

Installation Instructions for the SS431P Hall Effect Sensor

ISSUE 1

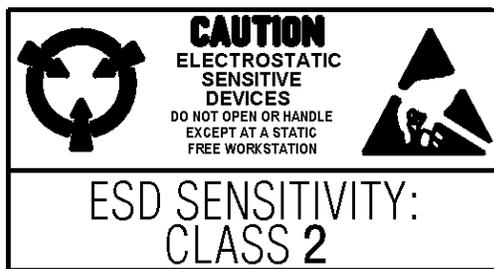
PK 80076

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.



SOLDERING/ASSEMBLY

Leads must be adequately supported during any forming/ shearing operation to ensure that the leads are not stressed inside the plastic case. Recommended PC board wave soldering temperature is 250 to 260°C (482 to 500°F) for 3 seconds maximum.

OPERATING CHARACTERISTICS

	Min.	25°C Target	Max.	Remarks
Supply voltage	3.8	—	24	VDC
I_{CC} Operate	11	15	20	mA
I_{CC} Released	4	6	9	mA
I_{CC} Ratio (Op/Rel)	2.0	2.5	4.0	mA
Output switching time				
Rise, 10 to 90%	—	30 μ s	—	$V_{CC} = 12$ V. $R_L = 300$ Ω ,
Fall, 90 to 10%	—	30 μ s	—	$C_L = 33$ nF, $C_S = 330$ pF
Operating Temperature	-55 to +160°C (-67 to +320°F)			

MAGNETIC SPECIFICATIONS

	-40°C	0°C	25°C	85°C	125°C	150°C
Max. Operate Gauss	70	65	60	60	65	70
Min. Release Gauss	-70	-65	-60	-60	-65	-70
Min. Differential Gauss	15	15	15	12	12	10

ABSOLUTE MAXIMUM RATINGS*

Supply voltage	-1 to +30 VDC
Voltage externally applied to output	+30 VDC max. (OFF only) -0.5 VDC min. (OFF or ON)
Output ON current	50 mA max.
Storage Temperature	-65 to +160°C (-85 to +320°F)
Magnetic flux	No limit. Circuit cannot be damaged by magnetic overdrive.

*Absolute maximum ratings are the extreme limits that the device will withstand without damage to the device. However, the electrical and mechanical characteristics are not guaranteed as the maximum limits (above recommended operating conditions) are approached, nor will the device necessarily operate at absolute maximum ratings.

NOTICE

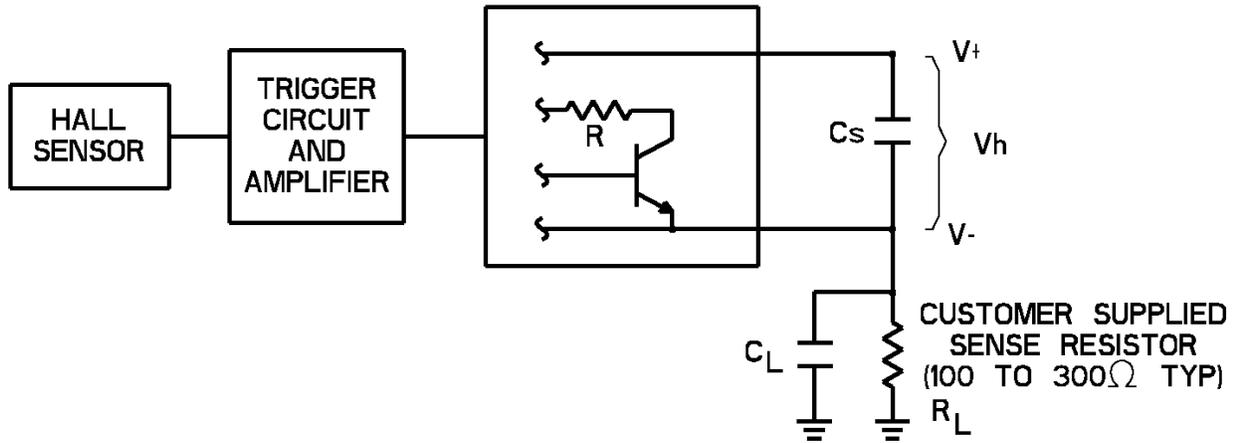
Interruption of power to a bipolar or latching device may cause the output to change state when power is restored. If a magnetic field of sufficient strength is present, the sensor output will be in the condition dictated by the magnetic field.

NOTE: The SS431P is a 2-wire, current output sensor.

