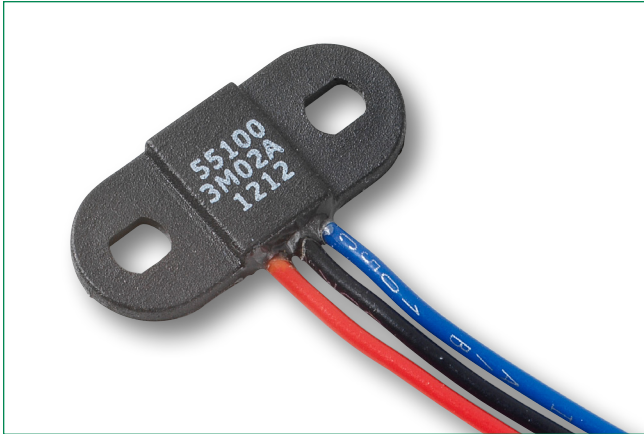


# 55100 Sensor

## Miniature Flange Mounting Proximity

RoHS



### Description

The 55100 is a miniature flange mounting hall effect sensor 25.5mm (1.004") x 11.00mm (0.433") and only 3.00mm (0.118") high with a choice of digital or programmable analog outputs. It is available as three-wire (voltage output) or two-wire (current output) versions. Its case design enables screw or adhesive mounting and capable of switching up to 24Vdc and 20mA. It comes with a range of sensitivity and cable length options.

### Features & Benefits

- Magnetically operated position sensor
- Digital or programmable analog types available
- Medium, high or programmable sensitivities
- Three-wire (voltage output) or two-wire (current output) versions
- Reverse/Over voltage protection
- Built in temperature compensation
- Vibration 50g max. @ 50-2,000Hz
- Shock 150g max. @ 11ms ½ Sine
- High switching speed up to 12kHz
- Long life - up to 20 billion operations
- Operates in static or dynamic magnetic field
- RoHS compliant

### Additional Information



Resources



Accessories



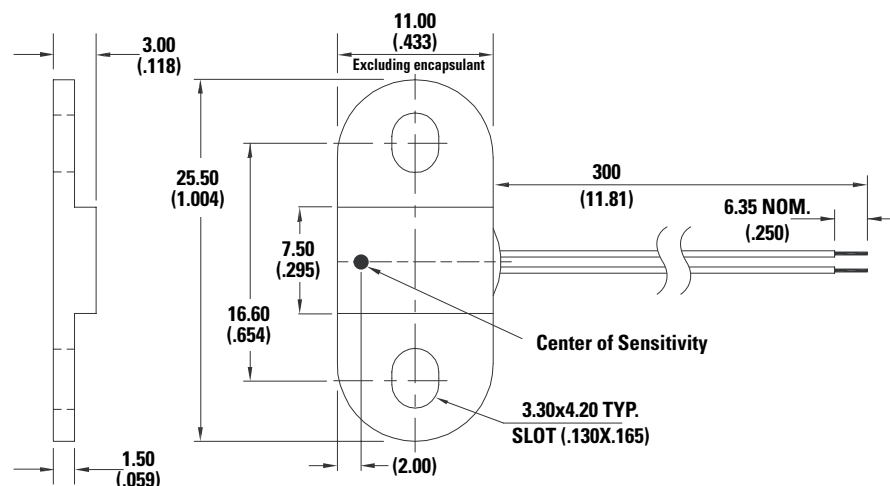
Samples

### Applications

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

### Dimensions

mm (inch)



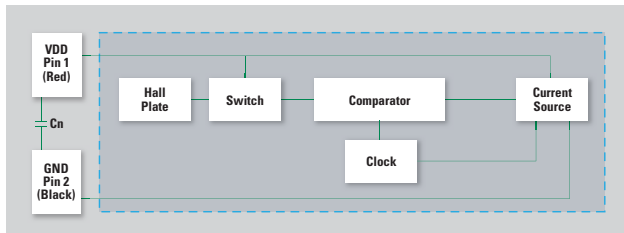
**Note:** Two-wire version illustrated

# 55100 Sensor

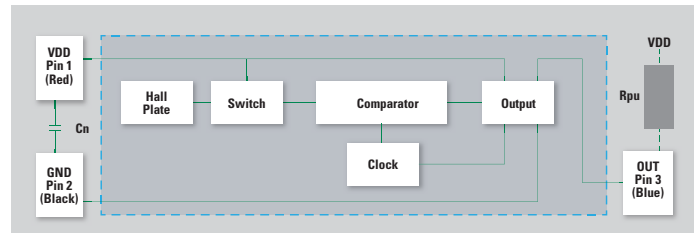
## Miniature Flange Mounting Proximity

### Block Diagram

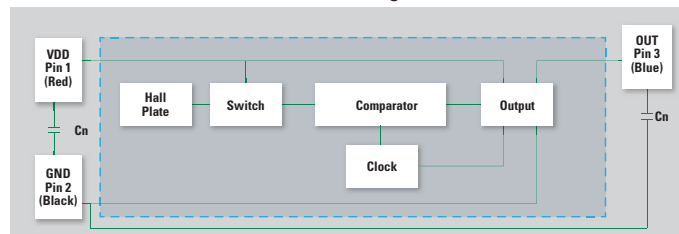
#### Two-wire Version



#### Three-wire Version



#### Three-wire Analog Version



#### Notes:

1. Add capacitor Cn as shown, close to the sensor, 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.  
 $R_{pu} = V_{DD}/I_o$ ;  $R_{pu} = 12V_{dc}/10mA = 1.2k\Omega$

### T1 - Electrical Ratings

2-Wire Hall Switch (2M)

Hall Type			Digital Switch 2-Wire (Current Output)
Supply Voltage <sup>1</sup>	Absolute Ratings	Vdc	-18 to +28
	Operate	Vdc	+3 to +24
	Overvoltage Protection	Vdc - max	32
Current Consumption	Hall OFF	mA	5.0 to 6.9
	Hall ON	mA	12.0 to 17.0
Switching Speed	-	kHz	12
Temperature	Operating	C	-40 to +100

#### Notes:

1. It is assumed the product will operate within the normal Supply Voltage of +24Vdc maximum.

### T2 - Electrical Ratings

3-Wire Hall Switch & Analog Programmable (3H, 3M, & AP)

Hall Type			Digital Switch 3 - Wire (Voltage Output)	AP - Analog (Programmable Only) <sup>2</sup>
Supply Voltage <sup>1</sup>	Absolute Ratings	Vdc	-18 to +28	8.5
	Operate	Vdc	2.7 to 24	4.5 - 5.5
	Overvoltage Protection	Vdc - max	32	16.0
Output High Voltage	Min	Vdc	Sinking Output	0.2
Output Low Voltage	Max	Vdc	0.4 @ 20mA	4.80
Output Current (continuously on)	Max	mA	25	-1.0 to +1.0
Current Consumption (from Supply)	-	mA	1.1 to 2.4	5.0 to 10.0
Switching Speed	-	kHz	12	2
Temperature	Operating	C	-40 to +100	-40 to +100

#### Notes:

1. It is assumed the product will operate within the normal Supply Voltage of +24Vdc maximum.
2. Sensor Voltage Output can be reprogrammed to best fit customer application (see LF Application Note)