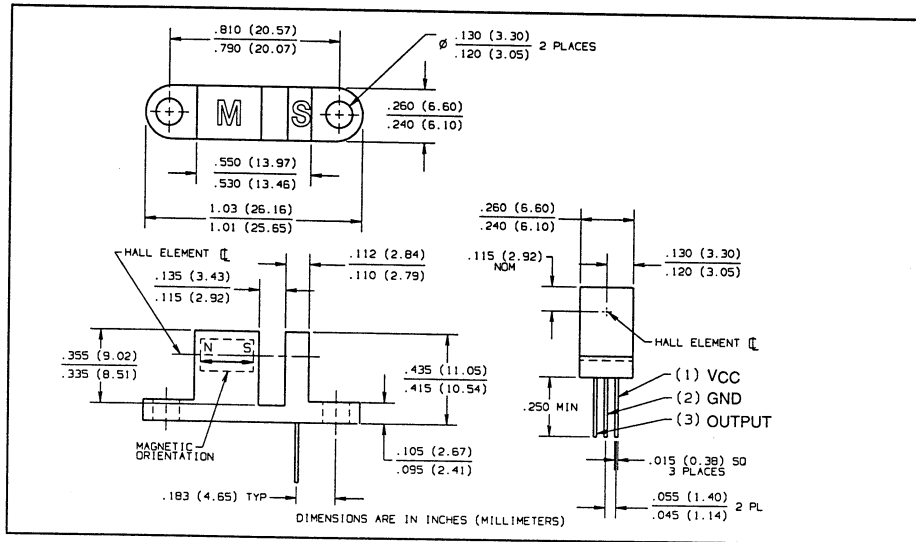
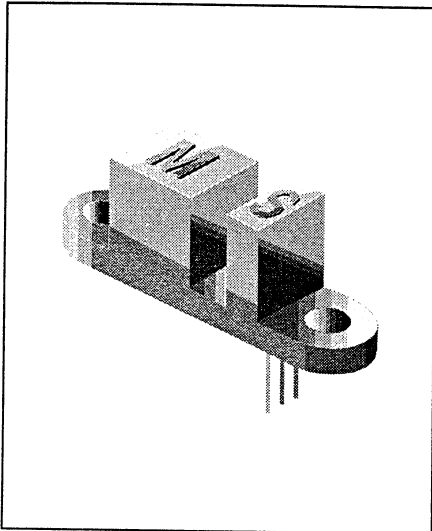


# Hallogi<sup>®</sup> Hall Effect Sensor Assembly Type OHB900



## Features

- Non-contact motion sensing
- Operates over a broad range of supply voltages
- Excellent temperature stability
- Hall element, linear amplifier, and Schmitt trigger on a single Hallogi<sup>®</sup> silicon chip
- Performs in high dust and dirt environments
- 0.125" (3.18mm) wide gap

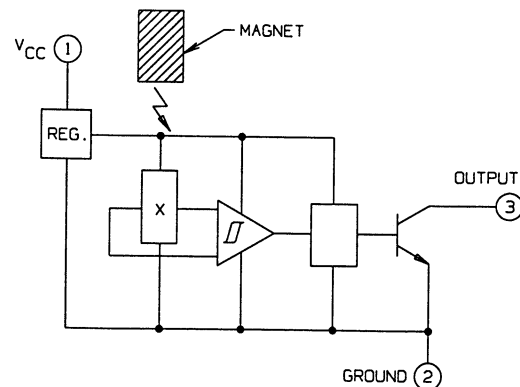
## Description

The OHB900 consists of a Hall Effect sensor similar to the OH180U and a rare earth magnet mounted in a low cost plastic housing. The magnet produces optimum magnetic flux at the Hall Effect sensor location. The sensor has an open collector transistor output which is activated when the slot is open. When the slot is blocked by a ferrous material, reducing the magnetic flux density at the Hall Effect sensor location, the open collector output transistor switches off. The device provides up to 25 mA of sink current. Output characteristics are constant at switching frequencies from DC to over 200 kHz.

## Absolute Maximum Ratings ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Supply Voltage, $V_{CC}$ .....	25 V
Storage Temperature Range, $T_S$ .....	$-50^\circ\text{C}$ to $+160^\circ\text{C}$
Operating Temperature Range, $T_A$ .....	$-50^\circ\text{C}$ to $+150^\circ\text{C}$
Lead Soldering Temperature [1/8 inch (3.2 mm) from case for 5 sec. with soldering iron] .....	$260^\circ\text{C}$
Output ON Current, $I_{SINK}$ .....	25 mA
Output OFF Voltage, $V_{OUT}$ .....	25 V
Magnetic Flux Density, $B$ .....	Unlimited

## Sensor Functional Block Diagram



# Type OHB900

Electrical Characteristics ( $V_{CC} = 4.5\text{ V to }24\text{ V}$ ,  $T_A = 25^\circ\text{ C}$  unless otherwise noted)

Symbol	Parameter	Min	Typ	Max	Units	Test Conditions
$I_{CC}$	Supply Current		4	7	mA	$V_{CC} = 24\text{ V}$ , Output Off
$V_{OL}$	Output Saturation Voltage		100	400	mV	$V_{CC} = 4.5\text{ V}$ , $I_{OL} = 20\text{ mA}$ , Slot Open
$I_{OH}$	Output Leakage Current		0.1	10.0	$\mu\text{A}$	$V_{CC} = 4.5\text{ V}$ , $V_{OUT} = 24\text{ V}$ , Slot Blocked <sup>(1)</sup>
$t_r$	Output Rise Time		0.21	1.00	$\mu\text{s}$	$R_L = 820\ \Omega$ , $C_L = 20\text{ pF}$
$t_f$	Output Fall Time		0.25	1.00	$\mu\text{s}$	

(1) Slot blocked with a ferrous material to interrupt magnetic flux.

## Typical Performance Curves