



PHOENIX AMERICA INC.

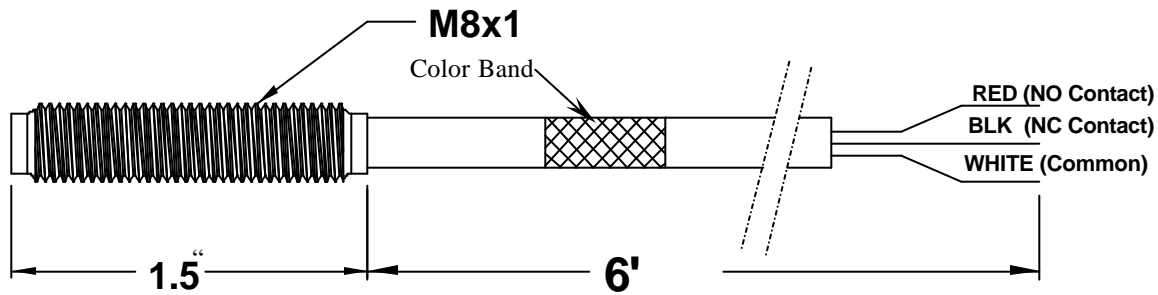
4717 CLUBVIEW DRIVE
FORT WAYNE, IN 46804



Accredited by
the Dutch Council
for Accreditation

P3900 SERIES

PASSIVE PROXIMITY SWITCH, MAGNET ACTUATED



FEATURES:

- Passive Operation
- Micro Reed Switch
- Both SPDT and SPST Versions
- High Sensitivity
- No power required
- No Rotational Alignment Needed
- Operation from -20°C to 85°C
- 30 VDC/AC Max. Operation
- Small Size Rugged Package
- Aluminum Housing
- Two M8x1 Hex Nuts Included

SENSOR DESCRIPTION:

This family of passive devices offers non-contact, magnetically activated sensing for a variety of proximity applications. These devices can operate effectively in either a head-on or a slide-by mode of operation with simple and inexpensive permanent magnet targets. The activation levels are also very low for effective operation at large air gaps. Except for P3902, either the North or South polarity can be used to activate these sensors. The switching characteristics of this sensor family change according to the logic table below. The threaded aluminum package allows for service in rugged environments and simplifies mounting where space is at a premium. Integral cable with 24 AWG wire leads add reliability and flexibility to the electrical connection. Optional connectors and lead lengths are available upon request.

| PART NUMBER | OUTPUT TYPE | BAND COLOR | TARGET POLARITY SOUTH / NORTH |
|-------------|---------------------------|------------|-------------------------------|
| P3901 | N.O. - SPST (FORM A) | RED | EITHER |
| P3902 | N.C. - SPST (FORM B) | BLACK | Required / Optional |
| P3903 | N.O./N.C. - SPDT (FORM C) | BLUE | EITHER |

(Contact the factory for other options)

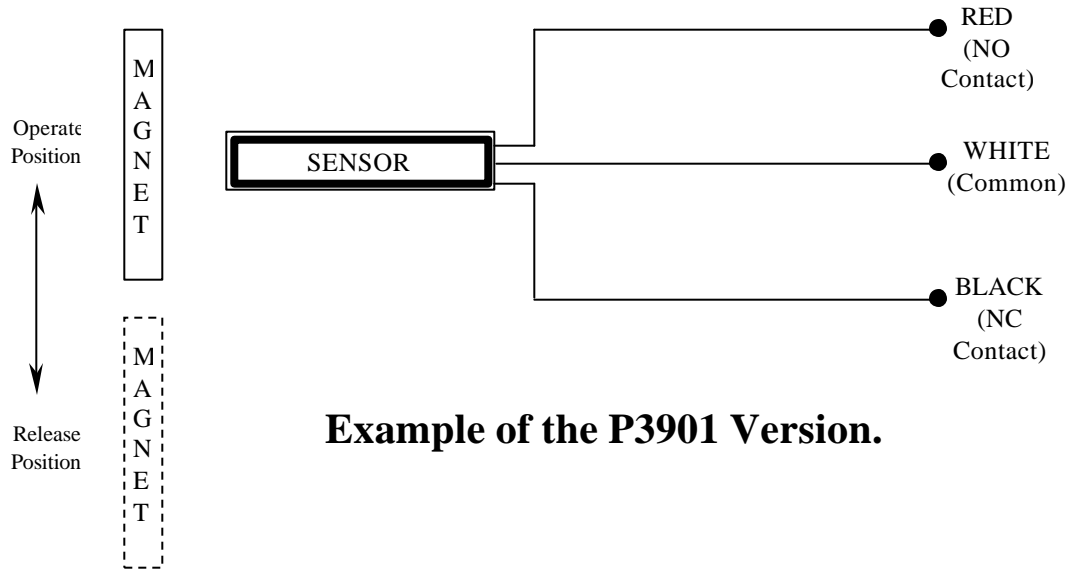


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APPLICATION OPERATION AND WIRING



Example of the P3901 Version.

Specifications

| Characteristics | Symbol | Limits | Units |
|---------------------------------------|----------------------|-----------|-------|
| Maximum Switching Voltage | V_{Switch} | 30 | VDC |
| Maximum Switching Current | I_{Switch} | 100 | ma |
| Maximum Switching Power | P_{Switch} | 3 | Watts |
| Maximum Initial Contact Resistance ** | R_{Contact} | 0.3 | Ohms |
| Typical Contact Capacitance | C_{Contact} | 0.2 - 1.0 | pF |
| Maximum Operate Time | T_{Operate} | 0.7 | msec |
| Maximum Release Time | T_{Release} | 1 | msec |

** Not Including Cable Resistance

SENSOR OPERATION:

This sensor is a passive device that uses a reed switch packaged in an Aluminum housing. Being a passive device, no external power is required for operation. The device is available in a Form A, Form B and Form C. This sensor is activated by the magnetic field of a permanent magnet or electric current applied to a coil. This magnetic field causes the hermetically sealed reeds to contact together due to magnetic attraction. In the case of the Form B devices, a specialized magnetic circuit is created inside the sensor to cause the reeds to separate upon application of a magnetic field of the correct polarity. The reed blades are plated with a highly conductive precious metal for a stable and low contact resistance.