Model MDS-G25-2M Groove(U) Type Inductive Sensor

Model List	Frequency
MDS-G25-2M	Standard
MDS-G25B-2M	Different

Application

- Detection of objects with large vibrations
- Detection of large moving object

Features

- Comes with a 4.7k Ω pull-up resistor. (Please consult if you require an open-collector output.)
- Detects the passage of all types of metals.
- Perfect to detect the number of rotations of metal sheet slitters or gears.
- Supports high-speed detection.
- The unit is equipped with a LED display for clear indication of operation status.

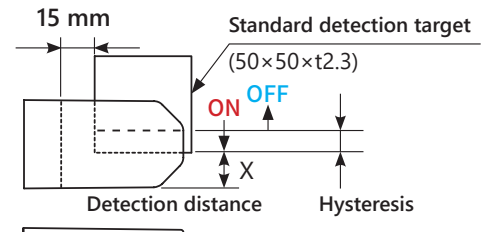
Rating / Performance

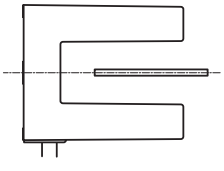
Model	MDS-G25-2M	MDS-G25B-2M
Detection Groove Width	25 mm	
Detection Distance	12 ± 2 mm	
Detection Position	* 15 mm (Distance between the inductive target and the bottom of the sensor groove)	
Standard Detection Target	Iron sheet of 50 × 50 mm and 2.3 mm in thickness (Detects both magnetic and non-magnetic metals)	
Hysteresis	* 2 mm or less	
Power Supply Voltage	12 V to 24 V DC (Operating voltage range : 10 V to 30 V DC)	
Current Consumption	28 mA DC or less	
Output	NPN transistor with 4.7k Ω pull-up resistor 30 V DC, 100 mA DC or less	
Output Residual Voltage	1.5 V DC or less (Load current 100 mA DC)	
Operation Status	Normal "H" (ON output when detecting)	
Operation Indicator	Orange LED (Lit when the output is ON)	Green LED (Lit when the output is ON)
Response Frequency	1 kHz or more (Detector width : 50 mm or more, Width of tooth space : 50 mm or more, Thickness : 1 mm)	
Temperature Range	-25 to 70 °C (-30 to 75 °C storage temperature range)(Without dew condensation or icing)	
Humidity Range	95 % RH or less (95 % RH or less storage humidity range)(without dew condensation)	
Dielectric Strength	2,000 V AC for 1 minute (Between the live part and case)	
Insulation Resistance	50 MΩ or more at 500 V DC megger (Between the live part and case)	
Vibration Resistance	10 to 55 Hz, 1.5 mm double amplitude in X, Y and Z directions for 2 hours each (at power off)	
Shock Resistance	500 m/s² (Approx. 50 G) in X, Y and Z directions 10 times each (at power off)	
Protection	IP67	
Case Material	Polyarylate	
Cable	Cable : ø6, 3-core round cord of 0.5 mm² and insulation 1.9 mm and 2 m in length (Oil and heat resistant vinyl)	
Weight	Approx. 240 g	

* See Detection distance conditions on the next item.