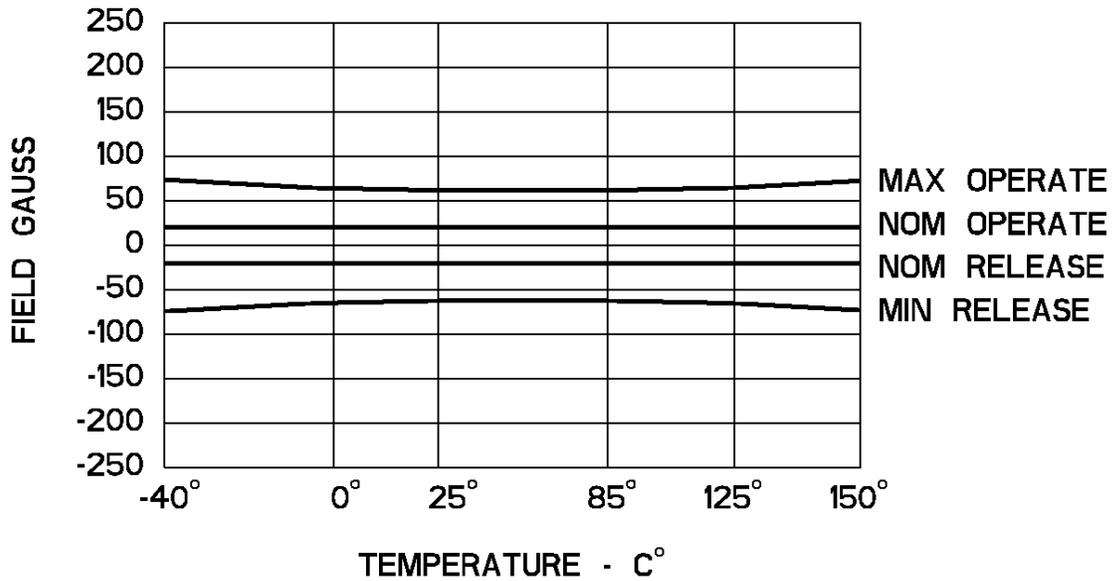
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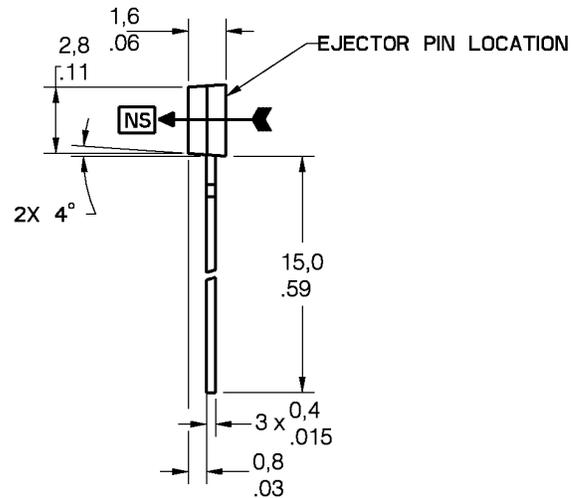
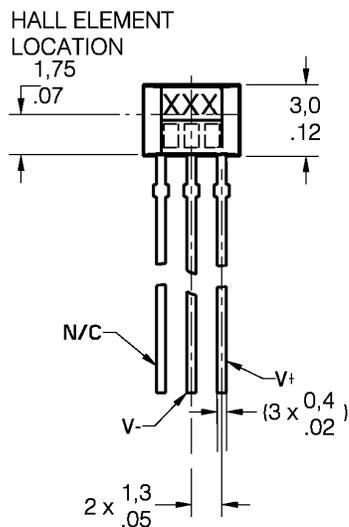
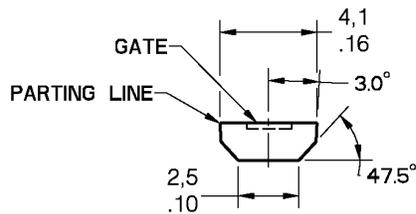
BLOCK DIAGRAM



GAUSS VS. TEMPERATURE



MOUNTING DIMENSIONS (for reference only)



NOTES

1. Magnetic flux used to operate the sensor must be in the direction and location shown (this assumes the convention that the direction of the external flux of a magnet is from the north to the south pole of the magnet).
2. The magnetic field strength (gauss) required to cause the sensor to change state (operate and release) will be as shown on page 1. To test the sensor against the specified limits, the sensor must be placed in a uniform magnetic field.
3. Part dimensions do not include flash. Flash is limited to .005" max.
4. Lead dimension refers to location of lead centerlines as they exit the plastic package.

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WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Contact your local sales office for warranty information. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace without charge those items it finds defective. The foregoing is Buyer's sole remedy and is **in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose.**

For application assistance, current specifications, pricing or name of the nearest Authorized Distributor, contact a nearby sales office. Or call:
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1-815-235-6847 International

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1-815-235-6545 USA

INTERNET

<http://www.honeywell.com/sensing/>
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While we provide application assistance, personally and through our literature, it is up to the customer to determine the suitability of the product in the application.

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