

□Model list

Power supply voltage	Standard frequency	Different frequency
5V DC	MDS-5T-5	MDS-5T-5B
12V to 24 V DC	MDS-5T-12	MDS-5T-12B

**Application**

- Iron plate detection
- Slot medal detection
- Detection of pachinko balls
- Detection of coins
- Detection of medals level
- Detection of pachinko balls level

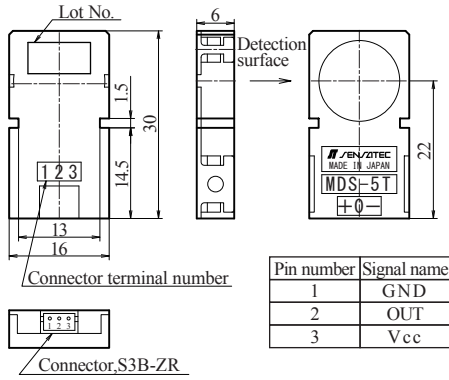
**Characteristics**

- Small flat proximity sensor with a detection surface of 16 mm, a case of 6 mm in thickness, and a detection distance of 7 to 8 mm (upper surface detection type).
- Equipped with a small connector for simple installation and wiring.
- Features a keyway on the case side for an easy installation in one touch.
- You may also use the installation bracket (sold separately).

**Rating and performance**

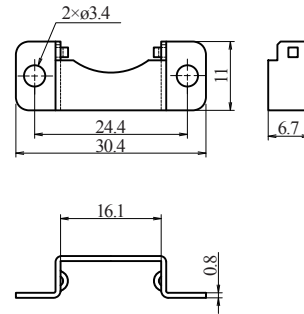
Model name	MDS-5T-5	MDS-5T-12
Detection surface	Upper side detection	
Detection distance	7.5 mm	
Hysteresis	15% or less of the detection distance	
Set distance	0 to 6.0 mm	
Standard detection target	Iron plate of 20 × 20 mm and 1 mm in thickness	
Power supply voltage	5 V DC (Operating voltage range: 4.5 V to 5.5 V DC)	12 V to 24 V DC (Operating voltage range: 10.8 V to 26.4 V DC)
Power consumption	DC 2 mA or less	DC 6 mA or less
Output	DC 30 V DC 50 mA or less NPN transistor open collector	
Output residual voltage	DC 1 V or less ( load current DC 50 mA )	
Operation configuration	Normally open (On output with detection target)	
Response frequency	100 Hz or more	
Operating temperature range	-20 to 60 °C (-25 to 65 °C during storage)	
Operating humidity range	35 to 85% RH (35 to 85% RH during storage)	
Withstand voltage	1 min at AC 500 V 50/60 Hz (between the live part and case)	
Insulation resistance	50 MΩ or more measured with an ohmmeter at DC 500 V (between the live part and case)	
Vibration resistance	Durability: 2 hours in each X, Y, Z direction at 10 to 55 Hz and with peak-to-peak amplitude of 1.5 mm (at power off)	
Shock resistance	Durability: 3 times at 200 m/s <sup>2</sup> (approx. 20 G) in each X, Y, Z direction (at power off)	
Static electricity resistance	15 kV between the external cover and the electrode (C = 500 pF, R = 330 Ω), but only on the detection side	
Protection rating	IP50	
Case material	ABS	
Connector	Connector: S3B-ZR (3-pin), housing: ZHR-3, contact: SZH-002T-P0.5 (from J.S.T. Mfg. Co., Ltd.)	
Weight	Approx. 4 g	
Options (sold separately)	Installation bracket : PMS-5TS Connector harness : SZH-3-300	

### External dimensions diagram

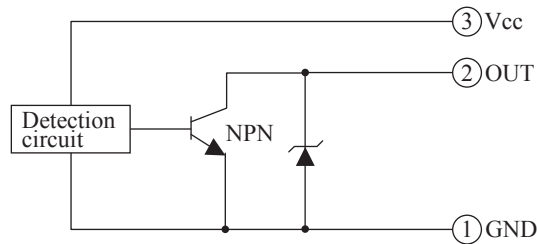


### Installation bracket (sold separately)

PMS-5TS



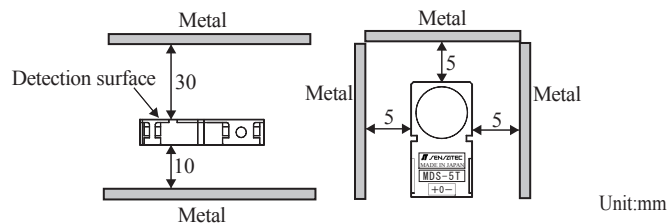
### Output circuit



### Usage precautions

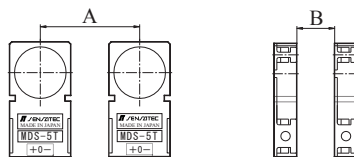
#### - Influence of surrounding metal

Do not place metal objects around the proximity sensor, i.e. within 30 mm from the detection surface, 10 mm from the front side, or 5 mm from the sides. Otherwise, the detection distance may increase or other malfunctions may occur.



#### - 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.)



	When they have the same frequency	Combination with different frequencies
A	110	60
B	200	100

Unit:mm

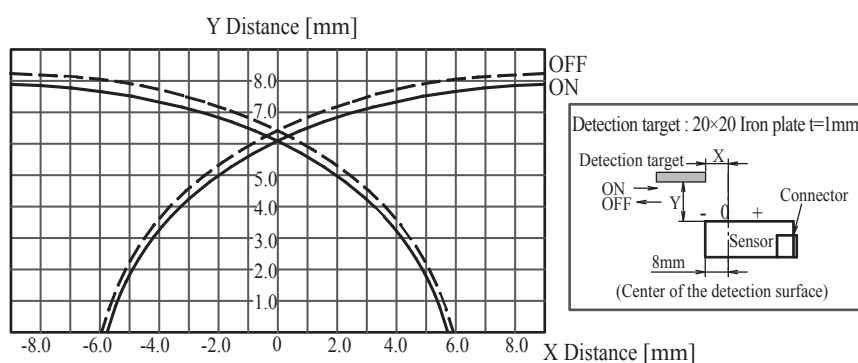
#### - Installation precautions

Note that proximity sensors cannot be used if installed on metal surfaces.

- See proximity sensor general usage precautions for other precautions.

### Characteristics graph (typical example)

#### Detection area diagram



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

### Reference operating sensitivity

Detection target	Operation distance
Stainless steel medal	5.5 mm
Daika medal	5.4 mm
Bimetallic medal	4.9 mm
Nickel silver medal	4.4 mm
Nickel medal	3.6 mm
Golden nickel silver medal	3.5 mm
Brass Kirinsu medal	3.5 mm
Gold plated medal	3.6 mm
Pachinko ball	5.0 mm
20 x 20 x t1 iron plate	8.0 mm

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