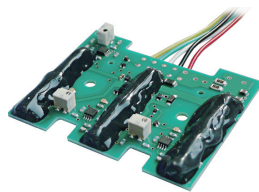


Model **MGM-3□401-MC/PC** High-sensitivity Multi-type Electromagnetic Sensor



MGM-3N401-MC
MGM-3S401-MC



MGM-3N401-PC
MGM-3S401-PC

Model List	Detection Polarity
MGM-3N401-MC	N pole
MGM-3S401-MC	S pole
MGM-3N401-PC	N pole
MGM-3S401-PC	S pole

Application

- Automatic guided vehicles guidance

Features

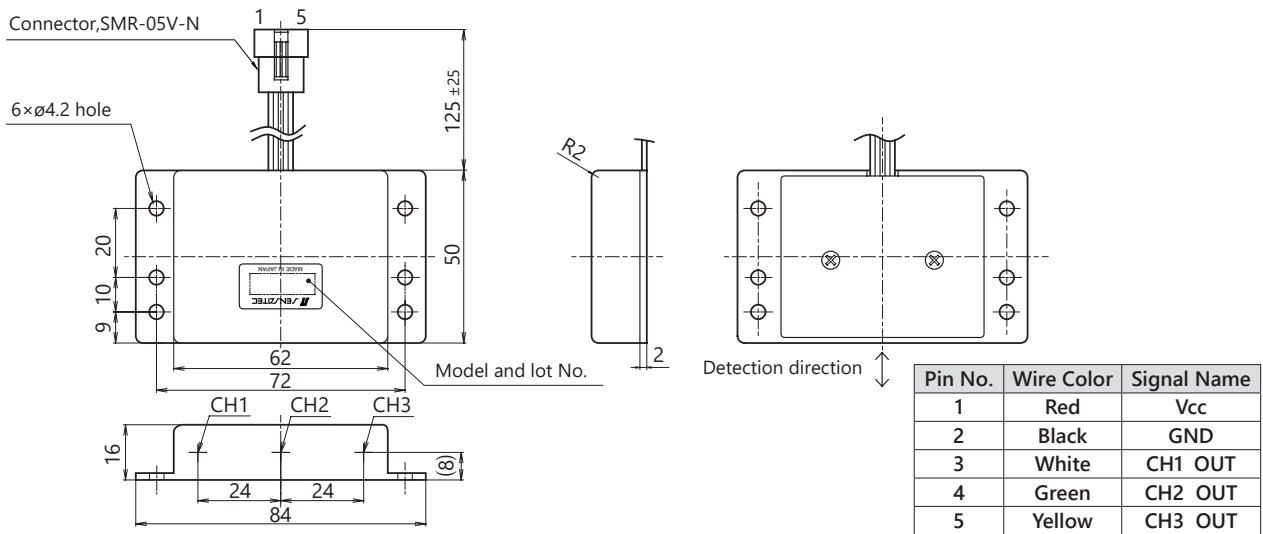
- High-sensitivity electromagnetic sensor that detects the magnetism at three points.
- Perfect as a guide sensor for automatic guided vehicles (AGV). The sensitivity can be lowered to adapt to the usage environment.
- Open collector output to output directly to digital circuits.
- MC type : Can be used in a variety of environments thanks to its superior dust-proof plastic case filled with urethane.
- PC type : PCB not enclosed in a case to increase the installation possibilities.

