



Gear Tooth Sensors

PS-HR Series

Gear Tooth Sensors

Product compatible with RoHS directive

Overview of the PS-HR Series

FEATURES

- High-precision digital outputs with suppressed jittering from the time of zero speed rotations made possible by a unique magnetic circuit design with an optimum placement of a highly sensitive differential hall IC and magnets.
- Using the unique housing structure developed by TDK, environmental durability that accommodates a wide range of temperatures from as low as -30°C to as high as $+150^{\circ}\text{C}$, as well as resistance against vibrations, water immersion, and noise has been realized. Cost reduction has also been achieved.
- Includes a built-in surge voltage suppression circuit.

APPLICATION

Speed sensors, cam angle sensors, and crank angle sensors

Applied example (Speed sensors)

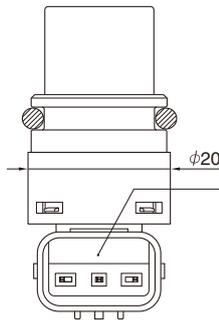
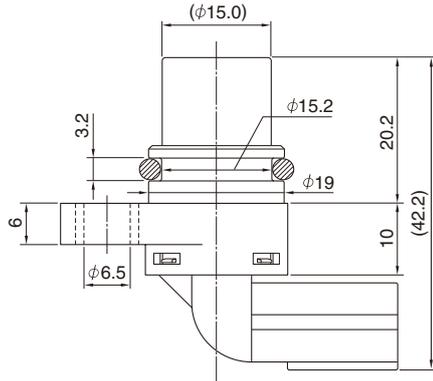
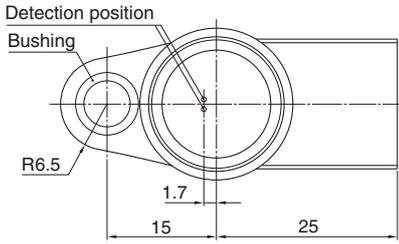


○ RoHS Directive Compliant Product: See the following for more details related to RoHS Directive compliant products. <http://product.tdk.com/en/environment/rohs/>

⚠ Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use.
Please note that the contents may change without any prior notice due to reasons such as upgrading.

PS-HR92

SHAPE & DIMENSIONS

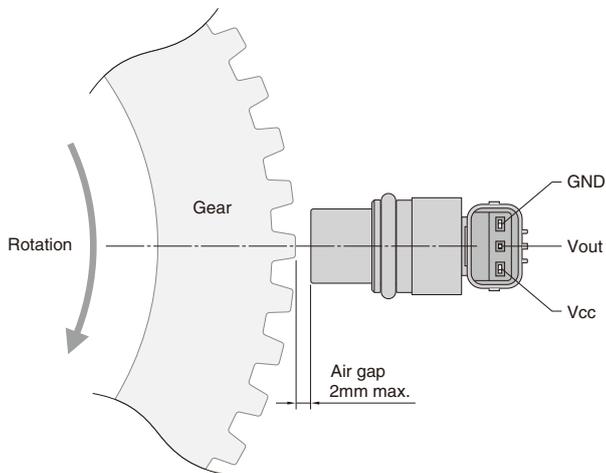


Direct coupler
 Fitting connector: 6189-0887 (Sumitomo Wiring Systems, Ltd.)

Weight: 17g typ.
 Dimensions in mm



PLACEMENT EXAMPLE



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PS-HR92

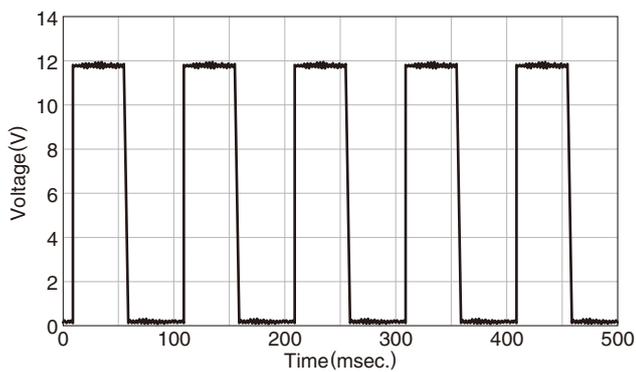
ELECTRICAL CHARACTERISTICS

Operating power source voltage Vcc	4.75 to 16V
Output circuit form	Open collector
Output voltage Vout	$V_{HIGH} \geq V_{CC} - 0.5V$ / $V_{LOW} \leq 0.4V$
Output voltage Iout	15mA max.
Air gap	2.0mm max. (For gear shape)
Response frequency	0 to 12kHz
OPERATING TEMPERATURE RANGE	-30 to +150°C

RESISTANCE TO ENVIRONMENTAL EFFECTS

Vibration resistance	50 to 2000Hz(6 min./cycle), 20 h, 294m/s ² , 3 directions
Thermal shock resistance	-30°C(30 min) to 150°C(30 min)×500 cycle
Resistance to water damage	JIS D 0203 S2
High temperature operation	500h at 150°C
Low temperature operation	500h at -30°C
Transient voltage characteristics	JASO D001-94 (A-1, A-2, B-1)
Radioelectric field endurance	100V/m, 1 to 200MHz

EXAMPLE OUTPUT WAVEFORM



PS-HR Series

■ Handling Precautions

- Please request a delivery specification form containing more detailed information on characteristics and specifications so as to ensure correct and safe use of the products.

[Storage Environment]

- Do not store this product in an environment in which corrosive gases are generated, entered, or stagnated.

[Handling]

- Do not leave this product unattended for long periods of time with a strong acidic or alkaline organic solvent such as a detergent adhered. If the product is left unattended with a strong acidic or alkaline organic solvent adhered to it under conditions where the temperature is high such as immediately after driving, this may result in the rapid deterioration of the exterior resin.
- The detection part of this product has a powerful built-in magnet. It is extremely dangerous to place this product near a person wearing an electronic medical device such as a pacemaker. Doing so may impair the normal operation of the device or, in the worst case, stop the device.
- Do not place this product near cards or recording media using magnetism or equipment that is affected by magnetism. Doing so may cause loss of or damage to the recorded content, or a failure or malfunctioning of the equipment.

■ Other Requests/Notices

- We do not assume any responsibility for any damage caused by the use of our products exceeding the scope or conditions defined in the delivery specifications.
- Specifications of the products in this catalog are subject to change without notice due to improvements or other reasons. In addition, supply of the products may be cancelled without notice.