

## □Model List

	N pole detection	S pole detection
Normally open	MGP-CN5013	MGP-CS5013
Normally closed	MGP-CN5014	MGP-CS5014

**Application**

- Magnet detection
- Automatic guided vehicles guidance

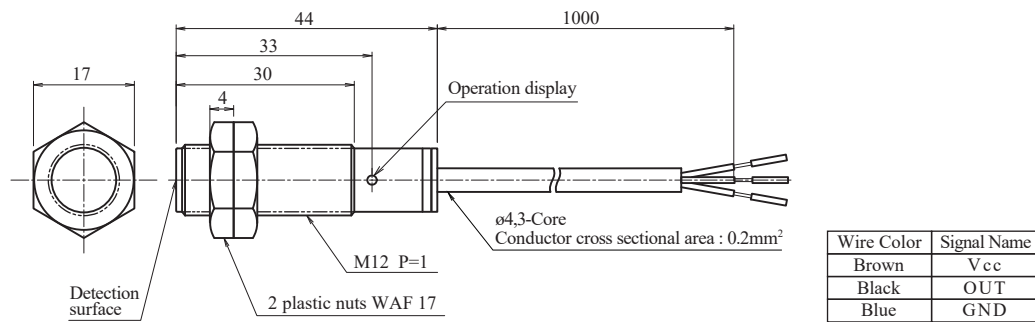
**Characteristics**

- A DC 3-wire type is also available.
- N pole detection models and S pole detection models are available. Select the model depending on your usage.
- Operation can be easily checked with the operation display light.

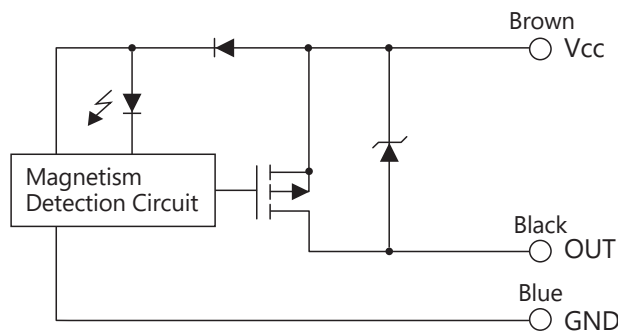
**Rating / Performance**

Model	MGP-CN5013	MGP-CN5014	MGP-CS5013	MGP-CS5014
Detection Surface	Front side detection			
Detection Sensitivity	500 $\mu$ T $\pm$ 100 $\mu$ T			
Power Supply Voltage	12 V to 24 V DC (Operating voltage range : 10 V to 30 V DC)			
Power Consumption	20 mA DC or less			
Output	P-channel MOSFET Open drain 30 V DC 50 mA DC or less			
Output Residual Voltage	1 V DC or less ( Load current 50 mA DC )			
Operation Configuration	Normally open (On output with magnetic field)	Normally closed (Off output with magnetic field)	Normally open (On output with magnetic field)	Normally closed (Off output with magnetic field)
Operation Display	Red LED (Lit when On output)			
Response Time	300 $\mu$ s or less			
Hysteresis	30 $\mu$ T or less (With a rubber plate magnet of 30 $\times$ 30 $\times$ t1.5 mm)			
Detection Polarity	N pole		S pole	
Reference Detection Distances	53 mm (*The MG50-1 series)			
Operating Set Distance	5 to 37 mm (*The MG50-1 series)			
Operating Temperature Range	-10 to 60 $^{\circ}$ C (-20 to 65 $^{\circ}$ C during storage)(Without dew condensation or freezing)			
Operating Humidity Range	90% RH or less (90% RH or less during storage)(Without dew condensation)			
Withstand Voltage	1 min at 500 V AC 50/60 Hz (Between the live part and case)			
Insulation Resistance	100 M $\Omega$ or more measured with an ohmmeter at 500 V DC (Between the live part and case)			
Vibration Resistance	Durability : 2 hours in each X, Y, Z direction at 10 to 55 Hz and with peak-to-peak amplitude of 1.5 mm (At power off)			
Shock Resistance	Durability : 3 times at 500 m/s <sup>2</sup> (approx. 50 G) in each X, Y, Z direction (At power off)			
Protection Rating	IP65			
Case Material	ABS (Nut ABS / PC alloy resin)			
Cable	$\phi$ 4, 3-core round cord of 0.2 mm <sup>2</sup> and 1 m in length (Oil and heat resistant)			
Weight	Approx. 30 g			

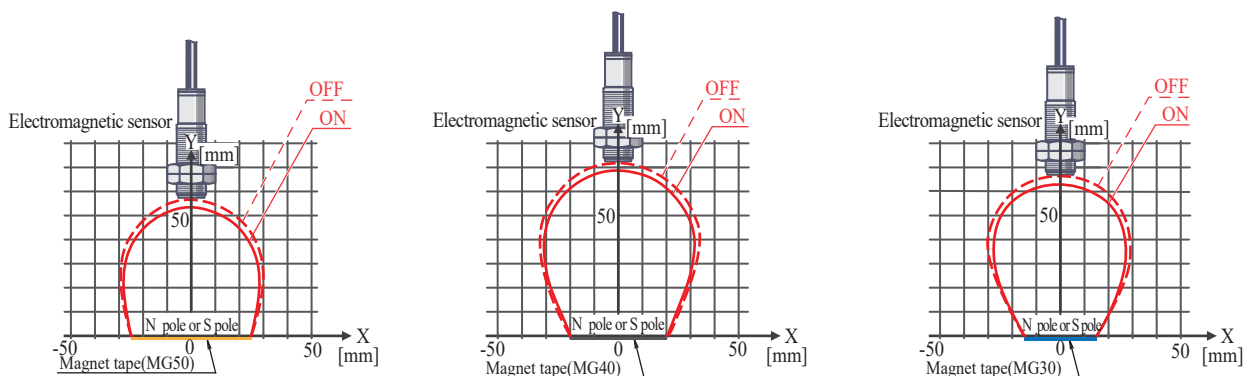
## External Dimensions Diagram



## Output Circuit



## Precautions with Detection Area Diagram and Reverse Polarity Flux (Typical Example)



## Usage Precautions

1. If there are magnetic objects on or around the installation location of the electromagnetic sensor, keep a distance between the sensor and these objects greater than the distance between the sensor and the magnet tape. Check also carefully the detection characteristics before using the sensor.
2. If there is magnetic metal with residual magnetism in the surroundings of the electromagnetic sensor installation location, the detection characteristics may greatly vary. Verify the detection characteristics before using the sensor.
3. Tighten the sensor using the nuts supplied with a torque of 0.5 Nm.
4. See Electromagnetic sensor general usage precautions for other precautions.

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