



# REED TYPE PUSH BUTTON SWITCHES OVERVIEW

## FEATURES

- ◆ *Hermetically sealed contacts*
- ◆ *Low contact resistance*
- ◆ *Life expectancy in the millions*
- ◆ *Momentary Actions*
- ◆ *Low bounce characteristics*
- ◆ *Terminals weldable and solderable*
- ◆ *Ideal for dry circuits or higher current applications*

## DEVELOPING THE STANDARD LINE

The complete line of GRI switches is the result of several year's work with a number of specialized applications. Requirements have demanded a great amount of development effort and the design of highly specialized production methods.

## DESIGN VERSATILITY

GRI Push Button Switches are unique because their reed type contacts are actuated by a permanent magnet anchored to the actuating plunger. This leads to a number of outstanding performance characteristics which can open new doors in system design.

1. Contacts are sealed in inert gas and are isolated from all sources of environment.
2. GRI Switches lend themselves readily to circuit versatility. By using permanent magnets in coordination with many unique contact arrangements, many entire circuit functions are now performed.
3. On all multiple-pole switches, each pole is completely isolated.

## OPERATION

GRI Push Button Switches utilize magnetic lines of force as the only linkage between the mechanical actuation and the switch contacts. A permanent magnet attached to the plunger provides the force that closes the reed switch contacts, facilitating low push button pressure with high contact pressure.

The Reed Switch consists of two identical ferromagnetic reeds, sealed in a glass tube. When magnetic flux, from the permanent magnet, is sufficient, the reeds flex and make contact. When the magnetic influence is removed the reeds return to their normal positions, opening the circuit.

Enclosures resist all sources of environment. Each contact is isolated in a glass envelope unaffected by dist, oxidations or corrosion for a life span of millions of operations. Individual or multiple switches are assembled with their permanent magnet in an anodized aluminum or plastic case.

## GEORGE RISK INDUSTRIES, INC.

802 S. Elm St.  
KIMBALL, NE 69145

WWW.GRISK.COM



Made in U.S.A.

Precautions in selection and application of these switches should be exercised.

**Selection** - The ampere and voltage ratings given in the selection tables are singular maximum ratings, neither of which is to be exceeded, but never used in combination with each other at the maximum shown. The Volt Amps, and Watts listed in the selection tables are the allowable maximums, reached in any combination of Amps, and Volts, but neither to exceed the maximums listed.

**Application** - Due to the response of these switches to magnetic forces, heavy magnetic ferric materials around the area of the switches will affect their operation. Extremely high outside magnetic fields near the switches will require shielding. Inductive loads are not recommended.

## GENERAL SPECIFICATIONS

### ELECTRICAL

Operating Temperature Range  
Dielectric Strength  
Insulation Resistance  
Contact Bounce  
Contact Resistance  
Life Expectancy

### DRY REED

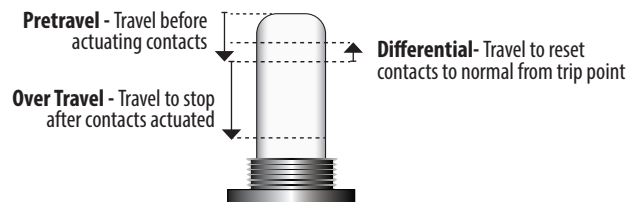
-55 to +150°C  
500 VAC  
10<sup>6</sup> Megohms  
500 Microseconds max.  
200 Millionhms max.  
20 million operations at fullload;  
50 million operations at half load

Each Pole Isolated

### MECHANICAL SPECIFICATIONS

Mounting Position                      Any plane  
Switch Contact Atmosphere            Inert gas  
Internal Terminal Construction        Welded  
External Switch Terminals              "A" Nickel Alloy, weldable or solderable

### TECHNICAL INFORMATION



**Contact Bounce** - Contact vibration measured in microseconds or milliseconds until positive contact closure.

**Pre-Travel** - Distance the plunger travels from free position to operating position.

**Over-Travel** - Movement of actuator from operating position to final position at the end of actuating stroke after switch is fully depressed.

**Release Position** - Position of actuator when all contacts snap from the operated position to release position.

**Total Travel** - Sum of pre-travel and over-travel.

**Operating Pressure** - The force required to depress the switch button.

TOLL-FREE 1-800-445-5218

TOLL-FREE 1-800-523-1227

(308) 235-4645

FAX (308) 235-2609

E-MAIL: sharonw@grisk.com