



Model list

Model	Operation configuration	Frequency
MDS-F5U-5V	Normally open	Standard
MDS-F5UB-5V		Different
MDS-F5U1-5V	Normally closed	Standard
MDS-F5U1B-5V		Different

Application

- Positioning of the processing machines
- Position detection of the moving table and metal pallets
- There is no space, the magnetic detection of a narrow place

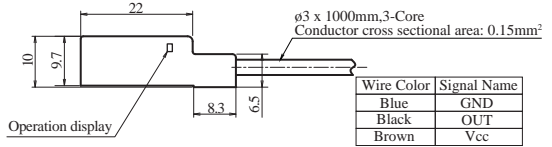
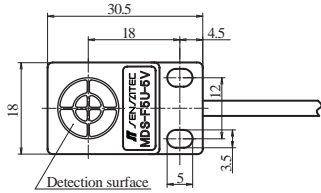
Features

- Small flat proximity sensor with a detection surface of 18 mm and a detection distance of 5 mm (upper surface detection type).
- Molded type that can be used safely even in places where water may splash.

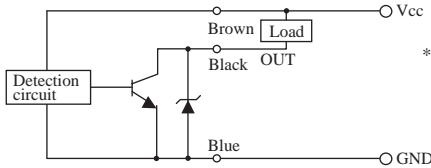
Rating/Performance

Model	MDS-F5U-5V	MDS-F5U1-5V
Detection Surface	Upper side detection	
Detection Distance	5 mm \pm 10 %	
Hysteresis	20 % or less of the detection distance	
Set Distance	0 to 4.0 mm	
Standard Detection Target	Iron plate of 18 x 18 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	1V 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 M Ω 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	Polyarylate	
Cable	ϕ 3, 3-core round cord of 0.15 mm ² and 1 m in length (oil and heat resistant)	
Weight	Approx. 20 g	

Dimensions



Output Circuit

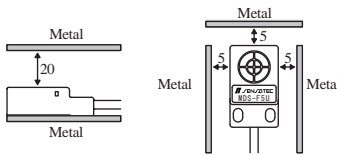


*Because there is no reverse connection protection diode built-in, pay careful attention to the polarity of the power supply.

Precautions during use

- About the influence of surrounding metal

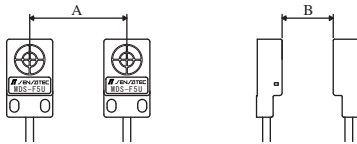
If there are metal objects around the proximity sensor, leave at least the space indicated in the figure below between them and the sensor.



Unit:mm

- Reciprocal 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	60	30
B	120	80

Unit:mm

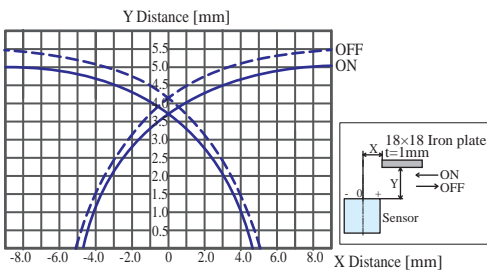
- Installation

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

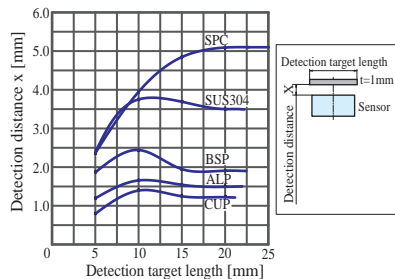
- For other precautions during use, refer to the General Precautions for proximity sensors.

Characteristics graph (typical example)

Detection range



Material and size - Detection distance characteristics



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