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

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)

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

Products

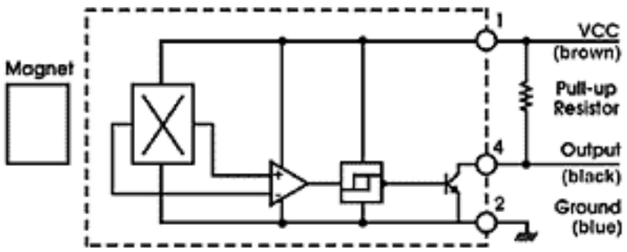
Part Number	Termination
MP100101	12 mm, 4-pin circular mating connector; type IEC 60947-5-2
MP100102	22 AWG x 1 m 3-wire shielded cable with drain

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

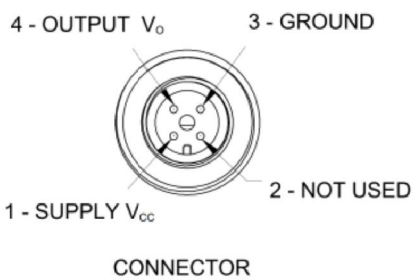
Volts DC	5	9	12	15
Ohms	1k	1.8k	2.4k	3k

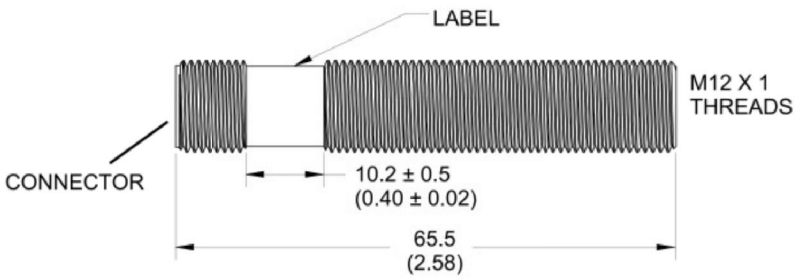
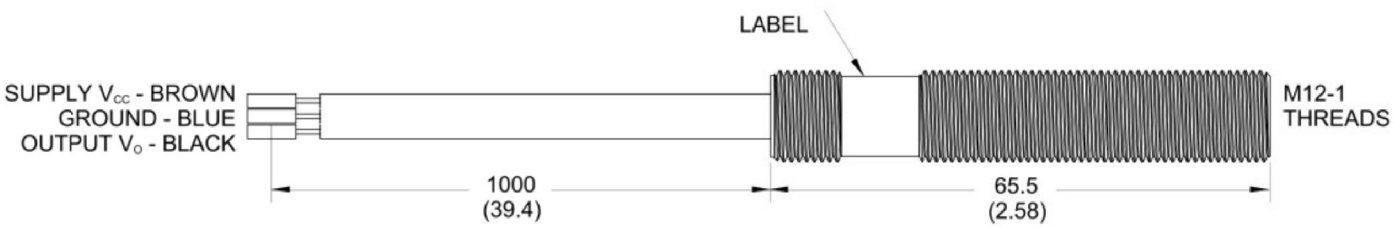
Open Collector Sinking Block Diagram



Dimensions mm (inches)

MP100101





MP100102