating Temperature Range | -40°C~+135°C (-40°C ~ +150°C realizable) |

Order Guide

| | |
|---------------------------|---|
| Part number | Flat pins: CYGTS99-F, CYGTS99-xxxx-F Round pins: CYGTS99-R, CYGTS99-xxxx-R |
| Supply Voltage | 6V~24V |
| Output Saturation Voltage | 0.4V (Load off) |
| Sense Distance | 1mm~2mm (-40°C~135°C/150°C, 10~8000rpm Use reference target wheel) |
| Protection of Case | IP67 |
| Cross Reference | Siemens VDO Sensors |

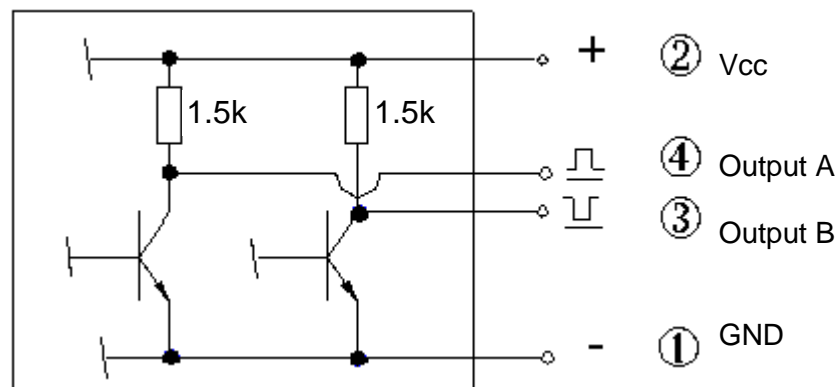
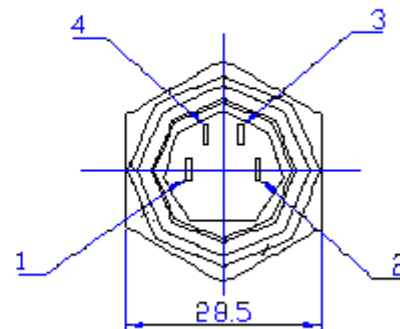
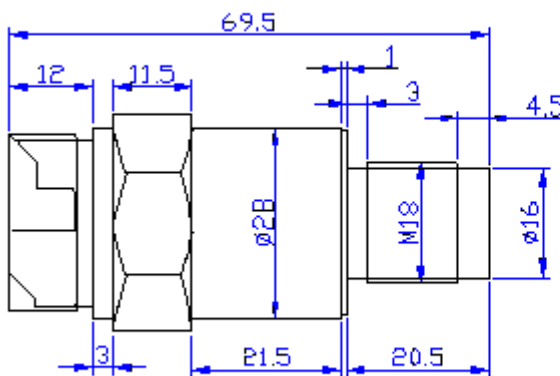


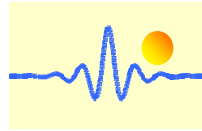
Mounting Dimensions (for reference only)

a) With Flat Pins





CYGTS99-F

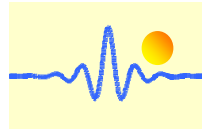




CYGTS99 sensors with different length

| Part number | Product picture | Description |
|----------------|---|---------------------------------------|
| CYGTS99-198-F |  | Gear Tooth speed sensor L: 19,8 mm |
| CYGTS99-250-F |  | Gear Tooth speed sensor L: 25 mm |
| CYGTS99-350-F |  | Gear Tooth speed sensor L: 35 mm |
| CYGTS99-632-F |  | Gear Tooth speed sensor L: 63,2mm |
| CYGTS99-900-F |  | Gear Tooth speed sensor L: 90 mm |
| CYGTS99-1150-F |  | Gear Tooth speed sensor L: 115 mm |

