



Model List	Detection Distance	Operation Configuration
CDS-F8-5V	8 mm	Normally open
CDS-F81-5V		Normally closed

## Application

- Detection of grain
- Detection of powder of coffee
- Detection of the liquid in the paper pack
- Detection of insulating materials

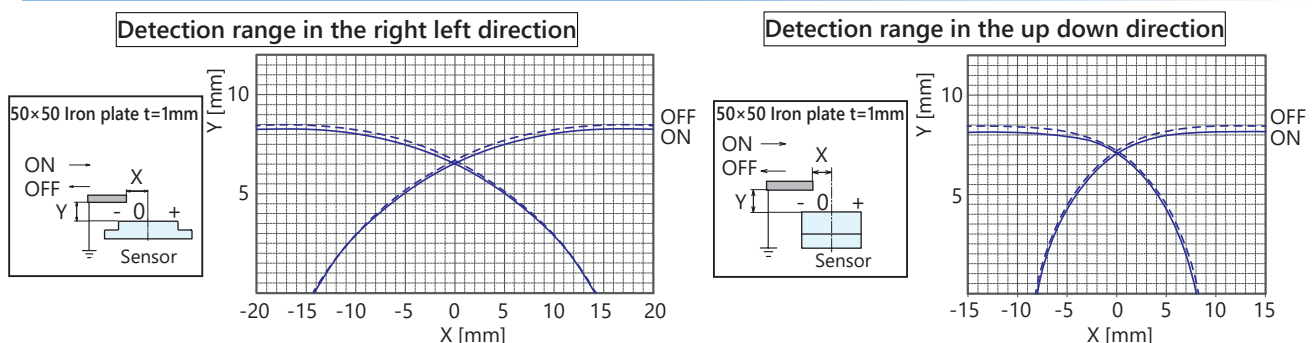
## Features

- High-sensitivity small capacitive proximity sensor that can detect almost any target regardless of the material. (Can detect metal, wood, paper, plastic, water, powder, rice, etc.)
- A shielded type that is not affected by metal or other objects approaching from the side and that can be used reliably in small places. Specially adapted to detect plastic, glass, wafer, and other isolating materials.
- Non-shielded types (CCS series) that can indirectly detect a target when an object with low inductance is on the detection surface. Select the sensor according to your needs.

