Model CCS-HF10 High-voltage rated electrostatic-capacity proximity sensor

SENSATEC CO.,LTD.
http://www.sensatec.co.jp

□Model list

Normally open	CCS-HF10
Normally closed	CCS-HF101

Application

- Detection of grain
- Detection of the liquid in the paper pack
- Detection of insulating materials
- As it can be used to drive voltage DC 48 V (or less) following electric forklift, refrigeration car, freezer car, etc

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.
- It can be used in a wide range of supply voltage DC 15 V to 65 V.
- Because of the high power supply voltage specification, it can also be used in the battery voltage DC 48 V.

Rating and performance

Model name	**CCS-HF10**	**CCS-HF101**
Detection surface	Upper side detection	
Detection distance	10 mm ±10 %	
Hysteresis	15% or less of the detection distance	
Set distance	0 to 7.5 mm	
Standard detection target	Grounded metal of 50 × 50 mm and 1 mm in thickness	
Power supply voltage	24 V to 48 V DC (Operating voltage range: 15 V to 65 V DC)	
Power consumption	DC 10 mA or less	
Output	DC 65 V DC 200 mA or less Nch MOSFET open drain	
Output residual voltage	DC 0.5 V or less (when load current is DC 200 mA and a 1-meter cord)	
Operation configuration	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)	
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 0.3 mm^2 and 1 m in length (oil and heat resistant)	
Weight	Approx. 21 g	

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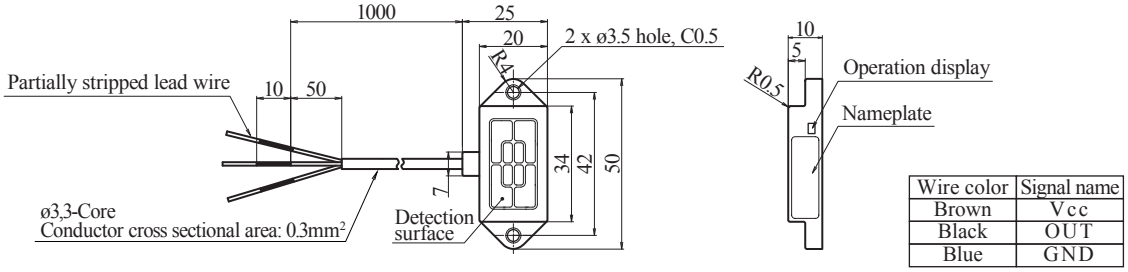
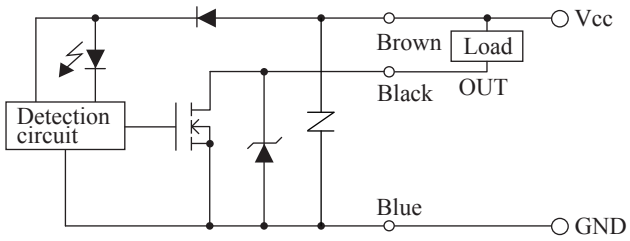
External dimensions diagram



Wire color	Signal name
Brown	Vcc
Black	OUT
Blue	GND

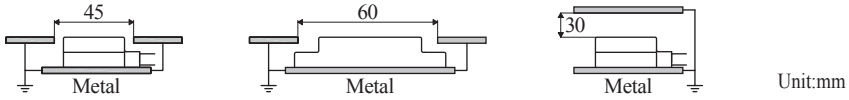
Output circuit



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.

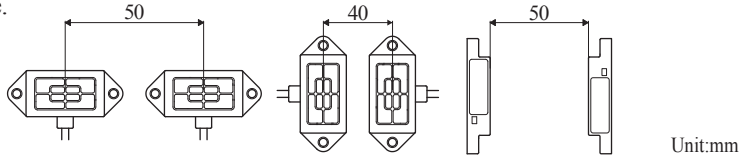


When metal objects are on the side

When metal objects are on the top

- 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.



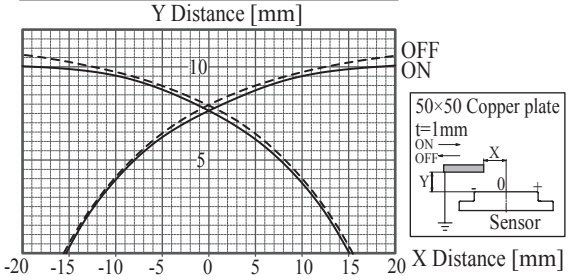
- Installation

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

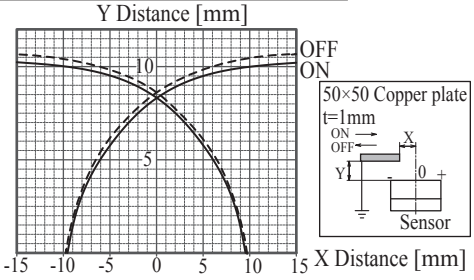
- See proximity sensor general usage precautions for other precautions.

Characteristics graph (typical example)

Detection area diagram in the right left direction



Detection area diagram in the up down direction



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