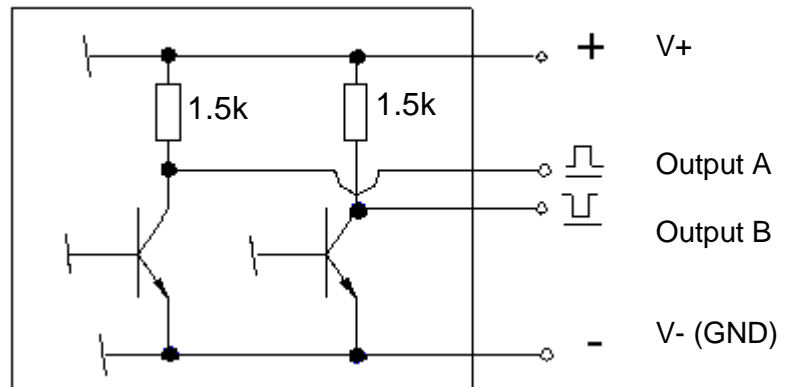




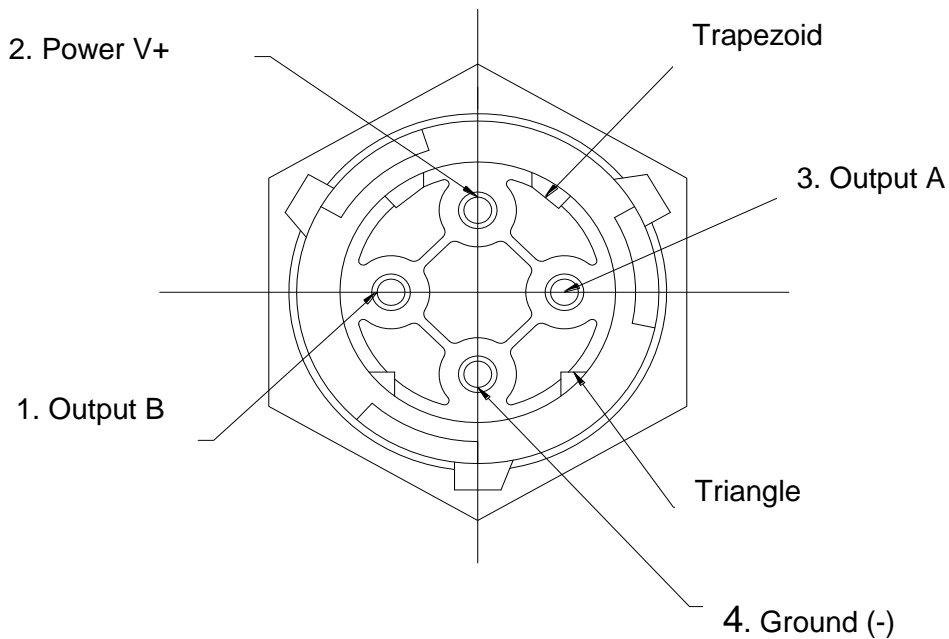
b) With Round Pins and female connector CYGTS99C

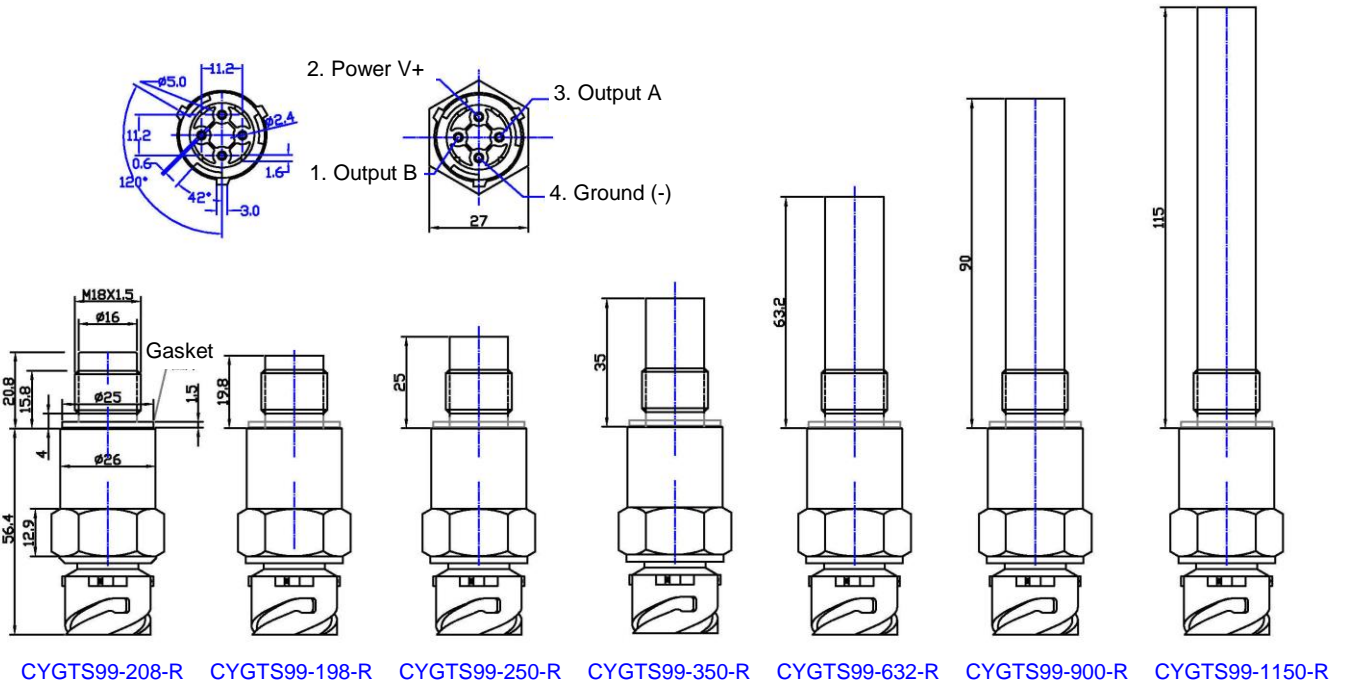
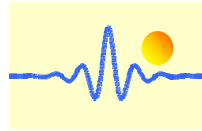


CYGTS99-R



Female Connector CYGTS99C





Reference Target Wheel

| Tooth Height | Tooth Width | Tooth Spacing | Target Thickness | Teeth Number |
|--------------------|-----------------|---------------------|--------------------|--------------|
| 0.20in (5.08mm) | 0.10in (2.54mm) | 0.70in (17.78mm) | 0.25in (6.35mm) | 60 |

Characteristics will vary due to target size, geometry, location, and material.

Test Conditions

| | |
|----------------|-----------------------------------|
| Air gap | 0.04 to 0.08 in. (1.02 to 2.03mm) |
| Voltage Supply | +6V to +24V |
| RPM | 10 min., 3600 max. |

Optimum sensor performance is dependent on the following variables which must be considered in combination:

- Target material, geometry, and speed
- Gap between sensor and target
- Ambient temperature
- Magnetic material in close proximity.