



Representative photograph, actual product appearance may vary.

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SS495A

SS490 Series Standard Miniature Ratiometric Linear Hall-Effect Sensor; radial lead IC

Features

- Small size
- Low power consumption
- Single current sinking or current sourcing linear output
- Built-in thin-film resistors - laser trimmed for precise sensitivity and temperature compensation
- Rail-to-rail operation provides more useable signal for higher accuracy
- Responds to either positive or negative gauss
- Quad Hall sensing element for stable output)

Description

SS490 Series MRL (Miniature Ratiometric Linear) sensors have a ratiometric output voltage, set by the supply voltage. It varies in proportion to the strength of the magnetic field.

A new Hall effect integrated circuit chip provides increased temperature stability and sensitivity. Laser trimmed thin film resistors on the chip provide high accuracy and temperature compensation to reduce null and gain shift over temperature. The quad Hall sensing element minimizes the effects of mechanical or thermal stress on the output. The positive temperature coefficient of the sensitivity helps compensate for the negative temperature coefficients of low cost magnets, providing a robust design over a wide temperature range.

NOTE: Products ordered in bulk packaging (plastic bags) may not have perfectly straight leads as a result of normal handling and shipping operations. Please order tape packaging option for applications with critical lead straightness requirements.

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- [Circuit Block Diagram](#)
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- [Installation Instructions](#)
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Product Specifications

Product Type	Hall-Effect Linear Position Sensor
Package Quantity/Type	Available in 1,000/Bag
Package Style	Radial Lead IC
Supply Voltage	4.5 Vdc to 10.5 Vdc
Output Type	Sink/Source
Magnetic Actuation Type	Ratiometric
Operating Temperature Range	-40 °C to 150 °C [-40 °F to 302 °F]
Output Voltage	0.2 Vdc to (V _S - 0.2 Vdc) typ., 0.4 Vdc to (V _S - 0.4 Vdc) min.
Linearity (% of Span)	-1.0 % typ., -1.5 % max.
Output Voltage Span (min.)	0.4 Vdc to (V _S - 0.4 Vdc)

Availability	Global
Supply Current (max. @ 25 °C)	8.7 mA @ 5 Vdc
Sensitivity @ 25 °C	3.125 mV ± 0.125 mV/G
Output Voltage Swing (Negative G)	0.4 Vdc
Output Voltage Swing (Positive G)	$V_s - 0.4 \text{ Vdc}$
Temperature Error (@ 25 °C) Null Shift (%/°C)	-0.06 % min., 0.06 % max.
Temperature Error (@ 25 °C) Sensitivity (%/°C)	-0.01 % min., 0.05 % max.
Output Current Typical Source ($V_s > 4.5 \text{ Vdc}$)	1.5 mA
Output Current Minimum Source ($V_s > 4.5 \text{ Vdc}$)	1 mA
Output Current Minimum Sink ($V_s > 4.5 \text{ Vdc}$)	0.6 mA
Output Current Minimum Sink ($V_s > 5.0 \text{ Vdc}$)	1 mA
Magnetic Range (typ.)	-67 mT to 67 mT [-670 G to 670 G]
Magnetic Range (min.)	-60 mT to 60 mT [-600 G to 600 G]
Output Voltage Span (typ.)	0.2 Vdc to ($V_s - 0.2 \text{ Vdc}$)
Null (Output @ 0 G)	2.50 Vdc ± 0.075 Vdc
Response Time (µs)	3 µs
Series Name	SS490 Series

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.