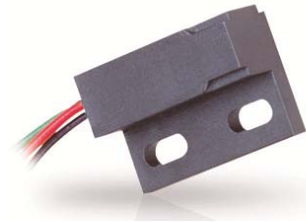


Magnetic Proximity Sensors (Hall Effect)

MP1021 Sensors

Digital Hall-effect position sensor in low-profile flange-mount housing



Description

The MP1 Series sensors are one-piece non-contact solid-state position sensors. The sensors operate through the use of Hall Effect technology with magnetic fields generated by permanent magnets. They provide a sinking current output.

Features

- Solid state reliability
- Flange-mount housing
- Stable output over operating temperature range
- Compatible with unregulated power supply
- Open collector (NPN) output can be used with bipolar or CMOS logic circuits with suitable pull-up resistor
- North pole sensitive
- Unipolar device (MP102103), (obsolete – MP102102, MP102103)
- Latching versions (obsolete – MP102104, MP102105, MP102106)
- RoHS compliant
- IP67

Typical Applications

- Door position & interlock
- Limit switch
- Flow/speed
- Home security
- Pedal switch

Environmental Specifications

| | |
|-----------------------|------------------------------------|
| Operating Temperature | -40 °C to 85 °C (-40 °F to 185 °F) |
| Storage Temperature | -40 °C to 85 °C (-40 °F to 185 °F) |
| Ingress Protection | IP67 |

Electrical Specifications

| | |
|------------------------------|------------------------|
| Operating Supply Voltage | 4.5 to 24 VDC |
| Supply Current | 2.5 mA typ., 5 mA max. |
| Output Current (Sink) | 25 mA max. |
| Maximum Reverse Voltage | 30 VDC |
| Recommended Pull-Up Resistor | See chart |

Mechanical Specifications

| | |
|---|--------------------------|
| Housing Material | Glass-reinforced plastic |
| Turn on / off (MP102101, MP102102, MP102103) | 300 Gauss / 95 Gauss |
| Turn on / off (MP102104, MP102105, MP102106)* | 60 Gauss / 60 Gauss |

*MP102104, MP102105, MP102106 are latching sensors and release when 60 Gauss is applied to the south pole

Products

| Part Number | Sensing Location | Termination |
|-----------------------|------------------|-----------------|
| MP102103 | C | 24 AWG x 314 mm |
| MP102101* | A | 24 AWG x 314 mm |
| MP102102 [#] | B | 24 AWG x 314 mm |
| MP102104 [#] | A | 24 AWG x 314 mm |
| MP102105 [#] | B | 24 AWG x 314 mm |
| MP102106 [#] | C | 24 AWG x 314 mm |

* MP102101 Not commonly stocked

[#] Obsolete as of June, 2016

www.switches-sensors.zf.com

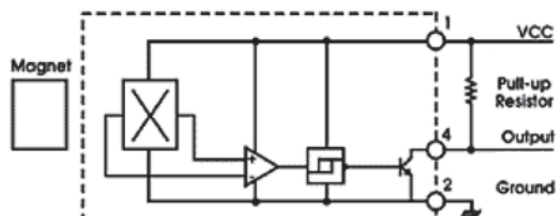


Note: An external pull-up resistor is required, the value of which is dependent on the supply voltage. The resistor should be connected between the output and Vcc. Refer to the wiring diagram for lead colors or pin numbering as applicable.

Recommended External Pull-Up Resistor

| Volts DC | 5 | 9 | 12 | 15 | 24 |
|----------|----|------|------|----|----|
| Ohms | 1k | 1.8k | 2.4k | 3k | 3k |

Open Collector Sinking Block Diagram



Dimensions mm (inches)