Rating/Performance

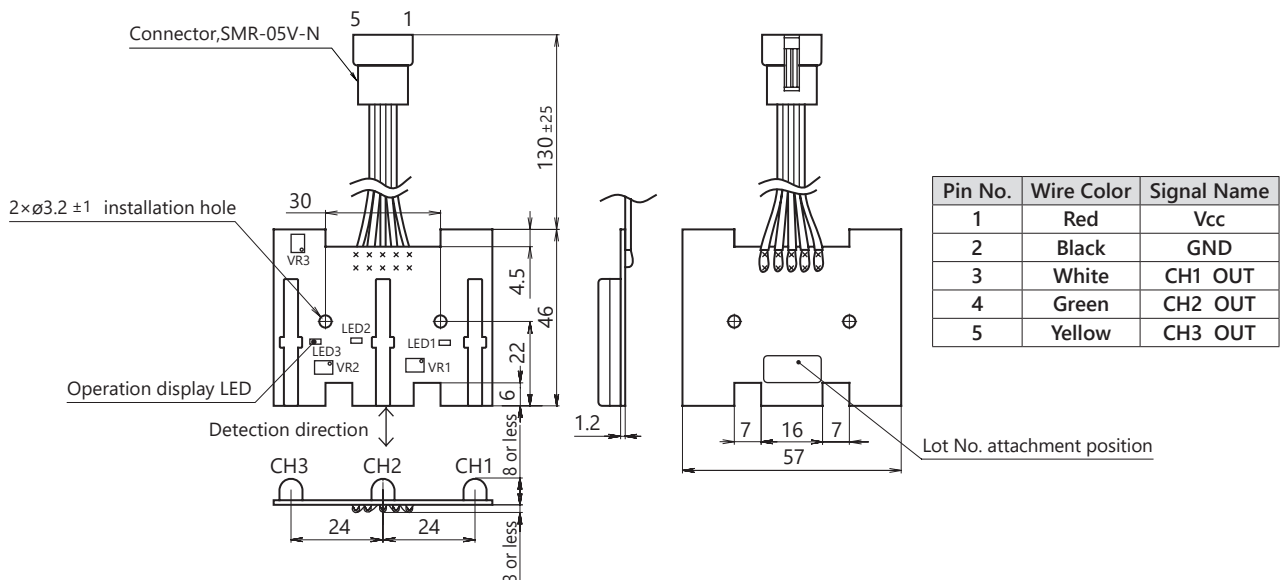
Model	MGM-3N401-MC	MGM-3S401-MC	MGM-3N401-PC	MGM-3S401-PC
Detection Surface	Front side detection			
Detection Sensitivity	400 μ T \pm 100 μ T (Based on rubber plate magnet 30 x 30 mm and 1.5 mm in thickness)			
Detection Polarity	N pole	S pole	N pole	S pole
Reference Detection Distances	72 mm (*The MG50-1 series)			
Operating Set Distance	5 to 50 mm (*The MG50-1 series)			
Power Voltage	12 V to 24 V DC (Operating voltage range: 10 V to 30 V DC)			
Power Consumption	50 mA DC or less			
Output	NPN transistor open collector 30 V DC, 100 mA DC or less			
Output Residual Voltage	1 V DC or less (Load current 100 mA DC)			
Operation Status	Normally open (On with magnetic field)			
Operation Indication				Red LED (Lit when On output)
Number of Detection Points / Pitch	3 point / 24 mm			
Response Time	500 μ s or less			
Hysteresis	30 μ T or less (Based on rubber plate magnet 30 x 30 mm and 1.5 mm in thickness)			
Temperature Range	-10 to 60 $^{\circ}$ C (-20 to 70 $^{\circ}$ C during storage) (Without dew condensation or freezing)			
Humidity Range	95 % RH or less (95 % RH or less during storage) (Without dew condensation)		90 % RH or less (90 % RH or less during storage) (Without dew condensation)	
Breakdown Voltage	500 V AC, 50/60 Hz for 1 min (Between live parts and the case)			
Insulation Resistance	100 M Ω or more, at 500 V DC megger (Between live parts and mountings)			
Vibration Resistance	Durability: 10 to 55 Hz, Double amplitude: 1.5 mm in X-, Y-, and Z-direction, each 2 hours (Device not powered)			
Shock Resistance	Durability: 500 m/s ² (Approx. 50 G) in X-, Y-, and Z-direction, each 3 times (Device not powered)			
Ingress Protection	IP67 (Except for the connector part)			
Case Material	ABS resin			
Connector	Connector : SMR-05V-N (5-pin) (from J.S.T. Mfg. Co., Ltd.) [Connections] Housing : SMP-05V, Contact : SHF-001T-0.8BS (from J.S.T. Mfg. Co., Ltd.)			

Dimensions

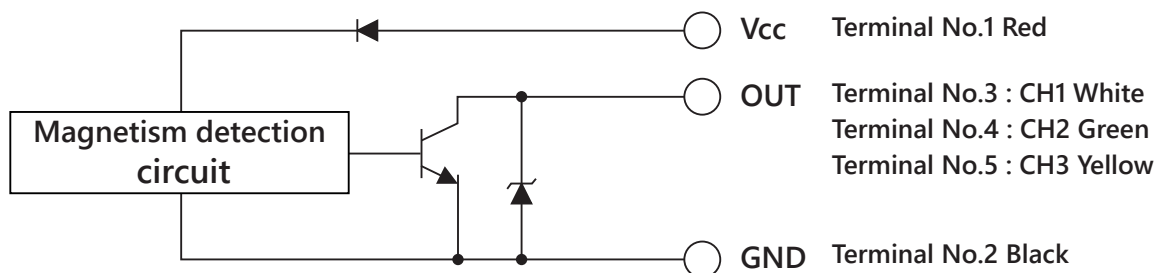
■ MGM-3□401-MC



■ MGM-3□401-PC



Output Circuit



Precautions During Use

1. The detection characteristics will vary if magnetism generating devices, such as inverters or motors, are near the electromagnetic sensor installation location. Check the characteristics before using the sensor.
2. MGM-3*401-PC: Use non-magnetic metal for the installation screw and the casing.
3. MGM-3*401-PC: When using a metal casing, pay attention that the PCB and the parts do not contact.
4. MGM-3*401-PC: Note that the sensor may not operate correctly when the sensitivity is high due to ambient temperature change and electromagnetic noise.
5. For other precautions, refer to "General Precautions" for electromagnetic sensors.

* For a detailed specification of the other, please refer to specifications.