

□Model List

Detection sensitivity	
500 μ T	MGD-QW501
2000 μ T	MGD-QW202

Application

- Magnet detection
- Automatic guided vehicles guidance

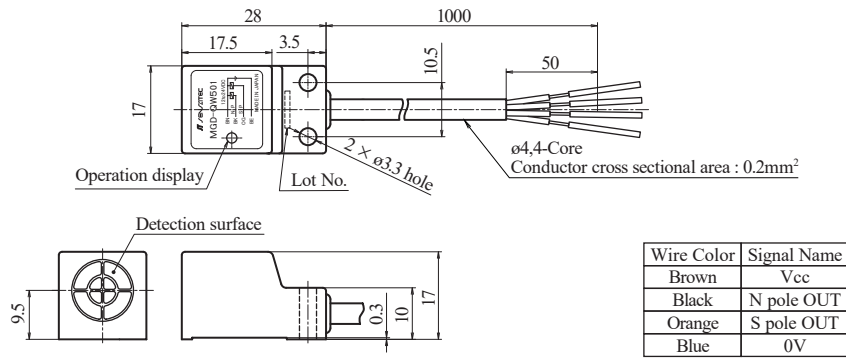
Characteristics

- Uses a magnetism focusing construction (patented) that makes it particularly strong against ambient temperatures.
- The magnetism focusing construction is very useful as the sensor can detect at a long distance targets with a wide surface but a weak magnetic flux, like belt-shaped rubber magnets.
- The detected poles (N pole and S pole) are output separately.
- Equipped with protection diodes to protect the sensor from reverse connection to the power supply and output surges.
- The LEDs displaying the operation (red for N pole detection and green for S pole detection) make it easy to grasp the operation condition.

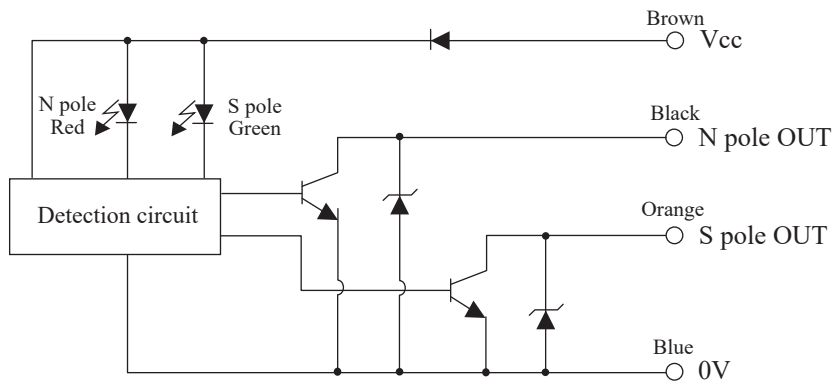
Rating / Performance

Model	MGD-QW501	MGD-QW202
Detection Surface	Front side detection	
Detection Sensitivity	500 μ T \pm 150 μ T	2000 μ T \pm 400 μ T
Power Supply Voltage	12 V to 24 V DC (Operating voltage range : 10 V to 30 V DC), Ripple 1% or less	
Power Consumption	20 mA DC or less	
Output	30 V DC 50 mA DC or less NPN transistor open collector	
Output Residual Voltage	1 V DC or less (Load current 50 mA DC)	
Operation Configuration	Normally open (On with magnetic field)	
Operation Display	LED : Red with N pole detection, Green with S pole detection	
Response Time	300 μ s or less	
Hysteresis	75 μ T or less (With a rubber plate magnet of 30 \times 30 \times t1.5 mm)	350 μ T or less (With a rubber plate magnet of 30 \times 30 \times t1.5 mm)
Detection Polarity	N pole and S pole	
Reference Detection Distances	52 mm (*the MG50-1 series)	25 mm (*the MG40-1R5 series)
Operating Set Distance	5 to 37 mm (*the MG50-1 series)	5 to 18 mm (*the MG40-1R5 series)
Operating Temperature Range	-10 to 60 $^{\circ}$ C (-20 to 65 $^{\circ}$ C during storage)(Without dew condensation or freezing)	
Operating Humidity Range	95% RH or less (95% 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 Ω 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 ² (approx. 50 G) in each X, Y, Z direction (At power off)	
Protection Rating	IP67	
Case Material	ABS	
Cable	ϕ 4, 4-core round cord of 0.2 mm ² and 1 m in length (Oil and heat resistant)	
Weight	Approx. 32 g	

External Dimensions Diagram

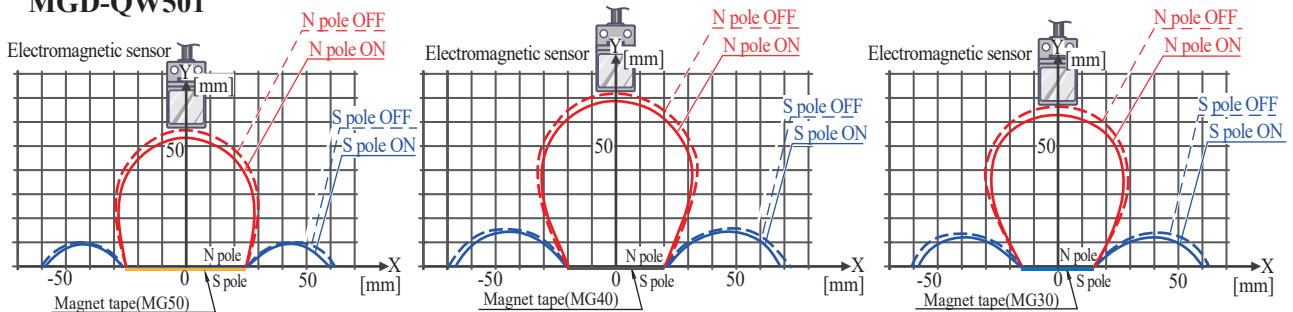


Output Circuit



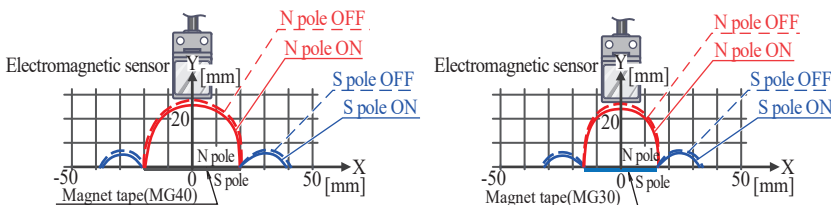
Precautions with Detection Area Diagram and Reverse Polarity Flux (Typical Example)

MGD-QW501



*If the MGD-QW501 is used at a height of 20 mm or less, the wrong pole may be detected.

MGD-QW202



*If the MGD-QW202 is used at a height of 7 mm or less, the wrong pole may be detected.

Usage Precautions

1. If the object on which the electromagnetic sensor is installed is made of magnetic metal, the detection sensitivity may greatly vary. In such a case, place it at 40 mm above the installation surface and verify 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. See Electromagnetic sensor general usage precautions for other precautions.

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