Model MDS-G4-5/G4C-5 High Speed Response Groove(U) Type Inductive Sensor

MDS-G4-5
(Cable type)

MDS-G4C-5
(Connector type)

Model List	Connection
MDS-G4-5	Cable
MDS-G4C-5	Connector

Application

- Detection of coins for ATM and vending machines
- Detection of tokens of amusement equipment
- Rotational speed detection using a metal sheet gear

Features

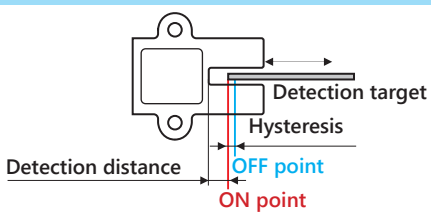
- The inductive sensor has an open collector output for simple operation.
- Detects the passage of all types of metals, medals and coins.
- Perfect to detect the number of rotations of metal sheet slitters or gears.
- Supports high-speed detection.
- The unit is equipped with a LED display for clear indication of operation status.

Rating / Performance

Model	MDS-G4-5	MDS-G4C-5
Detection Groove Width	4 mm	
Detection Position	* 6 mm ± 10 % (Distance between the inductive target and the bottom of the sensor groove)	
Standard Detection Target	Iron sheet of 15 × 15 mm and 1 mm in thickness	
Hysteresis	*0.8 mm or less	
Power Supply Voltage	5 V DC (Operating voltage range : 4.5 V to 5.5 V DC)	
Current Consumption	6 mA DC or less	
Output	NPN transistor open collector 30 V DC, 50 mA DC or less	
Output Residual Voltage	1 V DC or less (Load current 50 mA DC)	
Operation Status	Normally open (ON output when detecting)	
Operation Indicator	Red LED (Lit when the output is ON)	
Response Frequency	5 kHz or more (Detector width : 5 mm or more, Width of tooth space : 5 mm or more, Thickness : 1 mm)	
Temperature Range	-10 to 60 °C (-20 to 65 °C storage temperature range)(Without dew condensation or icing)	
Humidity Range	85 % RH or less (85 % RH or less storage humidity range)(Without dew condensation)	
Dielectric Strength	500 V AC 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/s^2 (Approx. 50 G) in X, Y and Z directions 10 times each (at power off)	
Protection	IP67	IP50
Case Material	Polyarylate	
Cable	Cable : ø4, 3-core round cord of 0.15 mm^2 and insulation 1.1 mm and 1 m in length (Oil and heat resistant vinyl)	
Connector		Connector : S3B-ZR (3-pin), Housing : ZHR-3, Contact : SZH-002T-P0.5 (from J.S.T. Mfg. Co., Ltd.)
Weight	Approx. 32 g	Approx. 9 g
Options (Sold Separately)		SZH-3-300

*Detection distance: See Detection distance conditions on the next item.

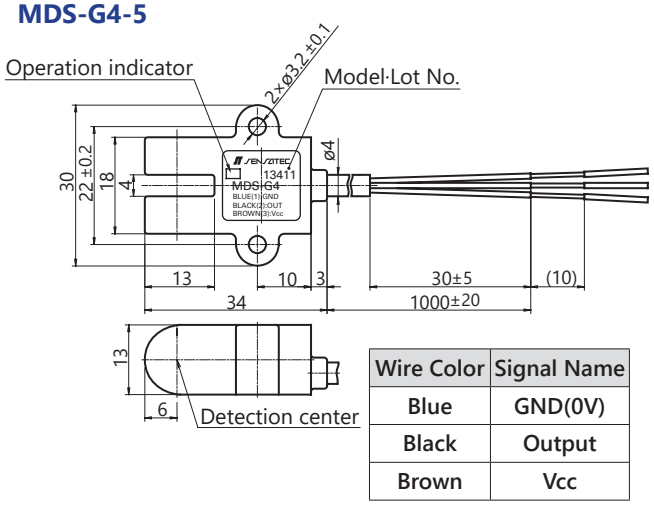
Detection Distance Conditions



- Insert the standard detection target at the center of the detection sensor groove to measure.
Standard detection target : Iron sheet of 15 × 15 mm and 1 mm in thickness
Detection distance: Distance from the sensor ON point to the groove bottom surface
Hysteresis : Distance between the ON point and the OFF point

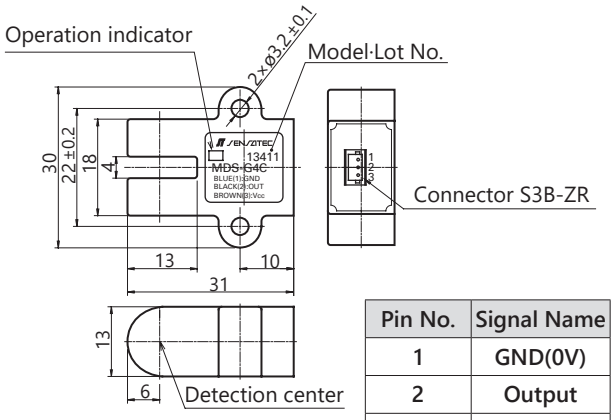
Outline Dimensions

MDS-G4-5



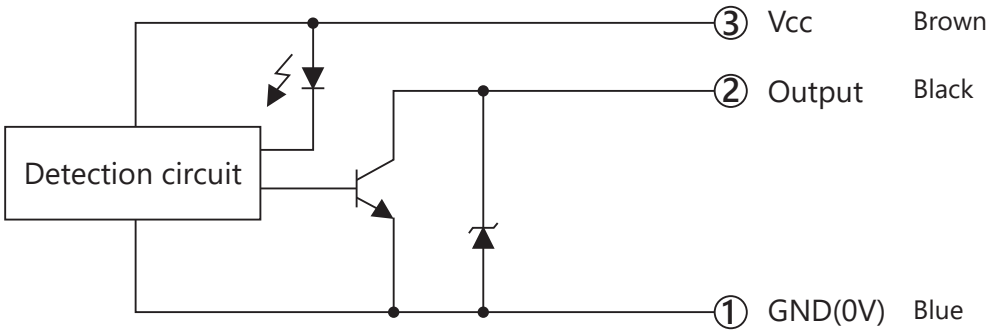
Wire Color	Signal Name
Blue	GND(0V)
Black	Output
Brown	Vcc

MDS-G4C-5



Pin No.	Signal Name
1	GND(0V)
2	Output
3	Vcc

Output Circuit

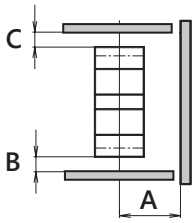


*Because there is no reverse connection protection diode built-in, pay careful attention to the polarity of the power supply.

Precautions During Use

Influence of surrounding metal

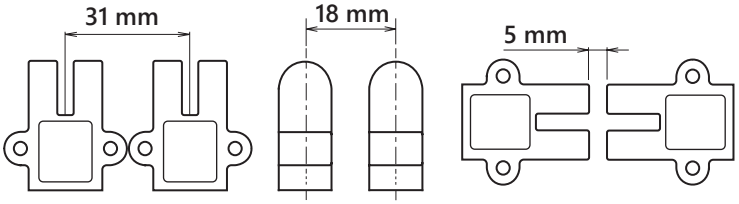
- If there are metal objects around the inductive sensor, leave at least the space indicated in the figure below between them and the sensor.



	Distance from surrounding metal objects
A	6.5 mm or more
B	Can enter into contact
C	Can enter into contact

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.



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.