Model MDS-HF5U High-voltage Rated Inductive Sensor

□Model List

	Standard frequency	Different frequency
Normally open	MDS-HF5U	MDS-HF5UB
Normally closed	MDS-HF5U1	MDS-HF5U1B

Application

- Positioning of the processing machines
- Position detection of the moving table and metal pallets
- As it can be used to drive voltage 48 V DC (or less) following electric forklift, refrigeration car, freezer car, etc

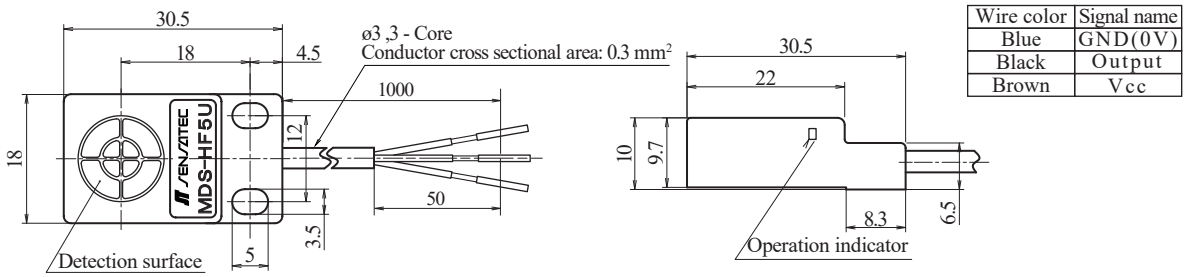
Features

- Easy mounting: square and can be installed directly on metal surfaces.
- It can be used in a wide range of supply voltage 15 V to 65 V DC.
- Molded type that can be used safely even in places where water may splash.
- Small flat inductive sensor with a detection surface of 18 mm and a detection distance of 5 mm (Upper surface detection type).
- Because of the high power supply voltage specification, it can also be used in the battery voltage 48 V DC.

Rating / Performance

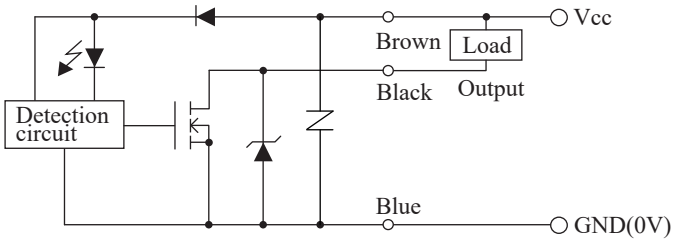
Model	**MDS-HF5U**	**MDS-HF5U1**
Detection Surface	Upper side detection	
Detection Distance	5 mm ±10%	
Hysteresis	20% or less of the detection distance	
Set Distance	0 to 4.0 mm	
Standard Detection Target	Iron sheet of 18 × 18 mm and 1 mm in thickness	
Power Supply Voltage	24 V to 48 V DC (Operating voltage range : 15 V to 65 V DC)	
Current consumption	10 mA DC or less	
Output	65 V DC, 200 mA DC or less Nch MOSFET open drain	
Output Residual Voltage	0.5 V DC or less (when load current is 200 mA DC and a 1-meter cord)	
Operation Status	Normally open (ON output when detecting)	Normally closed (OFF output when detecting)
Operation Indicator	Red LED (Lit when the output is ON)	
Response Frequency	500 Hz or more	
Temperature range	-25 to 70 °C (-25 to 70 °C storage temperature range)(Without dew condensation or icing)	
Humidity range	35 to 95% RH (35 to 95% RH storage humidity range)(Without dew condensation)	
Dielectric strength	1000 V AC for 1minute (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 3 times each (at power off)	
Protection	IP67	
Case Material	Polyarylate	
Cable	ø3, 3-core round cord of 0.3 mm² and insulation 1.01 mm and 1 m in length (Oil and heat resistant vinyl)	
Weight	Approx. 20 g	

Outline Dimensions



Wire color	Signal name
Blue	GND(0V)
Black	Output
Brown	Vcc

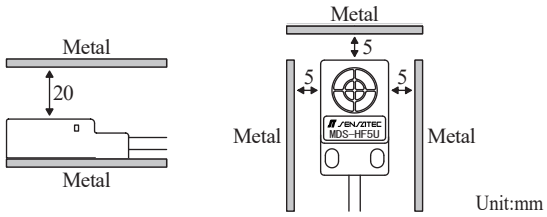
Output Circuit



Precautions During Use

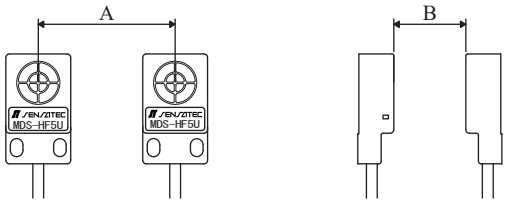
- Influence of surrounding metal

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



- 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. (Sensors with a different frequency are indicated with a B after the model name.)



	When they have the same frequency	Combination with different frequencies
A	60	30
B	120	80

Unit:mm

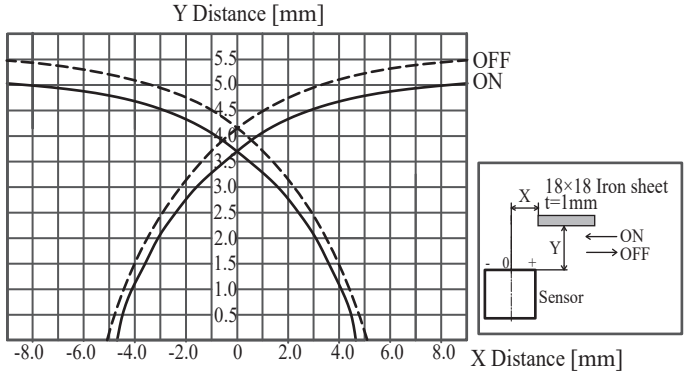
- Mounting

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

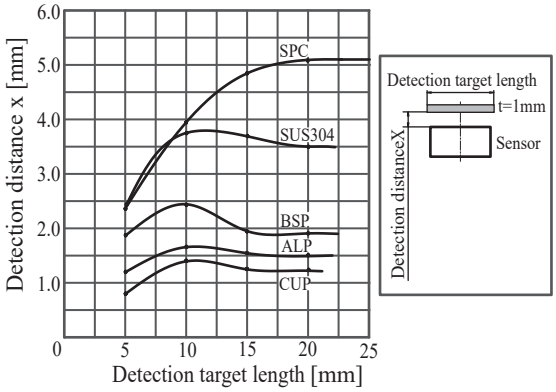
- See inductive sensor general usage precautions for other precautions.

Characteristics Graph (Typical Example)

Detection area diagram



Material and size - Detection distance characteristics



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