

# 59166 Miniature Overmolded Reed Switch + 57045 Actuator



## Description

The 59166 is a miniature overmolded reed switch 16.00mm x 2.40mm x 2.40mm (0.630" x 0.094" x 0.094") with Gull Wing leads. It has normally open contact, capable of switching up to 200Vdc at 10W.

**Note: The 57045 Actuator is sold separately.**

## Features

- Two-part magnetically operated proximity switch
- Gull Wing Leads
- Tape and reel option
- Solder reflow capable
- Thermoset overmolded material
- RoHS Compliant
- ATEX certified for use in European explosive atmospheres: Ex II 3 G Ex nC IIC Gc
- Certified for use in North American Hazardous Locations: Class I, Division 2 and Zone 2

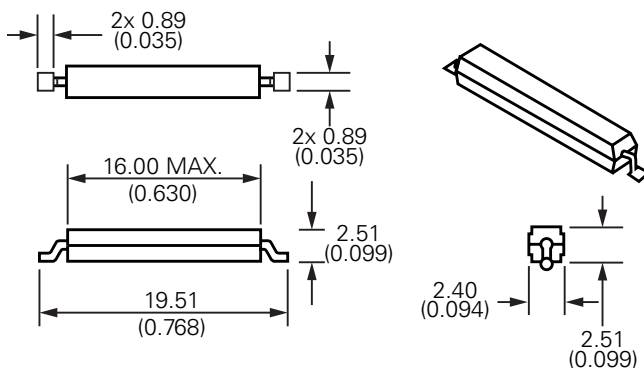
## Agency Approvals

Agency	Agency File Number
cULus	E61760 E471070
Ex	DEMKO 14 ATEX 1393U Ex II 3 G Ex nC IIC Gc

Note: Contact Littelfuse for specific agency approval ratings.

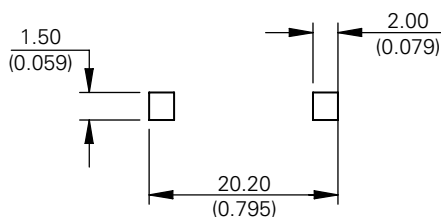
## Dimensions

Dimensions in mm (inch)



## Soldering Footprint

Dimensions in mm (inch)



## Benefits

- Suitable for pick and place
- No standby power requirement
- Operates through non-ferrous materials such as wood, plastic or aluminium
- Hermetically sealed, magnetically operated contacts continue to operate long after optical and other technologies fail due to contamination

## Applications

- Position and Limit Sensing
- Security System Switch
- Door Switch

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### Electrical Ratings

Contact Type			Normally Open
Switch Type			1
Contact Rating <sup>1</sup>		VA/Watt - max.	10
Voltage <sup>3</sup>	Switching <sup>2</sup>	Vdc - max.	200
	Breakdown <sup>4</sup>	Vac - max.	140
		Vdc - min.	250
Current <sup>3</sup>	Switching <sup>2</sup>	Adc - max.	0.5
	Carry	Aac - max.	0.35
		Adc - max.	0.8
Resistance	Contact, Initial Insulation	Ω - max. Ω - min.	0.2 10 <sup>10</sup>
Capacitance	Contact	pF - typ.	0.3
Temperature	Operating	°C	-40 to +105

### Product Characteristics

Operate Time <sup>5</sup>		ms - max.	1.0
Release Time <sup>5</sup>		ms - max.	1.0
Shock <sup>6</sup>	11ms ½ sine	G - max.	100
Vibration <sup>6</sup>	50-2000 Hz	G - max.	30

**Notes:**

- Contact rating - Product of the switching voltage and current should never exceed the wattage rating. Contact Littelfuse for additional load/life information.
- 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.
- Electrical Load Life Expectancy - Contact Littelfuse with voltage, current values along with type of load.
- Breakdown Voltage - per MIL-STD-202, Method 301.
- Operate (including bounce)/Release Time - per EIA/NARM RS-421-A, diode suppressed coil (Coil II).
- Shock and Vibration - per EIA/NARM RS-421-A and MIL-STD-202.

### Sensitivity Options (Using 57045 Actuator)

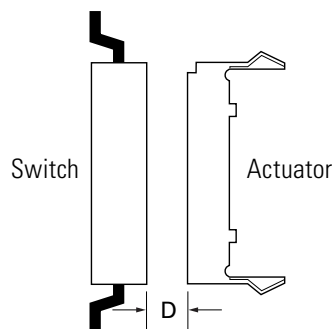
Select Option		S		T		U	
Switch Type		Pull-In AT Range	Activate Distance, D mm (inch) Average	Pull-In AT Range	Activate Distance, D mm (inch) Average	Pull-In AT Range	Activate Distance, D mm (inch) Average
1	Normally Open	10-15	7.4 (.292)	15-20	6.1 (.240)	20-25	5.1 (.201)

**Note:**

- Pull-In AT Range: These AT values are the before molding and modification AT of the 59166.
- The activation distance is average value post modification for the Gull wing option C or D.

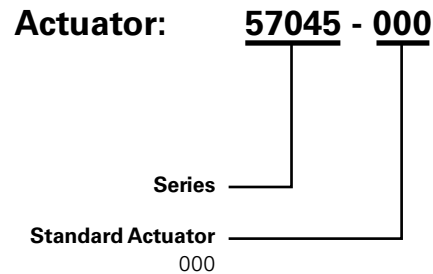
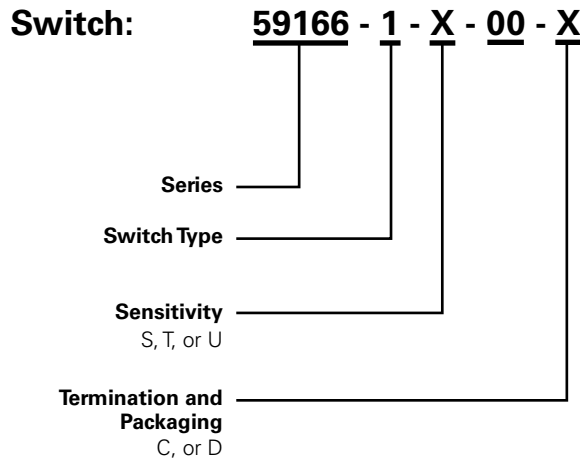
### Termination Specification

Termination Options	
Select Option	Description
C	Gull Wing bulk packed
D	Gull Wing tape and reel



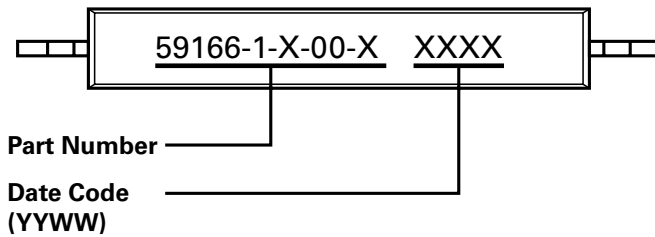
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### Part Numbering System



Note: The 57045 Actuator is sold separately.

### Product Marking



### Packaging

Packaging Option	Packaging Specification	Quantity	Quantity and Packaging Code	Taping Width
Bulk	Bulk	1500	B	N/A
Tape and Reel	EIA-RS-481-1	1500	R	32.00/(1.260)

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