



Model List

Model	Detection Sensitivity
MGD-HQN202	2000 $\mu$ T

### 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

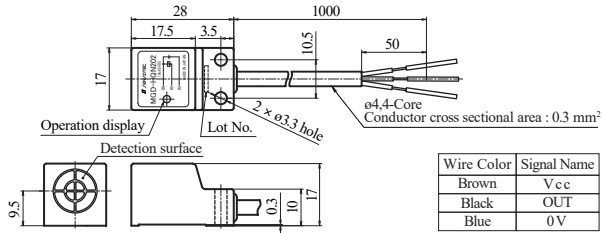
### Features

- 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.
- Equipped with protection diodes to protect the sensor from reverse connection to the power supply and output surges.
- The LEDs displaying
- Because of the high power supply voltage specification, it can also be used in the battery voltage 48 V DC.

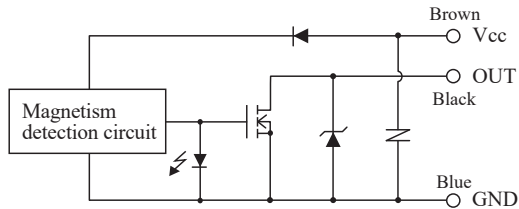
### Rating / Performance

Model	<b>MGD-HQN202</b>
Detection Surface	Front side detection
Detection Sensitivity	2000 $\mu$ T $\pm$ 400 $\mu$ T (With a rubber plate magnet of 30 $\times$ 30 $\times$ 2 mm)
Power 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 Status	Normally open (Output ON at magnetic detection)
Operation Indication	LED : Red (ON at output ON)
Response Time	300 $\mu$ s or less
Hysteresis	550 $\mu$ T or less (Based on rubber plate magnet 30 $\times$ 30 mm and 2 mm in thickness)
Detection Polarity	N pole
Reference Detection Distances	29 mm (*the MG40-1R5 series)
Operating Set Distance	5 to 20 mm (*the MG40-1R5 series)
Temperature Range	-30 to 70 $^{\circ}$ C (-30 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)
Breakdown Voltage	1500 V AC, 50/60 Hz for 1 min (Between live parts and the case)
Insulation Resistance	100 M $\Omega$ or more, at 500 V DC megger (Between live parts and the case)
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 <sup>2</sup> (Approx. 50 G) in X-, Y-, and Z-direction, each 3 times (Device not powered)
Ingress Protection	IP67
Case Material	ABS
Cable	$\phi$ 4, 3-core round cord of 0.3 mm <sup>2</sup> and 1 m in length (Oil and heat resistant)
Weight	Approx. 35 g

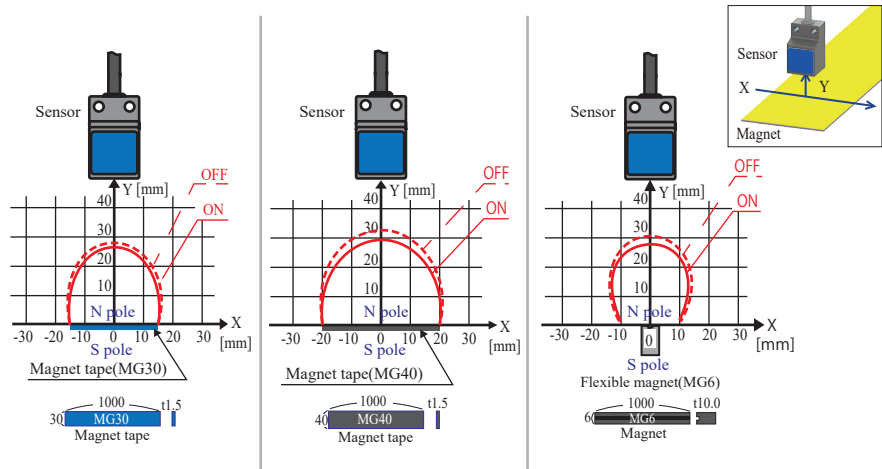
## Dimensions



## Output Circuit



## Characteristics Graph (Typical Example)



## Precautions During Use

1. When the mounting part or its peripheral materials of the sensor include magnetic metals, separate them from the sensor to the same distance between the magnetic sensor and the magnet tape or more, to ensure the intended detection characteristics.
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. For other precautions during use, refer to the General Precautions for electromagnetic sensor.

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