

# MRPR-20 20.3mm Miniature High Voltage and High Power Reed Switch



## Description

The MRPR-20 Reed Switch is a miniature, normally open switch with a 20.32mm long x 2.84mm diameter (0.800" x 0.112") glass envelope, capable of high voltage and power switching of 265Vac at 50VA. The MRPR-20 has high insulation resistance of  $10^{10}$  ohms minimum and contact resistance less than 100 milli-ohms.

## Features

- Miniature normally open switch
- Capable of switching 265Vac or 1.5A at up to 50W/VA
- Minimum breakdown voltage 750Vdc
- Available sensitivity range 17-43 AT
- UL Recognized to UL 121201, UL 60079-0, UL 60079-15, C22.2 No. 213-17, C22.2 No. 60079-0 and C22.2 No. 60079-15.
- Approved to EN 60079-0 and EN 60079-15.

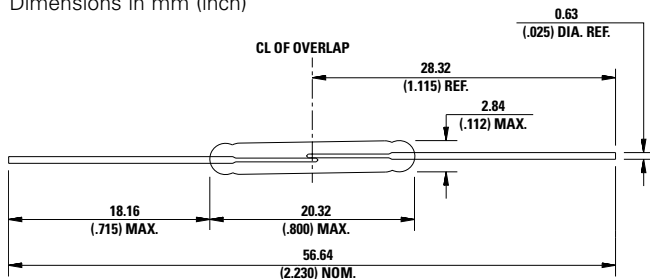
## Agency Approvals

Agency	Agency File Number	Ampere-Turns Range
	E47258, E471070	17-43 AT
	DEMKO 14 ATEX 1393U (Pending) II 3 G Ex nC IIC Gc	17-43 AT

Note: Contact Littelfuse for specific agency approval ratings.

## Dimensions

Dimensions in mm (inch)



## Benefits

- Hermetically sealed switch contacts are not affected by and have no effect on their external environment
- Zero operating power required for contact
- High voltage and power switching with a miniature switch

## Applications

- Reed relays (suitable for switching global mains voltage)
- Limit switching
- Telecom line switching
- Heavy Load Switching

## Switch Type

Contact Form	A (SPST-NO)
Materials	Body: Glass Leads: Tin-plated Ni-Fe wire

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

## Electrical Ratings

Contact Rating <sup>1</sup>		W/VA - max.	50
Voltage <sup>3</sup>	Switching <sup>2</sup>	Vdc - max.	250
	Breakdown <sup>4</sup>	Vac - max.	265
		Vdc - min.	750
Current <sup>3</sup>	Switching <sup>2</sup>	Adc - max.	1.5
	Carry	Aac - max.	1.1
		Adc - max.	3.0
Resistance	Contact, Initial Insulation	$\Omega$ - max.	0.100
		$\Omega$ - min.	$10^{10}$
Capacitance	Contact	pF - typ.	0.2
Temperature	Operating Storage <sup>5</sup>	$^{\circ}\text{C}$	-20 to +125
		$^{\circ}\text{C}$	-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.

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## Product Characteristics

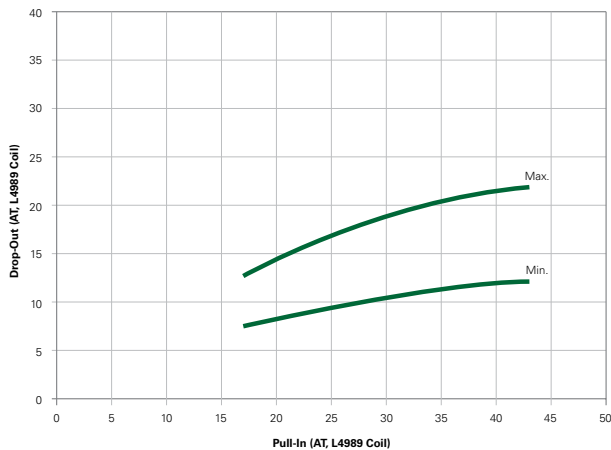
Operating Characteristics		
Operate Time <sup>1</sup>		0.75ms - max.
Release Time <sup>1</sup>		0.3ms - max.
Shock <sup>2</sup>	11ms 1/2 sine wave	100G - max.
Vibration <sup>2</sup>	50-2000 Hertz	30G - max.
Resonant Frequency		2.1kHz - typ.

Magnetic Characteristics		
Pull-In Range <sup>3</sup>	Ampere Turns	17-43
Rating Sensitivity <sup>4</sup>	Ampere Turns	22
Test Coil	-	L4989

### Notes:

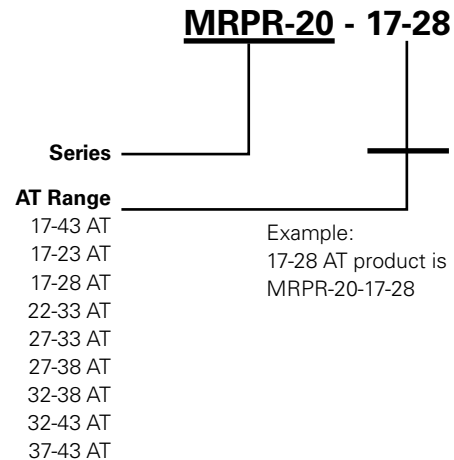
- Operate (including bounce)/Release Time - per EIA/NARM RS-421-A, diode suppressed coil (Coil II).
- Shock and Vibration - per EIA/NARM RS-421-A and MIL-STD-202.
- Pull-In Range - Contact Littelfuse for narrower AT ranges available.
- Rating Sensitivity - The value at which contact ratings and operating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

## Drop-Out vs. Pull-In Chart



**Note:** Chart represents the range of Drop-Out, min to max for a given Pull-In value.

## Part Numbering System



**Note:** These AT values are the before-modification values of the bare reed switch.

## Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Taping Width
Bulk	Bulk	1000	N/A	N/A

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