

# Magnetic Proximity Sensors (Hall Effect)

## MP1013 Sensors

Hall-effect position sensor with convenient snap-fit mounting



### 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
- Stable output over operating temperature range
- Open collector (NPN) output can be used with bipolar or CMOS logic circuits with suitable pull-up resistor
- South pole sensitive
- Unipolar device (MP101301, MP101302)
- Latching version available (MP101303)
- RoHS compliant
- Fastener-less design
- IP67

### Typical Applications

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

### Environmental Specifications

Operating / Storage Temperature (MP101301, MP101303)	-40 °C to 85 °C (-40 °F to 185 °F)
Operating / Storage Temperature (MP101302)	-40 °C to 125 °C (-40 °F to 257 °F)
Ingress Protection	IP67

### Electrical Specifications

Operating Supply Voltage	5 to 24 VDC
Supply Current (MP101301, MP101302)	4.1 mA typ., 7.5 mA max.
Supply Current (MP101303)	2.6 mA typ., 5 mA max.
Output Current (Sink) (MP101301, MP101302)	25 mA max.
Output Current (Sink) (MP101303)	20 mA max.
Maximum Input Voltage (MP101301, MP101302)	30 VDC
Maximum Input Voltage (MP101303)	28 VDC
Maximum Reverse Voltage (MP101301, MP101302)	30 VDC
Maximum Reverse Voltage (MP101303)	None
Recommended Pull-Up Resistor	See chart

### Mechanical Specifications

Housing Material	Glass-reinforced nylon plastic
Turn on / off (MP101301, MP101302)	245 Gauss / 60 Gauss
Turn on / off (MP101303)*	60 Gauss / 60 Gauss

\*MP101303 is a latching sensor and releases when 60 Gauss is applied to the north pole

## Products

### Part Number

### Leads

MP101301	24 AWG x 150 mm
MP101302*	24 AWG x 150 mm
MP101303*	24 AWG x 150 mm

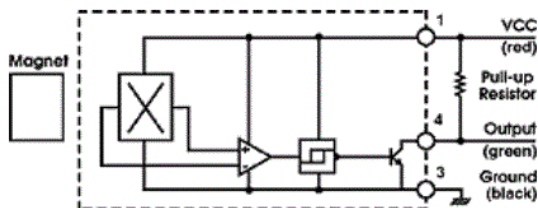
\*Not commonly stocked

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.

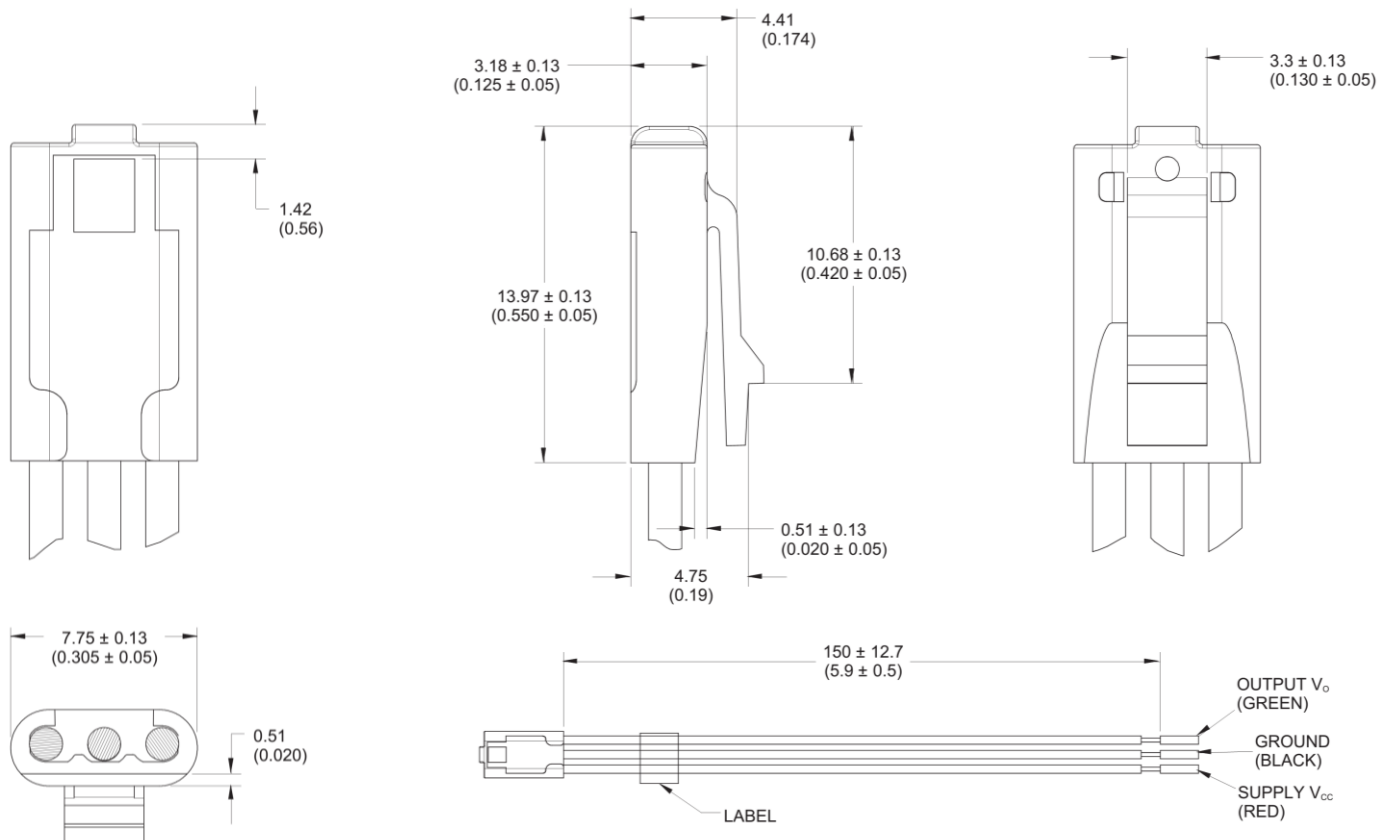
## Recommended External Pull-Up Resistor

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

## Open Collector Sinking Block Diagram



## Dimensions mm (inches)



<https://switches-sensors.zf.com/>

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