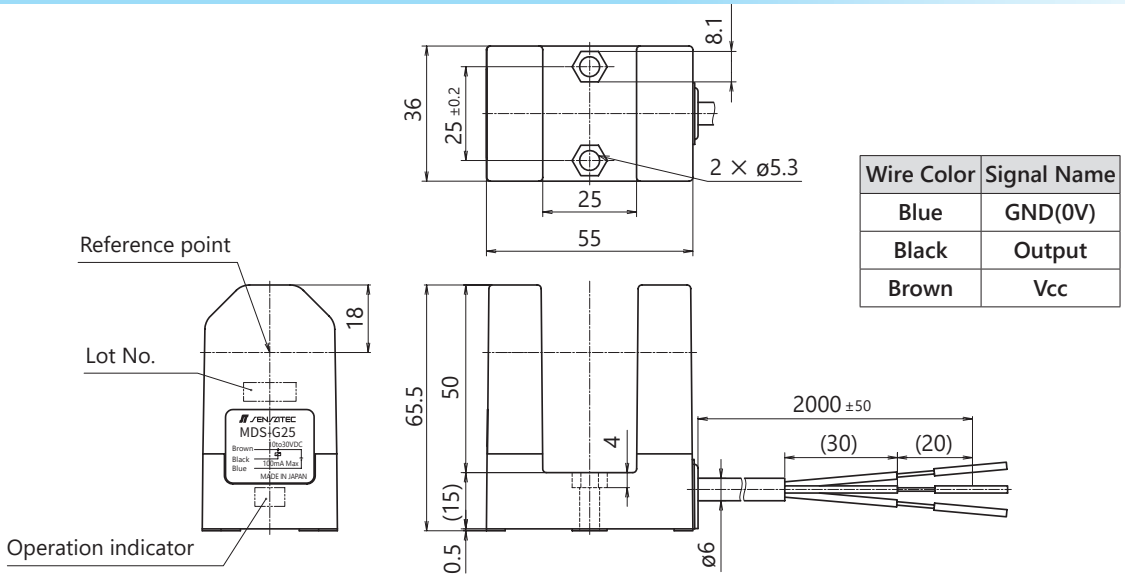
Detection Distance Conditions

The detection distance is measured by placing a detection target (a 50 x 50 x t 2.3 iron plate) 15 mm from the groove bottom surface of the case, inserting it toward the center of the case, and measuring the distance from the point X at which output turns ON.
The hysteresis is measured by returning the detection target from the point at which output turns ON and measuring the distance to the point at which the output turns OFF.



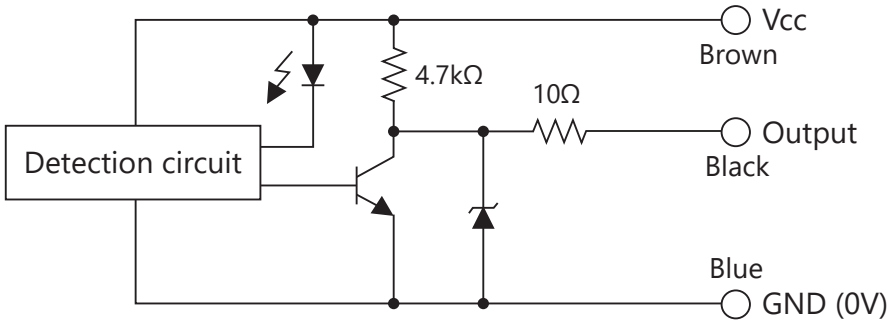


Outline Dimensions



Wire Color	Signal Name
Blue	GND(0V)
Black	Output
Brown	Vcc

Output Circuit

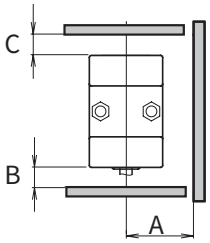


*Because there is no reverse connection protection diode built-in, pay careful attention to the polarity of the power supply.

Precautions During Use

Influence of surrounding metal

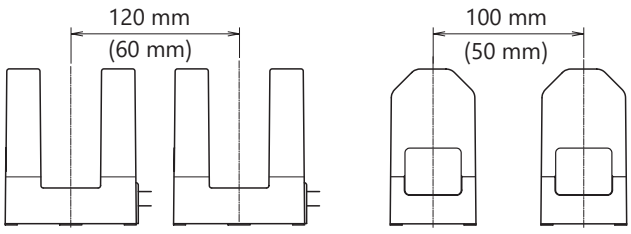
- If there are metal objects around the inductive sensor, leave at least the space indicated in the figure below between them and the sensor.



	Distance from Surrounding Metal Objects
A	38 mm or more
B	10 mm or more
C	10 mm or more

Mutual interference

- If you use a number of the same product, separate them at least by the distances shown in the figure below to prevent reciprocal interference.
  *The figures in parentheses are for combinations of different frequency sensors.



Mounting

- Always use plain washers to tighten the case and use a torque of 0.5 N·m or less.

* For other precautions, refer to “General Precautions” for inductive sensors.