

# MLRR-4 15.2mm Sub-miniature Close Differential Reed Switch







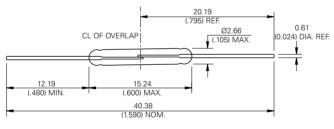
## **Agency Approvals**

Agency	Agency File Number	Ampere-Turns Range
c <b>FL</b> °us	E47258 E471070	17-38 AT

Note: Contact Littelfuse for specific agency approval ratings.

### **Dimensions**

Dimensions in mm



# **Description**

The MLRR-4 Reed Switch is a sub-miniature, normally open switch with a 15.24mm long x 2.54mm diameter (0.600" x 0.100") glass envelope, and capable of switching 200Vdc at 20W with close differential (CD) characteristics. It has high insulation resistance of  $10^{10}$  ohms minimum and contact resistance less than 100 milli-ohms. It can handle lamp loads up to 2W @ 14V with no suppression circuitry. This reed switch is also available in a surface mount version, that is, MLSM-4.

#### **Features**

- Sub-miniature normally open switch
- Capable of switching 200Vdc or 1.0A at up to 20W
- Close differential AT between PI and DO value
- Available sensitivity range 17-38 AT
- Capable of switching small incandescent lamp loads

### **Benefits**

- Hermetically sealed switch contacts are not affected by and have no effect on their external environment
- Zero operating power required for contact closure
- Excellent for switching microcontroller logic level loads and small incandesent lamp loads

# **Applications**

- Position Sensing
- Security Systems
- Level Sensing
- Light Inductive Loads
- · Office Equipments
- Lamp Loads up to 2W @ 14V

# **Switch Type**

Contact Form	A (SPST-NO)
Materials	Body: Glass Leads: Tin Plated Nickel Iron

Note: SPST-NO = Single-pole, single-throw, normally open

# **Electrical Ratings**

Contact Rating <sup>1</sup>		Watt - max.	20
Voltage <sup>3</sup>	Switching <sup>2</sup> Breakdown <sup>4</sup>	Vdc - max. Vac - max. Vdc - min.	200 140 250
Current <sup>3</sup>	Switching <sup>2</sup> Adc - max. Aac - max. Carry Adc - max.		1.0 0.7 1.0
Resistance	Contact, Initial Insulation	$\Omega$ - max. $\Omega$ - min.	0.10 10 <sup>10</sup>
Capacitance	Contact	pF - typ.	0.4
Temperature	Operating Storage <sup>5</sup>	°C °C	-40 to +125 -65 to +125

#### 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. Electrical Load Life Expectancy Contact Littelfuse with voltage, current values along with type of load.
- 4. Breakdown Voltage per MIL-STD-202, Method 301.
- 5. Storage Temperature Long time exposure at elevated temperature may degrade solderability of the leads.



# MLRR-4 15.2mm Sub-miniature Close Differential Reed Switch

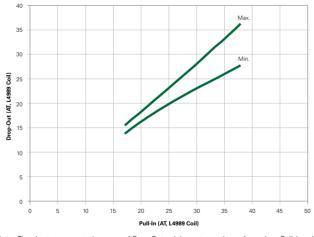
### **Product Characteristics**

Operating Characteristics		
Operate Time <sup>1</sup>		0.6ms - max.
Release Time <sup>1</sup>		0.2ms - max.
Shock <sup>2</sup>	11ms 1/2 sine wave	100G - max.
Vibration <sup>2</sup>	50-2000 Hertz	30G - max.
Resonant Frequency		6.25kHz - typ.
Magnetic Characteristics		
Pull-In Range <sup>3</sup>	Ampere Turns	17-38
Rating Sensitivity <sup>4</sup>	Ampere Turns	20
Test Coil		L4989

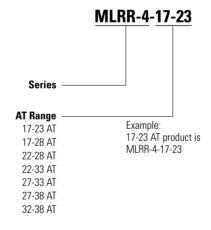
#### Notes:

- 1. Operate (including bounce)/Release Time per EIA/NARM RS-421-A, diode suppressed coil (Coil II).
- 2. Shock and Vibration per EIA/NARM RS-421-A and MIL-STD-202.
- 3. Pull-In Range Contact Littelfuse for narrower AT ranges available.
- 4. Rating Sensitivity The value at which contact ratings and operating characteristics are determined. Derating may be required below this value.
- 5. Custom modifications of forming and/or cutting of reed switches are available. Please contact Littelfuse.

## **Drop-Out vs. Pull-In Chart**



# **Part Numbering System**



**Note:** The chart represents the range of Drop-Out, minimum to maximum for a given Pull-In value. **Note:** This AT value.

Note: This AT value is the before-modification value of the bare reed switch.

# **Packaging**

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Taping Width
Bulk	Bulk	3000	N/A	N/A