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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Interactive Catalog Replaces Catalog Pages

Honeywell Sensing and Control has replaced the PDF product catalog with the new **Interactive Catalog**. The **Interactive Catalog** is a power search tool that makes it easier to find product information. It includes more installation, application, and technical information than ever before.



**Click this icon to try the new
Interactive Catalog.**

Sensing and Control

Honeywell Inc.

11 West Spring Street

Freeport, Illinois 61032

Solid State Sensors

Hall Effect Gear Tooth Sensors

GT1 Series



FEATURES

- Senses ferrous metal targets
- Digital current sinking output (open collector)
- Better signal-to-noise ratio than variable reluctance sensors, excellent low speed performance, output amplitude not dependent on RPM
- Sensor electronically *self-adjusts* to slight variations in runout and variations in temperature, simplifying installation and maintenance
- Fast operating speed – over 100 kHz
- EMI resistant
- Reverse polarity protection and transient protection (integrated into Hall I.C.)
- Wide continuous operating temperature range (-40° to 150°C), short term to 160°C

TYPICAL APPLICATIONS

Automotive and Heavy Duty Vehicles:

- Camshaft and crankshaft speed/ position
 - Transmission speed
 - Tachometers
 - Anti-skid/traction control
- Industrial:
- Sprocket speed
 - Chain link conveyor speed and distance
 - Stop motion detector
 - High speed low cost proximity
 - Tachometers, Counters

GT1 ORDER GUIDE

Catalog Listing	Description
1GT101DC	Gear Tooth Sensor

GENERAL INFORMATION

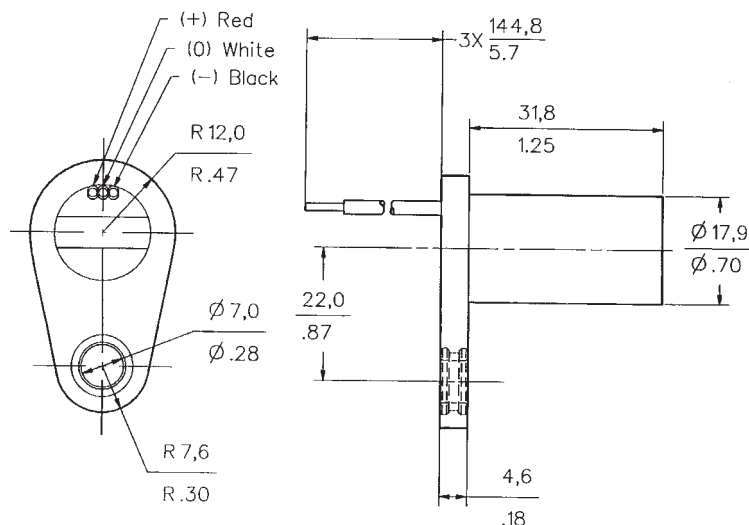
1GT1 Series Gear Tooth Sensors use a magnetically biased Hall effect integrated circuit to accurately sense movement of ferrous metal targets. This specially designed I.C., with discrete capacitor and bias magnet, is sealed in a probe type package for physical protection and cost effective installation.

Units will function from a 4.5 to 24 VDC power supply. Output is digital, current sinking (open collector). Reverse polarity protection is standard. If power is inadvertently wired backwards, the sensor will not be damaged. Built-in protection against pulsed transients to +60V, -40V is also included.

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

- Target material, geometry, and speed
- Sensor/target gap
- Ambient temperature
- Magnetic material in close proximity

MOUNTING DIMENSIONS (For reference only)



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SENSOR SPECIFICATIONS

All values were measured using 1 K pull-up resistor.

Electrical Characteristics	Supply Voltage	4.5 to 24 VDC
	Supply Current	10 mA typ., 20 mA max.
	Output Voltage (output low)	0.4 V max.
	Output Current (output high)	10 μ A max. leakage into sensor
	Switching Time	
	Rise (10 to 90%)	15 μ sec. max.
	Fall (90 to 10%)	1.0 μ sec. max.
Absolute Maximum Ratings*	Supply Voltage (Vs)	\pm 30 VDC continuous
	Voltage Externally Applied To Output (output high)	-0.5 to +30 V
	Output Current	40 mA sinking
	Temperature Range	
	Storage	-40 to 150° (-40 to 302°F)
	Operating	-40 to 150° C (-40 to 302°F)
Switching Characteristics**	Operate Point	3.7 \pm 1.25° (3,28 \pm 1,13 mm)
	Release Point	4.7 \pm 2.50° (4,16 \pm 2,21 mm)
	Differential Travel	8.4 \pm 3.70° (7,45 \pm 3,34 mm)

* As with all solid state components, sensor performance can be expected to deteriorate as rating limits are approached; however, sensors will not be damaged unless the limits are exceeded.

** See Reference Target table.

TARGET GUIDELINES

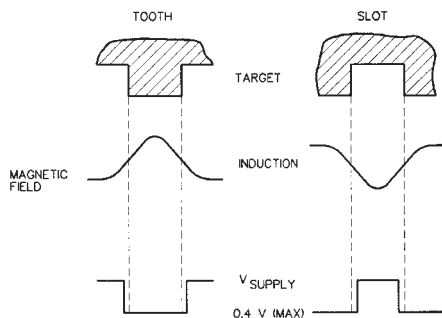
The Target Guidelines table provides basic parameters when an application is not restricted to a specific target.

Any target wheel that exceeds the following minimum specifications can be sensed over the entire temperature range of -40° to 150°C with any sensing gap up to .080 in. (2,0 mm). This data is based on a 4 in. (102 mm) diameter wheel, **rotating 10 to 3600 RPM.**

Reference Target Dimensions

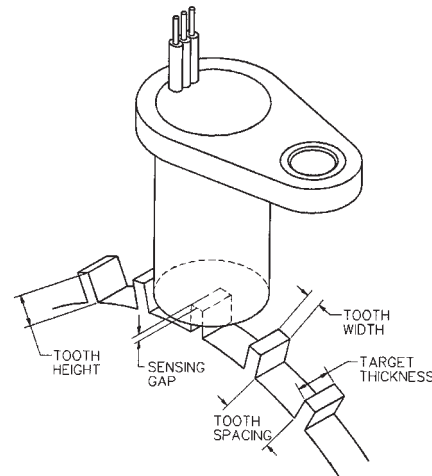
Tooth Height:	.200 in. (5,06 mm) min.
Tooth Width:	.100 in. (2,54 mm) min.
Tooth Spacing:	.400 in. (10,16 mm) min.
Target Thickness:	.250 in. (6,35 mm)

Sensor Output (with pull-up resistor added to output circuit)



REFERENCE TARGET/CONDITIONS

Characteristics will vary due to target size, geometry, location, and material. Sensor specifications were derived using a cold-rolled steel reference target. See table, right, for reference target configuration and evaluation conditions.



Target

Diameter:	4 in. (101,6 mm)
Tooth Width:	.350 in. (8,89 mm)
Thickness:	.250 in. (6,35 mm)

Test Conditions

Air Gap:	.040 to .080 in. (1,02 to 2,03 mm)
V Supply:	4.5 to 24 V
RPM:	10 min., 3600 max.

Integral Magnet