



## HOA0901-011

**HOA Series Infrared Transmissive Encoder Sensor, Inverting Logic Output, No Mounting Tabs, Plastic Package**

### Features

- Dual channel IC
- Direct TTL interface
- Inverting logic output
- Resolution to 0.009 in [0.229 mm]
- Internal temperature compensation
- 0.126 in [3.2 mm] slot width
- Two mounting configurations

### Description

The HOA0901 sensor consists of a dual channel IC detector and an IRED encased in a black thermoplastic housing. The device is typically used with an interrupter strip or disk (code wheel) to encode the rate and direction of mechanical motion. Applications include linear and rotary encoders; it is especially suited for the encoding function in an optical mouse. As the interruptive pattern moves, the detector generates two output signals which can be processed to provide speed and direction information.

The detector is a monolithic IC which consists of two narrow adjacent photodiodes, amplifiers, and Schmitt trigger output stages. The outputs are NPN collectors with internal 10 kOhm (nominal) pull-up resistors to Vcc which are capable of directly driving TTL loads. The IC design incorporates circuitry to compensate the sensitivity for the output power vs. temperature characteristic of the IRED. The sensing areas of the IC are each 0.008 in (0.203 mm) in width and 0.015 in (0.381 mm) in height with a 0.001 in (0.0254 mm) separation for a center-to-center spacing of 0.009 in (0.229 mm) and outside edge to edge distance of 0.017 in (0.432 mm).

*Representative photograph, actual product appearance may vary.*

*Due to regional agency approval requirements, some products may not be available in your area. Please contact your regional Honeywell office regarding your product of choice.*

Two package styles are available. HOA0901-011 is primarily intended for direct PCB mounting. HOA0901-012 has mounting tabs for chassis mounting. The HOA0901 series employs plastic molded components. For additional component information see SEP8506 and HLC2701.

Housing material is polycarbonate. Housings are soluble in chlorinated hydrocarbons and ketones. Recommended cleaning agents are methanol and isopropanol.



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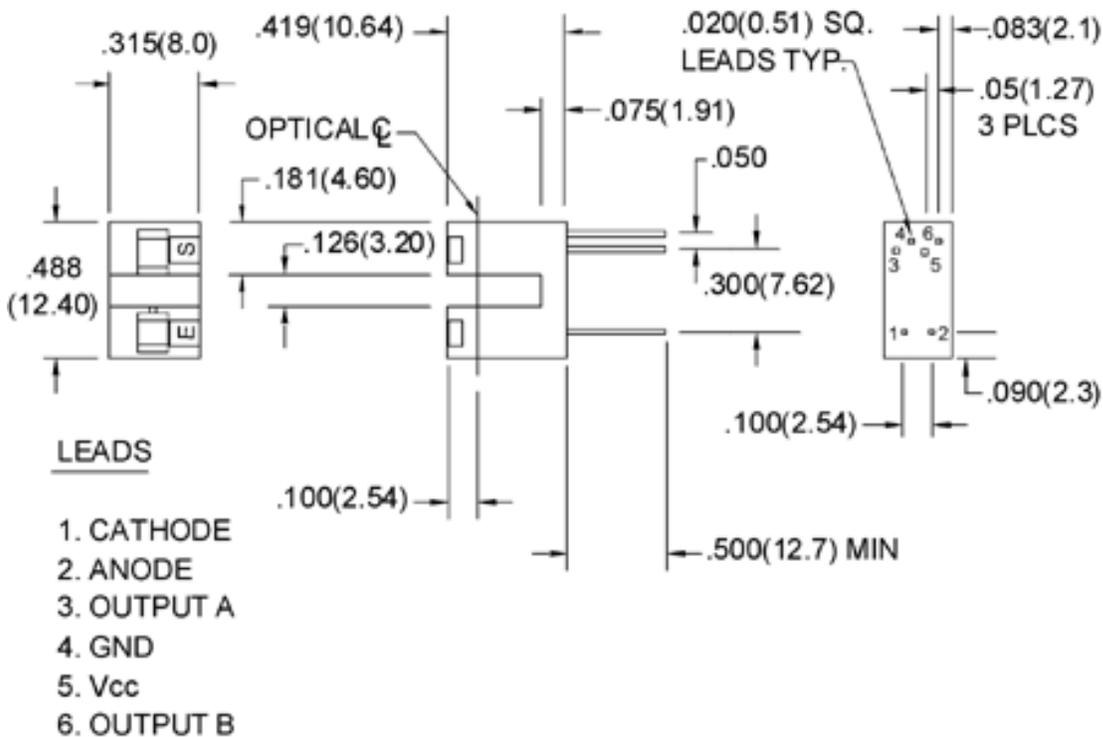
Product Specifications	
<b>Product Type</b>	IR Component
<b>Turn-on Threshold Irradiance</b>	0.05 mW/cm <sup>2</sup> to 2.0 mW/cm <sup>2</sup>
<b>Output Option</b>	Direction
<b>Package Style</b>	PC Mount
<b>Package Components</b>	Plastic
<b>Continuous Forward Current</b>	50 mA
<b>Reverse Breakdown Voltage</b>	3 V
<b>Power Dissipation</b>	100 mW
<b>Operating Temperature Range</b>	-40 °C to 85 °C [-40 °F to 185 °F]
<b>Hysteresis (H)</b>	28%
<b>Operating Supply Voltage</b>	4.5 V to 5.5 V
<b>Supply Voltage</b>	5.5 Vdc
<b>High Level Output Voltage</b>	2.4 V minimum
<b>Low Level Output Voltage</b>	0.4 V maximum
<b>Internal Pull-up Resistor</b>	5.0 kOhm min., 10.0 kOhm typ., 20.0 kOhm max.
<b>Output Rise Time</b>	100 ns
<b>Output Fall Time</b>	100 ns
<b>Propagation Delay, Low-High,High-Low</b>	5.0 μs
<b>Duration of Output Short Vcc or Ground</b>	1.0 second

<b>Comment</b>	The radiation source is IRED with a peak wavelength of 880 nm.
<b>Availability</b>	Global
<b>Product Name</b>	Encoder Sensor
<b>Resolution</b>	0,03 mm [0.009 in]

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** WARNING**

**PERSONAL INJURY**

DO NOT USE these products as safety or emergency stop devices, or in any other application where failure of the product could result in personal injury.

**Failure to comply with these instructions could result in death or serious injury.**

** WARNING**

**MISUSE OF DOCUMENTATION**

- The information presented in this product sheet (or catalog) is for reference only. DO NOT USE this document as product installation information.
- Complete installation, operation and maintenance information is provided in the instructions supplied with each product.

**Failure to comply with these instructions could result in death or serious injury.**