Model CDH-SR10V/CDH-SR15V

Cylindrical Type
Capacitive Proximity Sensor


CDH-SR10V


CDH-SR15V

Model List	Detection Distance	Operation Configuration
CDH-SR10V	10 mm	Normally open
CDH-SR10V1		Normally closed
CDH-SR15V	15 mm	Normally open
CDH-SR15V1		Normally closed

Application

- Detection of rice grains, cereales, bran, wood, powders, liquids, etc.
- Chemicals and water level detection inside tanks
- Presence detection of food within the package
- Detection of the liquid in the PET bottle or in paper pack

Features

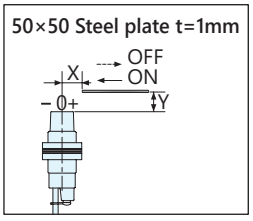
- High-sensitivity capacitive sensor that can detect almost any target regardless of the material.
- Shaped as an M22 × P 1.5 plastic screw for easy installation and position adjustment.
- Equipped with a 18-turn trimmer potentiometer to adjust the sensitivity.
- The interior is filled with solid plastic to increase robustness.

Rating/Performance

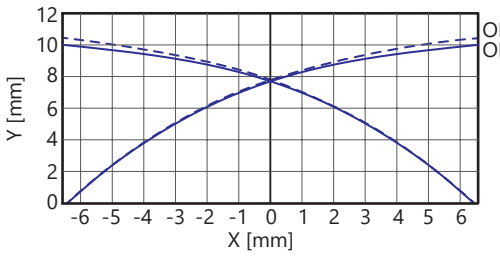
Model	CDH-SR10V	CDH-SR10V1	CDH-SR15V	CDH-SR15V1
Detection Surface	Front side detection			
Detection Distance	10 mm		15 mm	
Hysteresis	10 % or less of the detection distance			
Detection Distance Variable Use Range	4 to 10 mm		7 to 15 mm	
Detection Target	Grounded metal of 50 × 50 mm and 1 mm in thickness			
Power Voltage	12 V to 24 V DC (Operating voltage range: 10 V to 30 V DC)			
Power Consumption	10 mA DC or less			
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)	Normally open (On output with detection target)	Normally closed (Off output with detection target)
Operation Indication	Red LED (Lit when On output)			
Response Frequency	50 Hz or more			
Temperature Range	-10 to 55 °C (-15 to 60 °C during storage) (Without dew condensation or freezing)		-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^2 (Approx. 50 G) in X-, Y-, and Z-direction, each 3 times (Device not powered)			
Ingress Protection	IP65			
Case Material	ABS (Hex nut : PBT, Rubber washer : NBR)			
Cable	ø4, 3-core round cord of 0.2 mm^2 and insulation 1.1 mm and 1 m in length (Oil and heat resistant)			
Weight	Approx. 52 g (Without accessories)			
Accessories	2 hex nuts (plastic), 2 rubber washers, 1 slotted screwdriver for adjustment			

Characteristics Graph (Typical Example)

