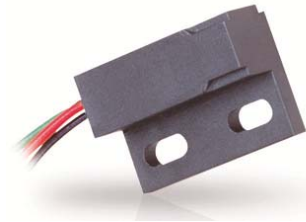


# Magnetic Proximity Sensors (Hall Effect)

## 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](http://www.switches-sensors.zf.com)

Page 1 of 2, Last update 2017-08-08, Specifications subject to change without notice.

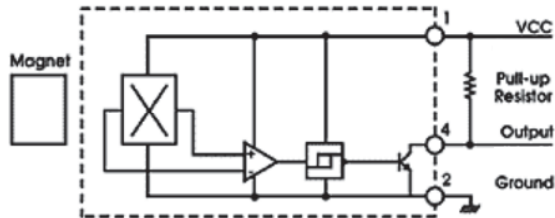


Note: An external pull-up resistor is required, the value of which is dependent on the supply voltage. The resistor should be connected between the output and Vcc. Refer to the wiring diagram for lead colors or pin numbering as applicable.

### 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)

