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Reed Switch (#910-27225)

General Description

A Reed Switch is similar to a standard switch in that it makes/breaks an electrical connection. Unlike a push button switch though, a reed switch works via magnetic field. This reed switch is normally open (N.O.), which means when no magnetic field is present the contacts/circuit are open.

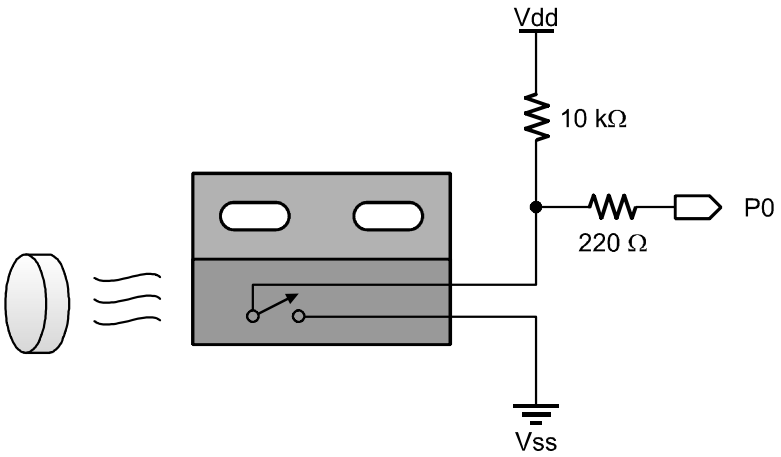
Features

- Sealed Design
- Normally Open Contacts (SPST)
- Includes Magnet

Application Ideas

- Alarm Systems
- Robotics
- Industrial Control

Quick Start Circuit



Connecting and Testing

The above diagram is equivalent to the Active-Low switch circuit shown in our BASIC Stamp Reference Manual as well as the BASIC Stamp Editor Help File. When the magnet is in proximity to the reed switch the contacts will be closed. This circuit is very common in alarm systems because it offers the best immunity to noise and EMI/RFI interference. The magnet would be mounted inside the door or window edge and the reed switch would be connected to the frame. If the door or window was opened the magnetic field would move away opening the contacts and allowing the I/O pin to go high.

Calibration

Since the reed switch works on magnetic fields it is important to make sure the magnet you use is setup to properly affect the reed switch and give consistent switching. Magnets are polarized devices so orientation will affect performance. Please follow the guidelines below to help adjust your setup.

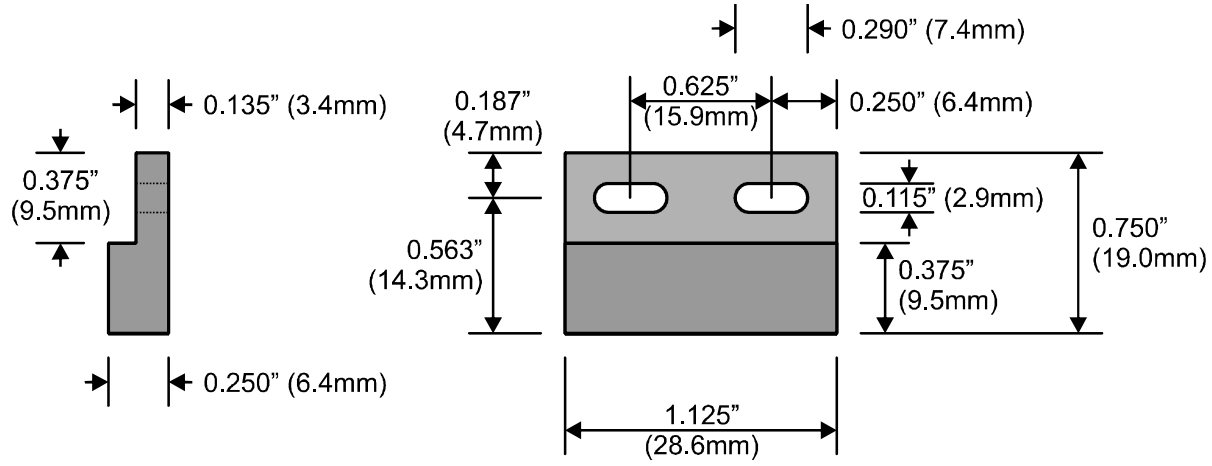
- √ Mount the reed switch in the location best suited. The magnet is usually easier to reposition.
- √ Determine the optimum distance/orientation of the magnet which opens/closes the reed switch.

Remember, different magnets will give different performance depending on size/type. You can either glue the magnet to the surface or drill a hole and embed it into the edge of a door/window.

Specifications

Electrical Characteristics	
Maximum Switching Power	15W
Maximum Switching Current	1A
Maximum Carrying Current	2.5A
Maximum Switching Voltage	200VDC
Breakdown Voltage	300VDC
Initial Contact Resistance	.1Ω

Module Dimensions



BASIC Stamp® 2 Program

This program displays the current status (open/closed) of the Reed Switch in the DEBUG window. This could be used to calibration of the switch/magnet or for testing/debugging purposes.

```
' =============================================================================
'
'   File..... ReedSwitchTest.bs2
'   Purpose... Display Status Of Reed Switch
'   Author.... Parallax, Inc.
'   E-mail.... support@parallax.com
'   Started... 05-15-2007
'   Updated...
'
'   {$STAMP BS2}
'   {$PBASIC 2.5}
'
' =============================================================================


' -----[ I/O Definitions ]-------------------------------------------------

ReedSwitch      PIN     0               ' Reed Switch Input Pin


' -----[ Program Code ]----------------------------------------------------

Main:
  DO
    IF IN0 = 0 THEN                     ' Is Reed Switch Closed?
      DEBUG HOME, "CLOSED", CLREOL      ' CLOSED. Display It
    ELSE
      DEBUG HOME, "OPEN", CLREOL        ' OPEN. Display It
    ENDIF
    PAUSE 150                           ' Wait A While
  LOOP                                  ' Keep Going
```

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