

### MCR Series Reed Relays:

These Reed Switch Relays provide both the consistency and reliability of a sealed reed switch with the convenience of an integrated coil inside a metal cover package. Rhodium switch contacts are hermetically sealed in glass, mounted on an integral lead frame, then sealed in metal cover with magnetic shield to minimize magnetic interference with other relays or other components on PCB. Other option includes electrostatic shield to minimize noise and coupling of electrostatic energy between coil and reed contacts. The metal package with terminal pins allows these relays to be soldered directly into a PCB or inserted into sockets for convenient replacement. These Relays are available in multiple contact forms, with several coil voltages and with/without an internal suppression diode.

### Features:

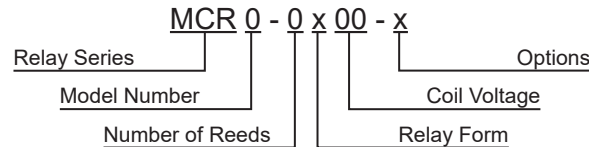
- Hermetically Sealed Rhodium Contacts
- Magnet Shield and/or Electrostatic Shield
- Metal cover with terminal pins
- Multiple contact forms: 1A, 1B, 1C
- Multiple coil voltages with integrated diode option
- Long Life: > 1,000,000,000 actuations

### Applications:

- Automated Test Equipment
- Remote Sensing/Measurement
- Telecommunications
- Security/Access Control
- Industrial Control Systems



### Teledyne Part Numbering System



**Relay Series:**  
MCR

**Model Number:**  
1: Default Wiring  
2: Alternative Wiring<sup>1</sup>

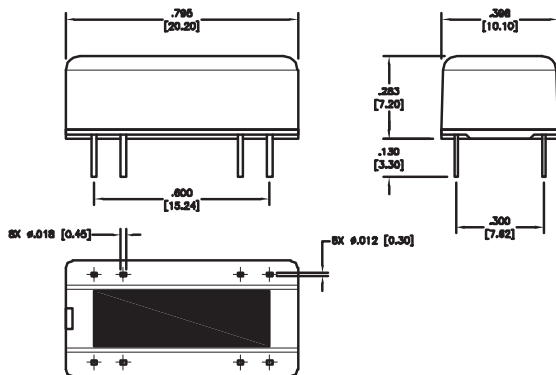
**Number of Reeds:**  
1

**Relay Form:**  
A (Normally Open)  
B (Normally Closed)<sup>2</sup>  
C (SPDT)<sup>3</sup>

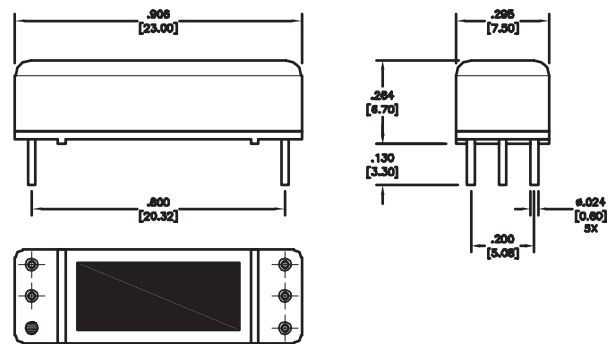
**Coil Voltage<sup>4</sup>:**  
04 Vdc  
05 Vdc  
06 Vdc  
12 Vdc  
15 Vdc  
24 Vdc

**Options:**  
D: Diode  
L: Low Power  
Dissipation  
S: Electrostatic  
Shield

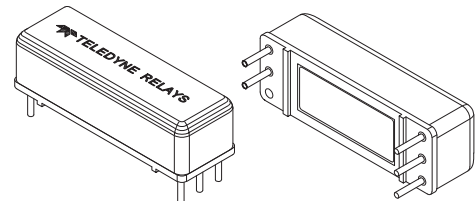
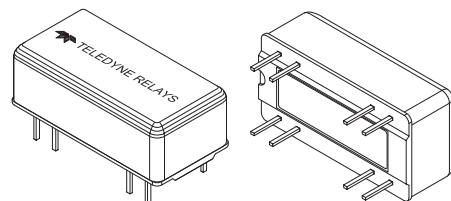
1: Alternative wiring is only available on 1 Form A reed relays. Diode and electrostatic shield are standard options for this model.  
2: Diode option is only available with 12V reed relays. Diode and electrostatic shield options are only available with 5V reed relays.  
3: No options can be added to Form C reed relays.  
4: Some may not be available in all forms and models. Please visit next page for more detail.



