RI-90 Series Dry Reed Switch

RI-90 Series

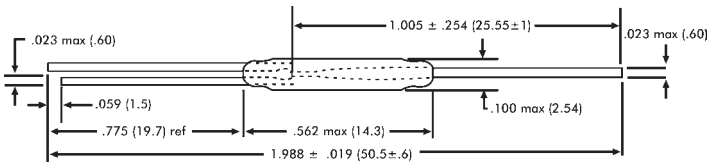
Micro changeover dry-reed switch hermetically sealed in a gas-filled envelope. Single-pole, double-throw (SPDT) type, having a normally open and a normally closed contact.

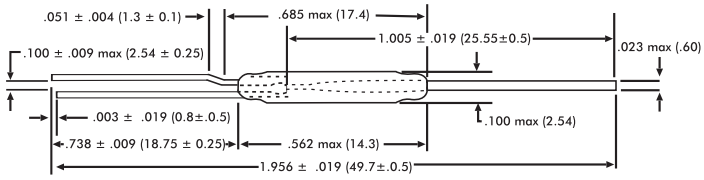
The switch may be actuated by an electromagnet, a permanent magnet or a combination of both.

The device is intended for use in sensors, relays, pulse counters or similar devices.

RI-90 Series Features

- Ideal for ATE switching & proximity sensors
- Contact layers: Ruthenium on gold
- Superior glass-to-metal seal and blade alignment
- Excellent life expectancy and reliability





Dimensions in inches (mm)

General data for all models RI-90

AT-Customization / Preformed Leads

Besides the standard models, customized products can also be supplied offering the following options:

- Operate and release ranges to customer specification
- Cropped and/or preformed leads

Coils

All characteristics are measured using the Philips Standard Coil. For definitions of the Philips Standard Coil, see *Reed Switch Technical & Application Information* Section of this catalog.

Life expectancy and reliability

The life expectancy data given below are valid for a coil energized at 1.25 times the published maximum operate value for each type in the RI-90 series.

No load conditions (operating frequency: 100Hz)

Life expectancy : min. 10^8 operations with a failure rate of less than 2 x 10^{-9} with a confidence level of 90%.

End of life criteria:
Contact resistance > 1Ω after 2 ms
Release time > 2 ms (latching or contact sticking).
Switching different loads involves different life expectancy and reliability data. Further information is available on request.

Operating and Storage Temperature

Operating ambient temperature; min: -55°C; max: +125°C. Storage temperature; min: -55°C; max: +125°C. **Note:** Temperature excursions up to 150°C may be permissible. For more information contact your nearest Coto Technology sales office.

Soldering

The switch can withstand soldering heat in accordance with "IEC 68-2-20", test Tb, method 1B:solder bath at 350 ±10°C for 3.5 ±0.5 s. Solderability is tested in accordance with "IEC 68-2-20", test Ta, method 3: solder globule temperature 235°C; ageing 1b: 4 hours steam.

Welding

The leads can be welded.

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Model Number			RI-90
Parameters	**Test Conditions**	**Units**	
Operating Characteristics			
Operate Range		AT	15-40
Release Range		AT	Min 5
Operate Time - (max)	(energization)	ms	1.0
Bounce Time (max)	(energization)	ms	1.5
Release Time (max)	(energization)	ms	1.0
Resonant Frequency (typ.)		Hz	TBD
Electrical Characteristics			
Switched Power (max)		W	5
Switched Voltage DC (max)		V	175
Switched Voltage AC, RMS value (max)		V	125
Switched Current DC (max)		mA	400
Switched Current AC, RMS value (max)		mA	280
Carry Current DC (max)		A	0.5
Breakdown Voltage (min)		V	200
Contact Resistance (initial max)		m Ω	140
Contact Resistance (initial typ.)		m Ω	120
Contact Capacitance (max)	without test coil	pF	0.8
Insulation Resistance (min)	RH ≤ 45%	M Ω	10^3

Mounting

The leads should not be bent closer than 1 mm to the glass-to-metal seals. Stress on the seals should be avoided. Care must be taken to prevent stray magnetic fields from influencing the operating and measuring conditions.