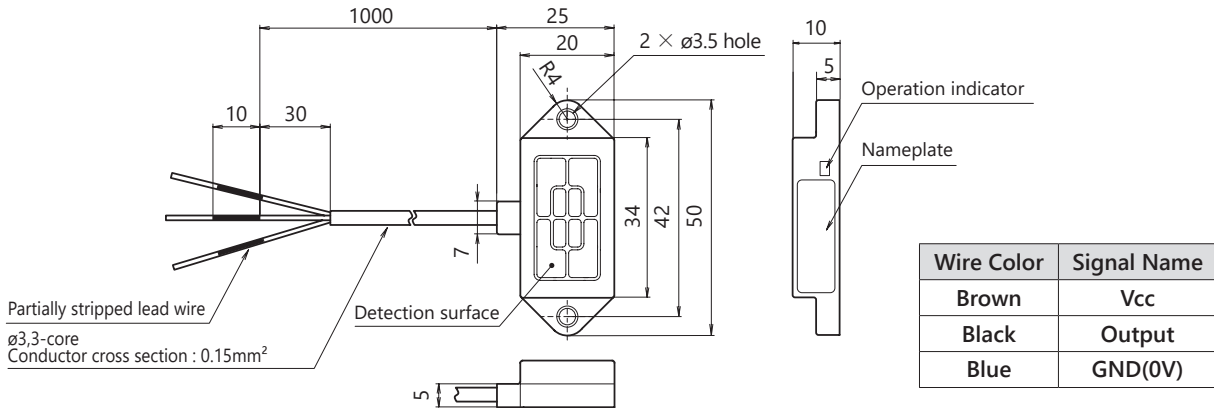
## Rating / Performance

Model	CDS-F8-5V	CDS-F81-5V
Detection Surface	Upper side detection	
Detection Distance	8 mm ± 10 %	
Detection Target	Grounded metal of 50 × 50 mm and 1 mm in thickness	
Hysteresis	15 % or less of the detection distance	
Measurement Distance	0 to 6.4 mm	
Power Voltage	5 V DC (Operating voltage range: 4.5 V to 5.5 V DC)	
Power Consumption	30 mA DC or less (With 5 V DC)	
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)	
Operation Status	Normally open (On output with detection target)	Normally closed (Off output with detection target)
Operation Indicator	Red LED (Lit when On output)	
Response Frequency	100 Hz or more	
Temperature Range	-10 to 60 °C (-15 to 60 °C during storage)(Without dew condensation or freezing)	
Humidity Range	35 to 95 % RH (35 to 95 % RH during storage) (Without dew condensation)	
Breakdown Voltage	500 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 <sup>2</sup> (Approx. 50 G) in X-, Y-, and Z-direction, each 3 times (Device not powered)	
Ingress Protection	IP66	
Case Material	Polyarylate resin	
Cable	ø3, 3-core round cord of 0.15 mm <sup>2</sup> and insulation ø1.0 mm and 1 m in length (Oil and heat resistant vinyl)	
Weight	Approx. 21 g	

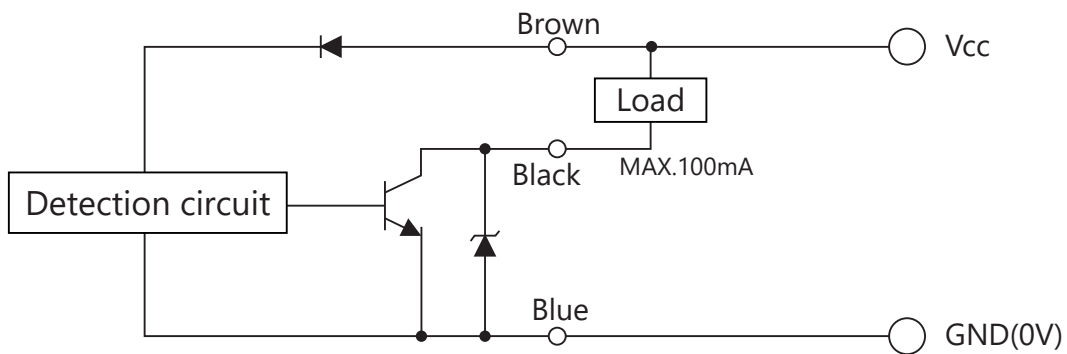
## Characteristics Graph (Typical Example)



## Dimensions



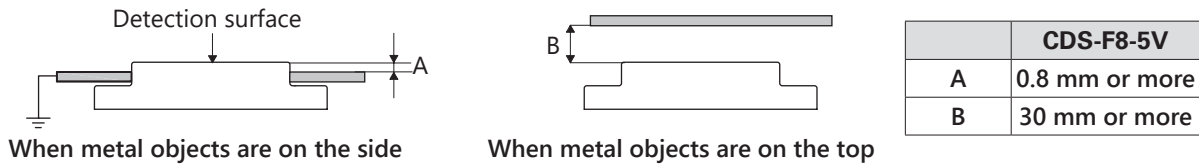
## Output Circuit



## Precautions During Use

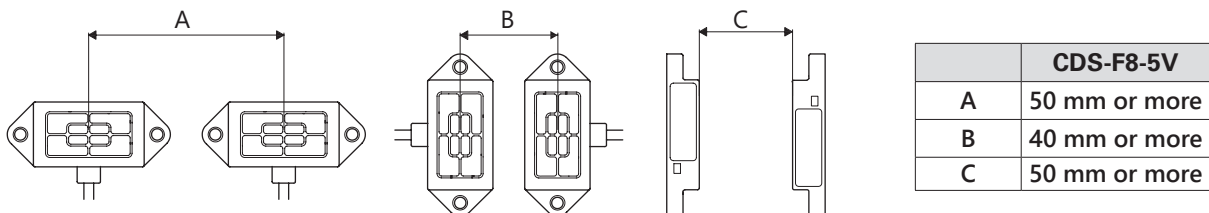
### Influence of surrounding metal

- 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.



### Installation

- 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 proximity sensors.