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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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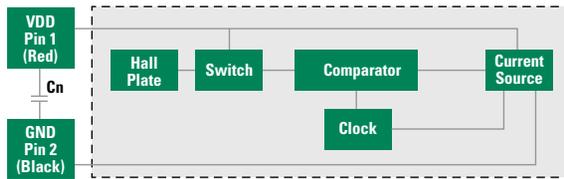
55140 Miniature Flange Mounting Sensor

RoHS



Block Diagram

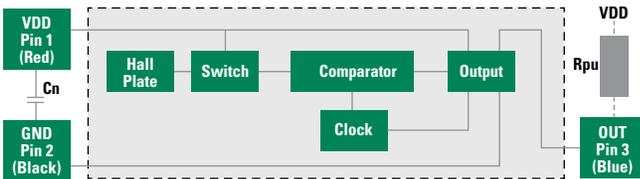
Two-wire Version



Notes:

1. Add capacitor **Cn** as shown, close for the sensors for transient suppression if required.
2. Add pull-up resistor **Rpu** as shown for sinking output. The Rpu value should be calculated using your supply voltage while keeping the ON state current at a level below the maximum. $R_{pu} = V_{DD}/I_o$
 $R_{pu} = 12V_{dc}/10mA = 1.2$

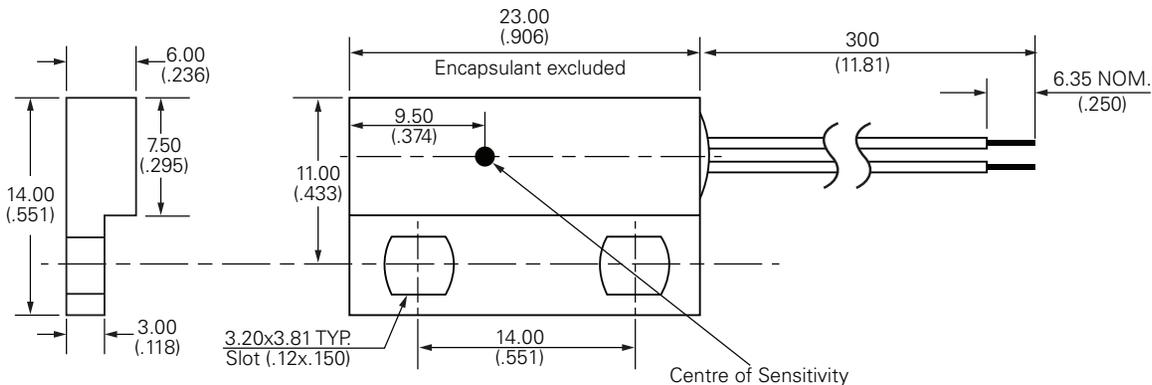
Three-wire Version



Dimensions

Dimensions in mm (inch)

Two-wire version illustrated.



General Tol.: ±(.005) 0.13

Description

The 55140 is a small flange mounting hall effect sensor occupying only 3.22cm² (0.500"×2") board space with a choice of digital, or programmable analogue outputs. It is available as three-wire (voltage output) or two-wire (current output) versions. It's case design enables screw or adhesive mounting and capable of switching up to 28Vdc and 20mA. It comes with a range of sensitivity, cable length and connector options.

Features

- Magnetically operated position sensor
- Digital, latching or programmable analog types available
- Medium, high or programmable sensitivities
- Three-wire (voltage output) or two-wire (current output) versions
- Vibration 50g max. @ 50-2,000Hz
- Shock 150g max. @ 11ms ½ Sine
- EMC to DIN 40839 (Consult Littelfuse)
- Reverse/Over voltage protection
- Built in temperature compensation
- Open Drain Output

Benefits

- High switching speed up to 10kHz
- Long life; up to 20 billion operations
- Operates in static or dynamic magnetic field
- Unaffected by harsh environment
- Customer selection of cable length and connector type

Applications

- Position and limit sensing
- RPM measurement
- Commutation of brushless DC motors
- Flow metering
- Angle sensing
- Magnetic encoders

55140 Miniature Flange Mounting Sensor

Electrical Ratings

Hall Type			Digital Switch Three-Wire (Voltage Output)	Digital Switch Two-Wire (Current Output)	A - Analogue (Programmable Only) ²
Supply Voltage ¹	Absolute Ratings	Vdc	-15 to +28	-15 to +28	8.5
	Operate	Vdc	+3.8 to +24	+3.75 to +24	4.5 - 5.5
Overvoltage Protection		Vdc - max.	32	32	19.5
Output High Voltage		Vdc - min.	Sinking output	N/A	4.65
Output Low Voltage		Vdc - max.	0.4 @ 20mA	N/A	0.35
Output Current (continuously on)		mA - max.	20	N/A	-1.0 to +1.0
Current Consumption Over Temperature Range	Low	mA - min.	1.6 - 5.2	5.0 - 6.9	2.0 - 10.0
	High	mA - max.	1.6 - 5.2	12.0 - 17.0	2.0 - 10.0
Switching Speed		kHz	10	10	2
Temperature	Operating	°C	-40 to +100	-40 to +100	-40 to +100

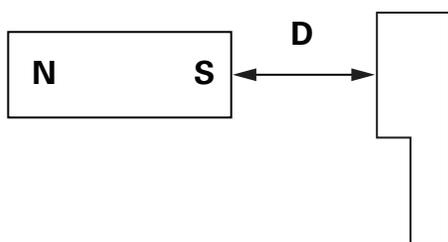
Notes:

- As long as T_j (Junction Temperature) is not exceeded. It is recommended to operate within the normal Operate Supply Voltage of +24Vdc maximum. Operating beyond Absolute Ratings may cause permanent damage to the Hall IC.
- Preprogrammed by Littelfuse or Customer pending agreement.
- For custom modifications to the wire length or size, or adding a special connector, please contact Littelfuse.

55140 Miniature Flange Mounting Sensor

Hall Options

Select Option	Hall Type	Sensitivity Gauss (typ.)	Activate - D mm (inch)
2M	2 Wire Switch	120	13.5 (.531)
2H	2 Wire Switch	57	18.5 (.728)
3M	3 Wire Switch	130	12.5 (.492)
3H	3 Wire Switch	59	18.0 (.709)
AP	Analog	Programmable	Consult Littelfuse



Note: Active distances are approximate using NEFEB Magnet 21 x 7 x 4.7 (.827L x .276W x .185H) LITTELFUSE P/N H-58

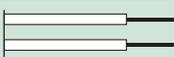
Cable Length Options

Cable Type: 24AWG 7/32 PVC 105°C UL 1430/UL1569

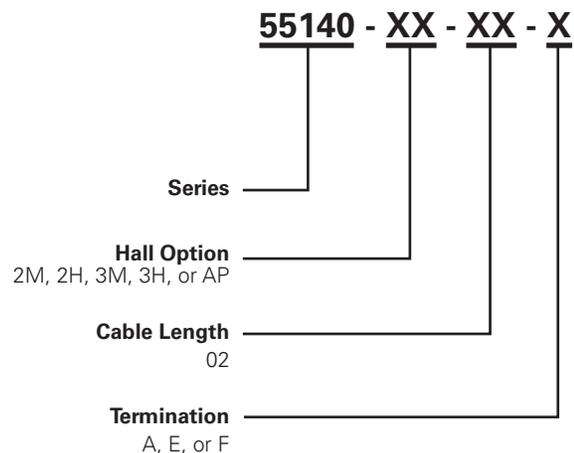
Select Option	Cable Length mm (inch)
02	300 (11.81)

Termination Specification

Termination Options

Select Option	Description (Two-wire versions illustrated)
A	Tinned leads (6.4±0.76)mm 
F	Untinned leads (6.4±0.76)mm 
E	JST type XHP 2.5mm pitch 

Part Numbering System



Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Taping Width
Bulk	Bulk	500	N/A	N/A