



□ Model list

> Normally open type

Detection distance

10mm	CCS-F10
15mm	CCS-F15

> Normally closed type

Detection distance

10mm	CCS-F101
15mm	CCS-F151

Application

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

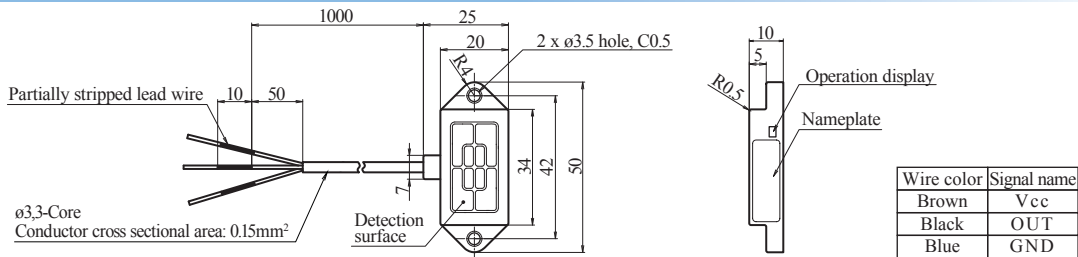
Characteristics

- High-sensitivity small electrostatic-capacity proximity sensor that can detect almost any target regardless of the material. (Can detect metal, wood, paper, plastic, water, powder, rice, etc.)
- Non-shielded type, perfect to detect liquids inside containers with low inductance. Shielded types (CDS series) that are not affected by metal or other objects approaching from the side are also available. Select the sensor according to your needs.

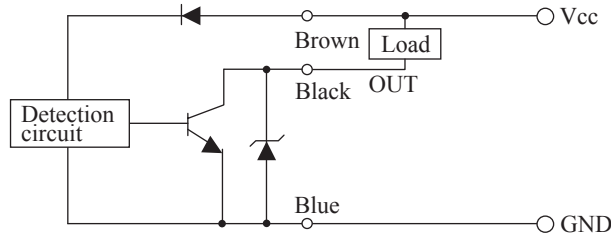
Rating and performance

Model name	CCS-F10	CCS-F101	CCS-F15	CCS-F151
Detection surface	Upper side detection			
Detection distance	10 mm ±10 %		15 mm ±10 %	
Hysteresis	15% or less of the detection distance			
Set distance	0 to 7.5 mm		0 to 12.0 mm	
Standard detection target	Grounded metal of 50 × 50 mm and 1 mm in thickness			
Power supply voltage	12 V to 24 V DC (Operating voltage range: 10 V to 30 V DC)			
Power consumption	DC 10 mA or less (with DC 24 V)			
Output	DC 30 V DC 100 mA or less NPN transistor open collector			
Output residual voltage	DC 1 V or less (when load current is DC 100 mA and a 1-meter cord)			
Operation configuration	Normally open (On output with detection target)	Normally closed (Off output with detection target)	Normally open (On output with detection target)	Normally closed (Off output with detection target)
Operation display	Red LED (lit when On output)			
Response frequency	100 Hz or more			
Operating temperature range	-10 to 55 °C (-15 to 60 °C during storage)		-10 to 60 °C (-15 to 60 °C during storage)	
Operating humidity range	35 to 95% RH (35 to 95% 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 500 m/s ² (approx. 50 G) in each X, Y, Z direction (at power off)			
Protection rating	IP66			
Case material	Polyarylate			
Cable	ø3, 3-core round cord of 0.15 mm ² and 1 m in length (oil and heat resistant)			
Weight	Approx. 21 g			

External dimensions diagram



Output circuit

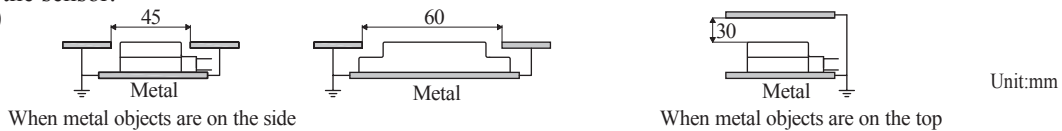


Usage precautions

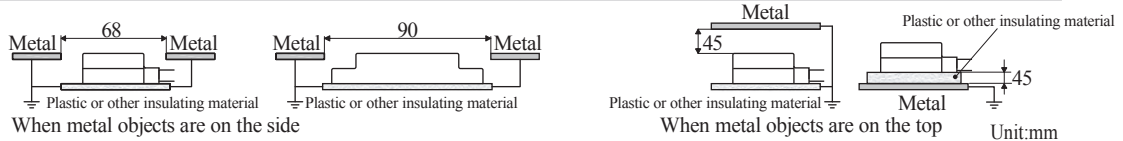
-Influence of surrounding metal

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

CCS-F10

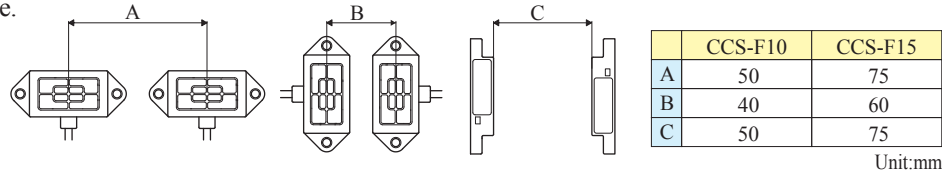


CCS-F15



- 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.

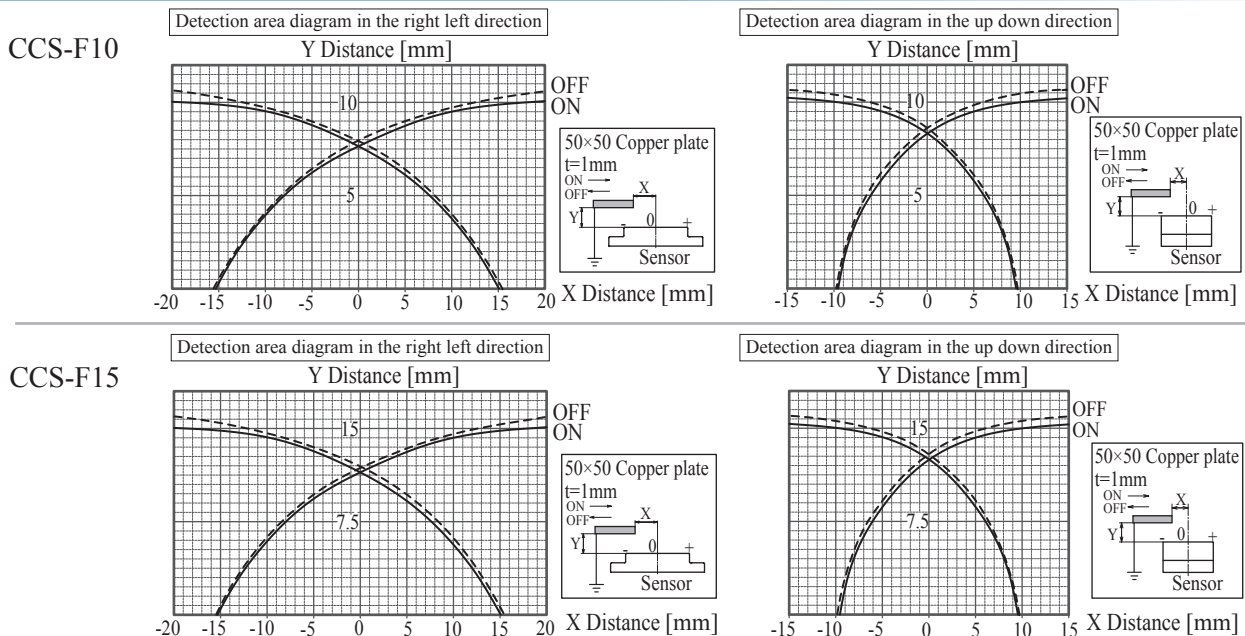


- Installation

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

- See proximity sensor general usage precautions for other precautions.

Characteristics graph (typical example)



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