Form A and B Relays Mechanical Outline



Form C Relays Mechanical Outline



Please feel free to contact us for more information regarding additional options and custom configurations.



Specifications			MCR1-1A		MCR1-1A		MCR1-1A		MCR2-1A		MCR1-1B						MCR1-1C		
Parameters	Test Conditions	Units	1 Form A (wo/ option)		1 Form A (w diode)		1 Form A (w diode and electrostatic shield)		1 Form A (w diode and electrostatic shield) Alternate Wiring		1 Form B						1 Form C		
<b>Coil Characteristics</b>																			
Coil Voltage	Nominal Maximum	Vdc	4 18	5 18	5 18	15 37	5 18	24 37	15 23	4 8	5 8	5 <sup>1</sup> 8	12 16	15 32	24 32	6 14	12 18	24 32	
Coil Resistance	+/- 10%, 20°C	Ω	500	500	500	2150	500	2150	2150	200	200	500	500	2150	2150	150	500	1800	
Operate Voltage	Must Operate by	Vdc Max	2.8	3.5	3.5	10	3.5	16	10	2.8	3.5	3.5	8	10	16	4.4	8.8	17.6	
Release Voltage	Must Release by	Vdc Min	0.7	0.8	0.8	2	0.8	2	2	0.7	0.8	0.8	1	2	2	1	2	3	
<b>Contact Characteristics</b>																			
Contact Material			Rhodium		Rhodium		Rhodium		Rhodium		Rhodium						Rhodium		
Switching Voltage	Max DC/Peak AC	Volts	100		100		100		100		100						100		
Switching Current	Max DC/Peak AC	Amps	0.4		0.4		0.4		0.4		0.4						0.25		
Carry Current	Max DC/Peak AC	Amps	1		1		1		1		1						1		
Contact Rating	Max DC/Peak AC	Watts	10		10		10		10		10						3		
Contact Resistance	Maximum	Ω	0.1		0.1		0.25		0.1		0.1						0.15		
<b>Relay Characteristics</b>																			
Insulation Resistance	Minimum	Ω	10 <sup>9</sup>		10 <sup>9</sup>		10 <sup>9</sup>		10 <sup>9</sup>		10 <sup>9</sup>						10 <sup>9</sup>		
Dielectric Strengths	Between Contacts	Volts	150		200		150		150		150						150		
	Coil to Contact		500		500		500		500		500						500		
	Case to Contact		500		500		500		500		500						500		
	Case to Coil		500		500		500		500		500						500		
Shield Effectiveness	Minimum	Volts	-		-		-		-		200						-		
Operate Time, Typical (bounces included)	At Nominal Coil Voltage	mSec	1		1		1		1		1						1.5		
Release Time, Typical (without diode)		mSec	0.1		0.1		0.1		0.1		0.1						2		
<b>Life Expectancy</b>																			
Low Load	Minimum	Ops	10 <sup>9</sup>		10 <sup>9</sup>		10 <sup>9</sup>		10 <sup>9</sup>		10 <sup>9</sup>						5×10 <sup>7</sup>		
Rated Load	Minimum	Ops	9×10 <sup>7</sup>		3×10 <sup>6</sup>		3×10 <sup>6</sup>		9×10 <sup>7</sup>		9×10 <sup>7</sup>						2×10 <sup>6</sup>		
Mechanical Life	Minimum	Ops	10 <sup>9</sup>		10 <sup>9</sup>		10 <sup>9</sup>		10 <sup>9</sup>		10 <sup>9</sup>						10 <sup>9</sup>		
<b>Environmental Characteristics</b>																			
Storage Temperature		°C	-40 ~ +100		-40 ~ +100		-40 ~ +100		-40 ~ +100		-40 ~ +100						-40 ~ +100		
Operating Temperature		°C	-40 ~ +85		-40 ~ +85		-40 ~ +85		-40 ~ +85		-40 ~ +85						-40 ~ +85		
Vibration	30 - 2000 Hz	G	30		30		30		30		30						30		
Shock	11 mSec	G	100		100		100		100		100						20		
Resonance Frequency		Hz	4000		4000		4000		4000		4000						4000		
Weight	Maximum	Oz	0.14		0.14		0.14		0.14		0.16						0.13		

1: Low power dissipation option.

Top View:

