

# Magnetic Proximity Sensors (Hall Effect)

## MP1001 Sensors

Solid state magnetic proximity sensor  
with electrical immunity protection



### 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
- Compatible with unregulated power supply
- South pole activated
- Open collector (sinking or NPN) output can be used with bipolar or CMOS logic circuits with suitable pull-up resistor
- RoHS compliant
- IP67
- Turn on at 245 Gauss, turn off at 60 Gauss

### Typical Applications

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

### Environmental Specifications

Operating Temperature (MP100101)	-40 °C to 105 °C (-40 °F to 221 °F)
Operating Temperature (MP100102)	-40 °C to 85 °C (-40 °F to 185 °F)
Storage Temperature (MP100101)	-40 °C to 105 °C (-40 °F to 221 °F)
Storage Temperature (MP100102)	-40 °C to 85 °C (-40 °F to 185 °F)
Ingress Protection	IP67

### Electrical Specifications

Supply Voltage	5 to 16 VDC
Supply Current	4.1 mA typ., 7.5 mA max.
Output Current (Sink)	25 mA max.
Maximum Input Voltage	24 VDC
Maximum Reverse Voltage	5 VDC
Recommended Pull-Up Resistor	See Chart

### Mechanical Specifications

Housing Material	303 Stainless Steel
Maximum Installation Torque Limit	50 in lbs on threads
Turn on / off	240 Gauss / 60 Gauss
Maximum Installation Torque Limit	50 in lbs on threads

### Products

#### Part Number

MP100101

MP100102

#### Termination

12 mm, 4-pin circular mating connector; type IEC 60947-5-2

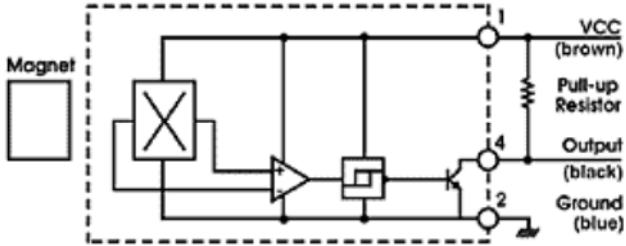
22 AWG x 1 m 3-wire shielded cable with drain

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**

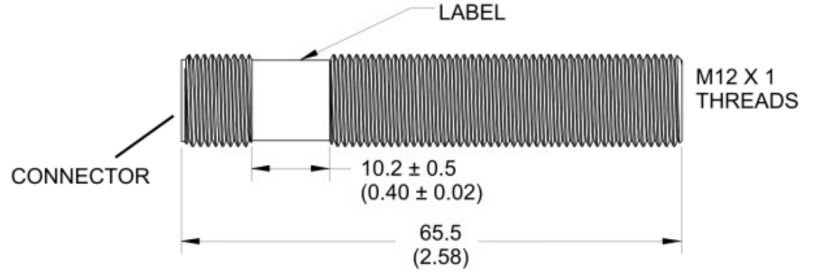
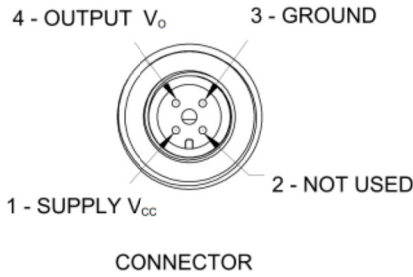
Volts DC	5	9	12	15
Ohms	1k	1.8k	2.4k	3k

**Open Collector Sinking Block Diagram**



**Dimensions mm (inches)**

**MP100101**



**MP100102**

