



□Model List

Detection sensitivity

500 μ T	MGD-HQW501
-------------	------------

Application

- Magnet detection
- Automatic guided vehicles guidance
- As it can be used to drive voltage 48 V DC(or less) following electric forklift, refrigeration car, freezer car, etc

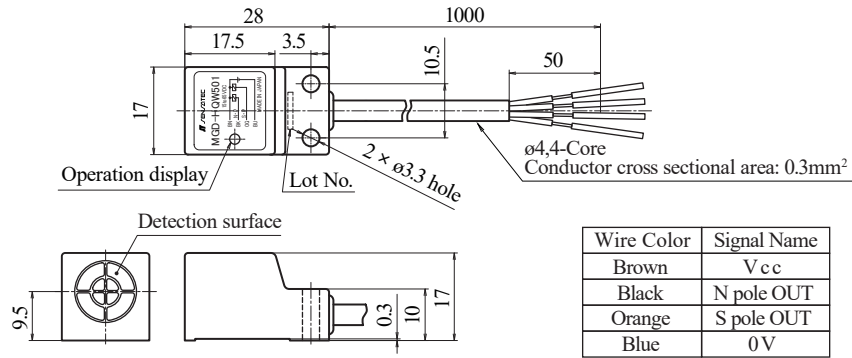
Characteristics

- Uses a magnetism focusing construction (patented) that makes it particularly strong against ambient temperatures.
- It can be used in a wide range of supply voltage 15 V to 65 V DC.
- 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.
- Because of the high power supply voltage specification, it can also be used in the battery voltage 48 V DC.

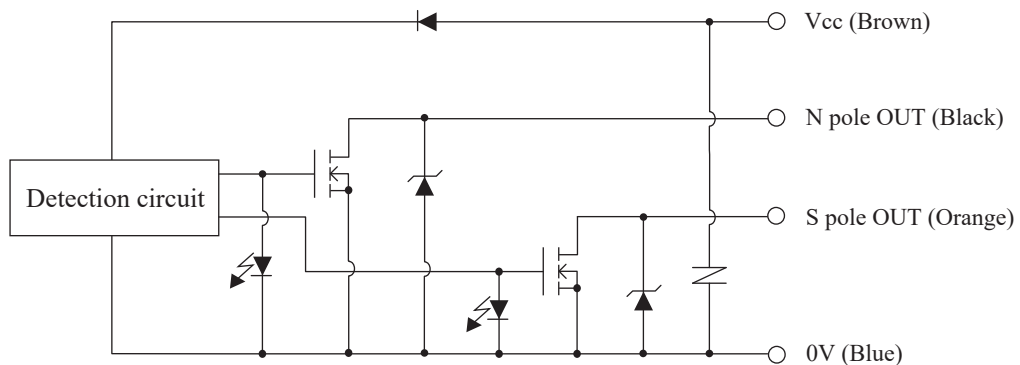
Rating / Performance

Model	MGD-HQW501
Detection Surface	Front side detection
Detection Sensitivity	500 μ T \pm 150 μ T (With a rubber plate magnet of 30 × 30 × t 2 mm)
Power Supply Voltage	24 V to 48 V DC (Operating voltage range : 15 V to 65 V DC), ripple 1% or less
Power Consumption	15 mA DC or less
Output	Nch MOSFET open drain 65 V DC 200 mA DC or less
Output Residual Voltage	0.5 V DC or less (Load current 200 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	100 μ T or less (With a rubber plate magnet of 30 × 30 × t 2 mm)
Detection Polarity	N-pole and S-pole
Reference Detection Distances	50 mm (*the MG50-1 series)
Operating Set Distance	5 to 35 mm (*the MG50-1 series)
Operating Temperature Range	-30 to 70 °C (-30 to 70 °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 0.3 mm ² and 1 m in length (Oil and heat resistant)
Weight	Approx. 35 g

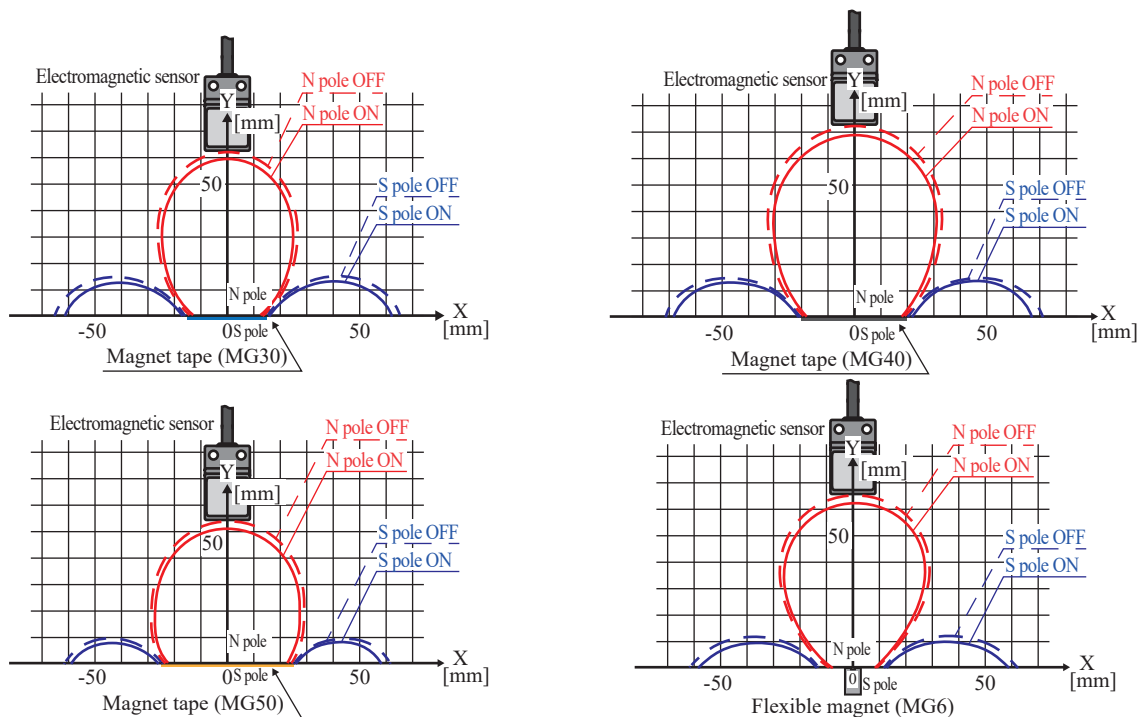
External Dimensions Diagram



Output Circuit



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



*If the MGD-HQW501 is used at a height of 20 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.