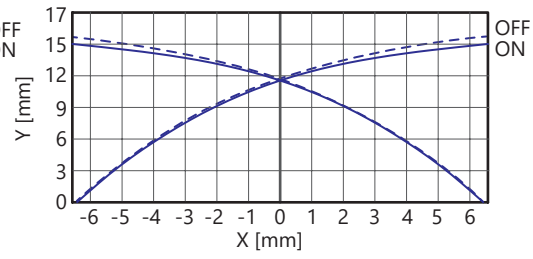
Detection range



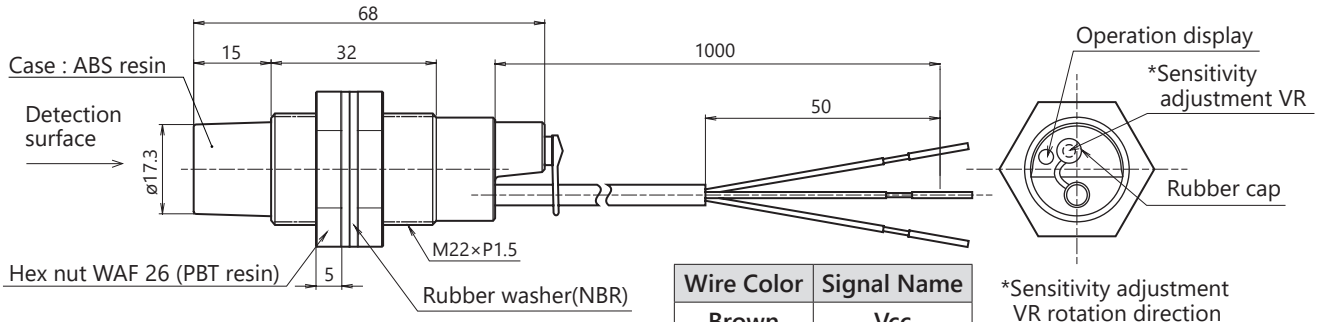
CDH-SR10V



CDH-SR15V



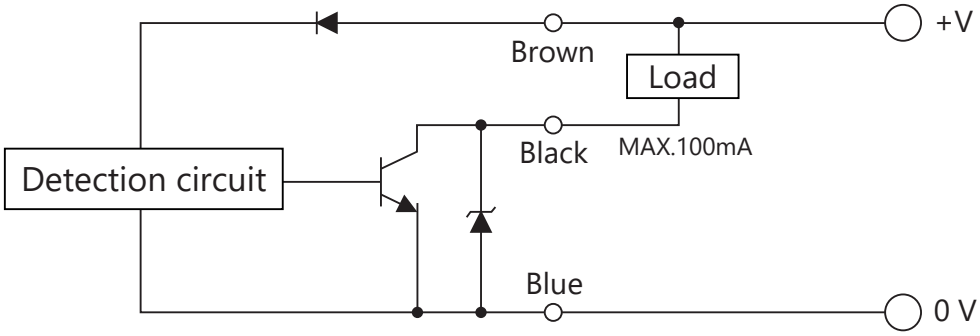
Dimensions



Wire Color	Signal Name
Brown	Vcc
Black	OUT
Blue	GND

*Sensitivity adjustment VR rotation direction

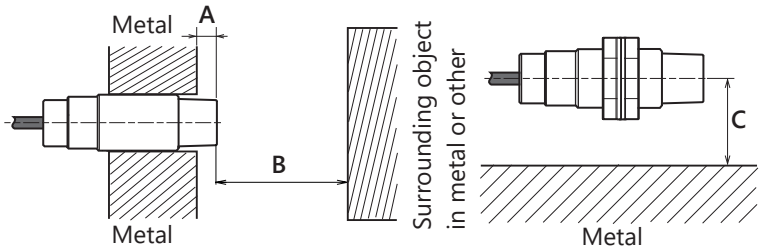
Output Circuit



Precautions During Use

Influence of surrounding metal

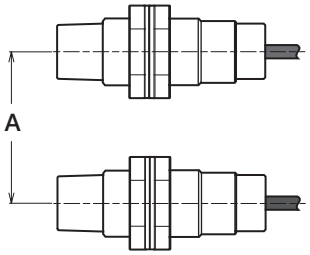
- If there are metal objects around the proximity sensor, leave at least the space indicated in the figure below between them and the sensor.



Symbols	CDH-SR10V	CDH-SR15V
A	13 mm or more	20 mm or more
B	50 mm or more	75 mm or more
C	50 mm or more	75 mm or more

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.



Symbols	CDH-SR10V	CDH-SR15V
A	150 mm or more	225 mm or more

Installation

- Tighten the case with a torque of 0.5 N·m or less.

* For other precautions, refer to "General Precautions" for proximity sensors.