

# 59156 Series

## Subminiature Flange Mount Sensor

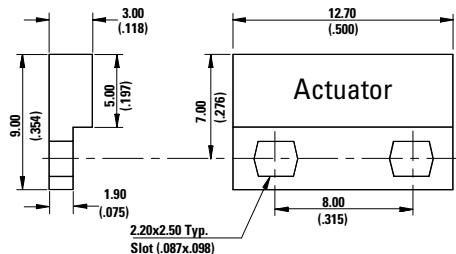


### Dimensions

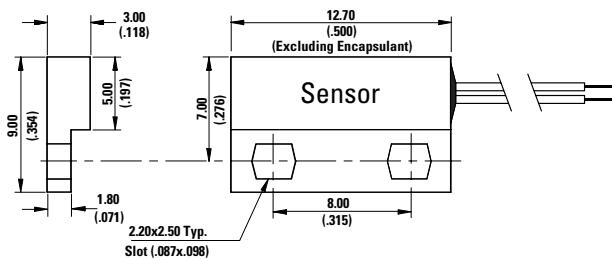
Dimensions in mm (inch)

Tolerances are +/- 0.25 (0.010) unless otherwise noted.

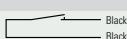
#### Actuator (sold separately)



#### Sensor (Two-wire version)



#### Schematics



#### Switch Type

1

### Description

The 59156 is a subminiature flange mounting reed sensor 12.70mm x 9.00mm x 3.00mm (0.500" x 0.354" x 0.118") with normally open contacts. The case design enables mounting with non-magnetic M2 screw at 0.1 Nm torque maximum or adhesive mounting. The wires exit from the left-hand side, see Drawing 2. It is also available with right-hand exit, see 59155 series. The 59156 is capable of switching up to 120Vac/170Vdc at 10VA. It is well suited for use in a wide range of industrial, appliances, or IoT proximity sensing applications.

The 59156 series functions best with the matching actuator 57155-000.

### Features and Benefits

- Smallest flange mount type reed sensor in the market
- Non-contact switching solution for wet & harsh environments
- Housing design for optimum adjustability
- Available in select sensitivities (operating distances)
- Standard cable configurations; customization options available
- No leakage current in 'open' state—ideal for battery powered IoT applications
- Can operate through non-ferrous materials (for example, wood, plastic or aluminium)
- Helps implement efficient proximity/access and energy management systems
- Easy installation and effective concealment in many applications
- UL Recognized per UL 508 and CSA C22.2 No. 14
- Hermetically sealed, IP67 rated; REACH compliant
- ATEX certified for use in European explosive atmospheres: II 3 G Ex nC IIC Gc

### Applications

- Security and access control
- Factory automation
- Process equipment
- Major appliances
- Small appliances
- Proximity and limit sensing

### Agency Approvals

Agency	Agency File Number
	E61760
	DEMKO 14 ATEX 1393U* II 3 G Ex nC IIC Gc

**Note:** Contact Littelfuse for specific agency approval ratings.

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## Electrical Ratings

Contact Type			Normally Open
Switch Type			1
Contact Rating <sup>1</sup>		VA/Watt - max.	10
Voltage <sup>4</sup>	Switching <sup>2</sup>	Vdc - max.	170
	Breakdown <sup>3</sup>	Vac - max.	120
		Vdc - min.	175
Current <sup>4</sup>	Switching <sup>2</sup>	Adc - max.	0.25
	Carry	Aac - max.	0.18
		Adc - max.	0.5
Resistance <sup>5</sup>	Contact, Initial Insulation	$\Omega$ - max.	0.15
		$\Omega$ - min.	$10^{12}$
Capacitance	Contact	pF - typ.	0.3
Temperature	Operating	°C	-40 to +105

## Product Characteristics

Operate Time <sup>6</sup>		ms - max.	0.5
Release Time <sup>6</sup>		ms - max.	0.2
Shock <sup>7</sup>	11ms ½ sine	G - max.	100
Vibration <sup>7</sup>	50-2000 Hz	G - max.	30

## Notes:

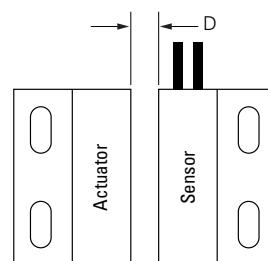
1. Contact rating - Product of the switching voltage and current should never exceed the wattage rating. Contact Littelfuse for additional load/life information.
2. When switching inductive and/or capacitive loads, the effects of transient voltages and/or currents should be considered. Refer to Application Notes AN108A and AN107 for details.
3. Breakdown Voltage - per MIL-STD-202, Method 301.
4. Electrical Load Life Expectancy - Contact Littelfuse with voltage, current values along with type of load.
5. This resistance value is for 300 mm wire length. Resistance changes when wire lengthens.
6. Operate (including bounce)/Release Time - per EIA/NARM RS-421-A, diode suppressed coil (Coil II).
7. Shock and Vibration - per EIA/NARM RS-421-A and MIL-STD-202.
8. For custom modifications to the wire length or size, or adding a special connector, please contact Littelfuse.

## Sensitivity Options (Using 57155 Actuator)

Select Option		S			T		
Switch Type		Pull-In AT Range	Activation Distance (mm)	Deactivation Distance (mm)	Pull-In AT Range	Activation Distance (mm)	Deactivation Distance (mm)
1	Normally Open	6-10	2.0-4.2	2.2-4.7	10-15	1.5-4.0	1.8-4.4

## Notes:

1. Pull-In AT Range: These AT values are the bare reed switch AT before modification.
2. The activation distance is average value on the final sensor assembly.



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### Cable Length Specification

Cable Type: 26 AWG PVC 105°C UL1569	
Select Option	Cable Length mm (inch)
02	300 +/-10.00 (11.81 +/- 0.394)
05	1000 +/-10.00 (39.37 +/- 0.394)

**Note:** Please contact Littelfuse for cable length customizations.

### Termination Specification

Termination Options		
Select Option	Description (Two-wire versions illustrated)	
A	Tinned leads (6.4±0.76)mm	

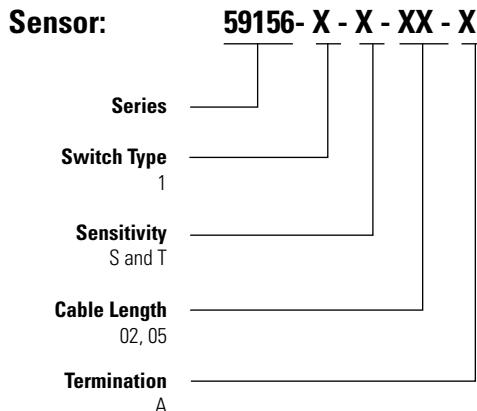
### Material Specification

	Housing Material	Color	Sealing Component
57155 Actuator	20% GF P.B.T	Black	Epoxy
59156 Sensor	20% GF P.B.T	Black	Epoxy

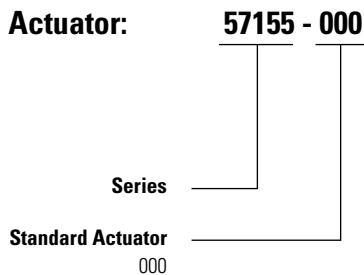
### Packaging

Cable Length	Packaging Option	Quantity
02	Bulk	500
05	Bulk	500

### Part Numbering System



### Actuator:



**Note:** The 57140 Actuator is sold separately.

**Disclaimer Notice** - Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at <http://www.littelfuse.com/disclaimer-electronics>.