



Model list

Model	Operation configuration	Frequency
MDS-Q5-5V	Normally open	Standard
MDS-Q5B-5V		Different
MDS-Q51-5V	Normally closed	Standard
MDS-Q51B-5V		Different

Application

- Positioning of the processing machines
- Position detection of the moving table and metal pallets

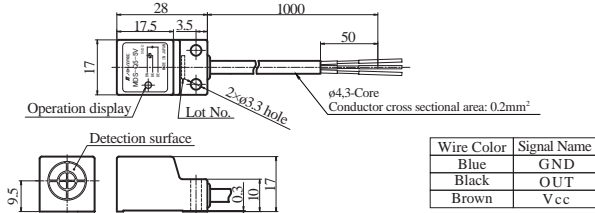
Features

- Easy installation: square and can be installed directly on metal surfaces.
- Molded type that can be used safely even in places where water may splash.
- Small proximity sensor with a detection surface of 17 x 17 mm and a detection distance of 5 mm (front side detection type)

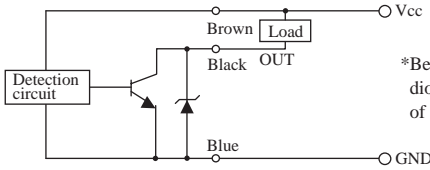
Rating/Performance

Model	MDS-Q5-5V	MDS-Q51-5V
Detection Surface	Front side detection	
Detection Distance	5 mm ± 10 %	
Hysteresis	20 % or less of the detection distance	
Set Distance	0 to 4.0 mm	
Standard Detection Target	Iron plate of 17 x 17 mm and 1 mm in thickness	
Power Voltage	5 V DC (Operating voltage range: 4.5 V to 5.5 V DC)	
Power Consumption	10 mA DC or less	
Output	NPN transistor open collector 30 V DC, 100 mA DC or less	
Output Residual Voltage	1 V DC or less (Load current 100 mA DC and a 1-meter cord)	
Operation Status	Normally open (On output with detection target)	Normally closed (Off output with detection target)
Operation Indication	Red LED (lit when On output)	
Response Frequency	500 Hz or more	
Temperature Range	-25 to 70 °C (-25 to 70 °C during storage)	
Humidity Range	35 to 95 % RH (35 to 95 % RH during storage)	
Breakdown Voltage	1000 V AC, 50/60 Hz for 1 min (Between live parts and the case)	
Insulation Resistance	50 MΩ 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 ² (Approx. 50 G) in X-, Y-, and Z-direction, each 3 times (Device not powered)	
Ingress Protection	IP67	
Case Material	ABS	
Cable	ø4, 3-core round cord of 0.2 mm ² and 1 m in length (oil and heat resistant)	
Weight	Approx. 30 g	

Dimensions



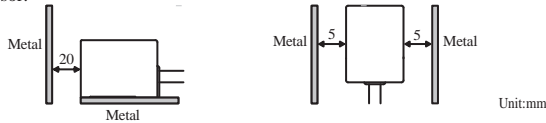
Output Circuit



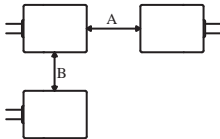
*Because there is no reverse connection protection diode built-in, pay careful attention to the polarity of the power supply.

Precautions during use

- About the influence of surrounding metal
If there are metal objects around the proximity sensor, leave at least the space indicated in the figure below between them and the sensor.



- Mutual interference
If you use two or more of the same product, separate them at least by the distances shown in the figure below to prevent reciprocal interference. (Sensors with a different frequency are indicated with a B after the model name.)

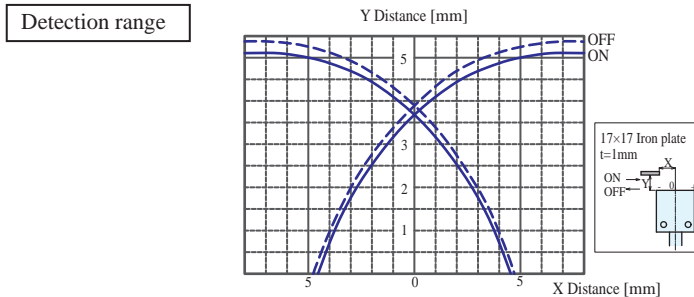


	Same frequency	Different frequency
A	120	60
B	60	0

Unit:mm

- Installation
Tighten the case with a torque of 0.59 N·cm (6 kgf·cm) or less.
- For other precautions during use, refer to the General Precautions for proximity sensors.

Characteristics graph (typical example)



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