

RI-91 Series Dry Reed Switch

**10W
Form C**



RI-91 Series

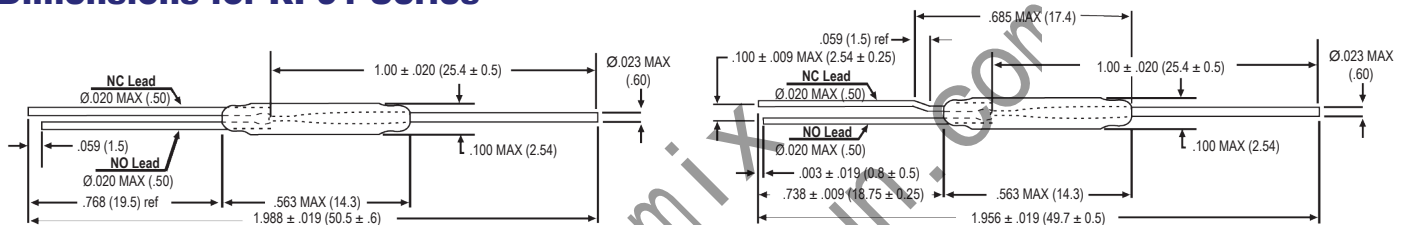
10W changeover dry-reed switch hermetically sealed in a gas-filled envelope. Single-pole, double-throw (SPDT) type, having a normally open and a normally closed contact.

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-91 Series Features

- Ideal for ATE relays and proximity sensors
- Contact layers: Ruthenium on gold
- 10 W, 170 VDC
- Excellent life expectancy and reliability
- UL#: E125629

Dimensions for RI-91 Series



All Dimension in inches (mm) nominal

General data for all models RI-91

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

Test Coils

All characteristics are measured using the Philips Standard Coil with full length switches.

Life expectancy and reliability

The life expectancy data given below are valid for a coil energized at 1.5 times the published maximum operate value for each type in the RI-91 series.

RI-91 NO:

DC Load [W = V x mA]	B10 [Mcy]	MCTF [Mcy]
10 = 175 x 57	2.2	6.2
10 = 71 x 140	0.60	0.75
10 = 50 x 200	0.60	1.1
10 = 20 x 500	0.22	0.38

RI-91 NC:

DC Load [W = V x mA]	B10 [Mcy]	MCTF [Mcy]
10 = 175 x 57	0.06	1.2
10 = 71 x 140	0.33	0.73

B10 = 'minimal life expectancy' at 10% failures.
Mcy = mega cycles or one million operations.
MCTF = mean cycle to failure

No load conditions (operating frequency: 100Hz)

Life expectancy: min. 10^8 operations with a failure rate of less than 2×10^{-9} .

End of life criteria:

Contact resistance > 1Ω after 2 ms

Release time > 2 ms (latching or contact sticking).

Operating and Storage Temperature

Operating ambient temperature; min: -55°C ; max: $+125^\circ\text{C}$.

Storage temperature; min: -55°C ; max: $+125^\circ\text{C}$. Note: Temperature excursions up to 150°C may be permissible.

Soldering

The switch can withstand soldering heat in accordance with "IEC 68-2-20", test Tb, method 1B: solder bath at $350 \pm 10^\circ\text{C}$ 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.

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.

Ordering Information

Series	AT Range	Options
RI-91GP	15 to 30 AT *Minimum 5 AT Range	MOD1

Part Number Example: RI-91GP 1520

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Technical Specifications

Parameters	Test Conditions	Units	RI-91
Operating Characteristics			
Operate Range		AT	15-30
Release Range		AT	5 (min)
Operate Time - including Bounce (typ.)		ms	1.5
Bounce Time (typ.)		ms	1.0
Release Time (max)		ms	1.0
Electrical Characteristics			
Switched Power (max)		W	10
Switched Voltage DC (max)		V	175
Switched Voltage AC, RMS value (max)		V	125
Switched Current DC (max)		mA	500 NO / 140 NC
Switched Current AC, RMS value (max)		mA	140 NO / 140 NC
Carry Current DC (max)		A	0.5
Breakdown Voltage (min)		V	200
Contact Resistance (initial max.)		mΩ	140
Contact Resistance (initial typ.)		mΩ	120
Contact Capacitance (max)	without test coil	pF	0.8
Insulation Resistance (min)	RH ≤ 45%	MΩ	10 ³



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