Displacement Sensors   CD22 series

Small Displacement Sensor With Digital Display Type <mark>Amplifier built-in</mark>

CD22 series

FASTUS is a product brand of Optex FA
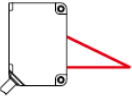
FEATURES

- **Smallest displacement sensor :** CD22 series has W18 × D31 × H44 mm within the compact body.
- **High accuracy 1 µm :** Linearity: ±0.1% F.S. (Max.) can be detect black rubber or small holes on workpiece.
- **Class 1 & Class 2 Laser :** Stable measurements of black workpieces is possible while ensuring the safety of worker's eyes.
- **High-speed measurement :** Max. sampling period of 12.5 µs reduced from pervious model.
- **Built-in amplifier & digital 4-digit display :** Confirmation of distance can be performed on the spot and the 4 operation buttons provide multi-functionality while enabling easy operation.
- **CC-Link communication units :** CD22 series can work on CC-Link network with connecting a CDA series to a communication unit.
- **Multi-outputs :** CD22 series have 3 outputs such as 4 to 20 mA, 0 to 10 V and RS-485 for selection before used.

Displacement Sensors CD22 series

SPECIFICATIONS

Type	Measurement range	Repeat accuracy	Analog output/ serial interface	Control output	Connection type	Model
Diffuse reflective mode	15 ±5 mm	1 µm	4 to 20 mA	NPN/PNP selectable by setting	Cable type	CD22-15A
			4 to 20 mA	NPN/PNP selectable by setting	Pig tail type	CD22-15AM12
			0 to 10 V	NPN/PNP selectable by setting	Cable type	CD22-15V
			0 to 10 V	NPN/PNP selectable by setting	Pig tail type	CD22-15VM12
			RS-485	---	Pig tail type	CD22-15-485M12
	35 ±15 mm	6 µm	4 to 20 mA	NPN/PNP selectable by setting	Cable type	CD22-35A
			4 to 20 mA	NPN/PNP selectable by setting	Pig tail type	CD22-35AM12
			0 to 10 V	NPN/PNP selectable by setting	Cable type	CD22-35V
			0 to 10 V	NPN/PNP selectable by setting	Pig tail type	CD22-35VM12
			RS-485	---	Pig tail type	CD22-35-485M12
	100 ±50 mm	20 µm	4 to 20 mA	NPN/PNP selectable by setting	Cable type	CD22-100A2
			4 to 20 mA	NPN/PNP selectable by setting	Pig tail type	CD22-100AM122
			0 to 10 V	NPN/PNP selectable by setting	Cable type	CD22-100V2
			0 to 10 V	NPN/PNP selectable by setting	Pig tail type	CD22-100VM122
			RS-485	---	Pig tail type	CD22-100-485M122

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OPTIONS/ACCESSORIES

- **Connectors/ Connector cables**

Type	Appearances	Description	Cable length	Model
Connector cables		Standard type	2 m	DOL-1205-G02M
			5 m	DOL-1205-G05M
			10 m	DOL-1205-G10M
		Robot cable type	2 m	DOL-1205-G02M
			5 m	DOL-1205-G05M

- **Amplifier unit, connector cables for amplifier unit**

| Type	Appearances	Specifications	Cable length	Model
Amplifier unit master unit		An amplifier unit to which up to two sensor heads can be connected. Control can be performed using either analog or control outputs, while thickness and height difference measurements can be performed using two sensor heads.	2 m	CDA-M
Amplifier unit slave unit			2 m	CDA-S
Sensor/amplifier connection cable		Connector cable for connecting branch connectors and amplifier units. Robot cable specifications. • Branch connector side: M12, 5-pin socket • Amplifier unit side: M8, 4-pin plug	2 m	DSL-1204-G02M
Sensor-to-amplifier extension cable		Extension cable for connection to DSL-1204-G02M. Robot cable specifications. • Sensor/amplifier connection cable side: M8, 4-pin socket • Amplifier unit side: M8, 4-pin plug	2 m	DSL-0804-G02M
			5 m	DSL-0804-G05M

APPLICATIONS

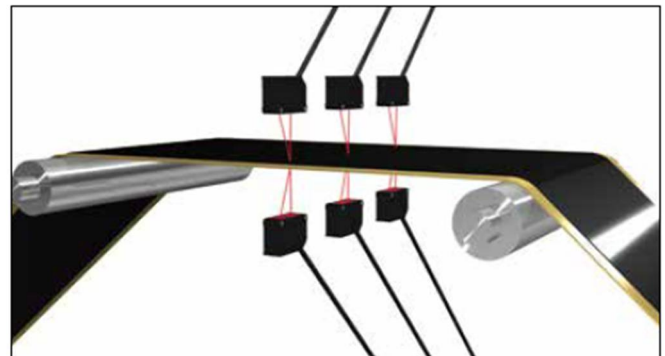## Positioning for metal plate mounting
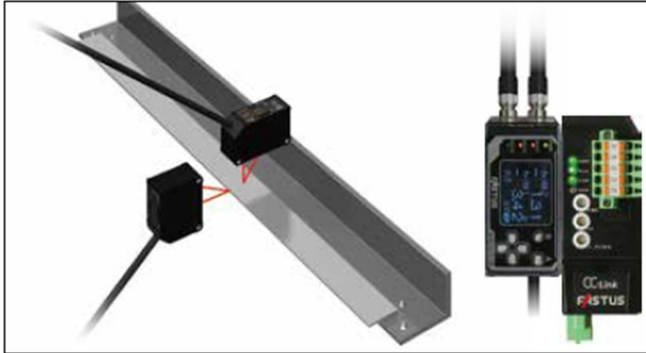
Detection of presence/height of electronic components

NG   NG
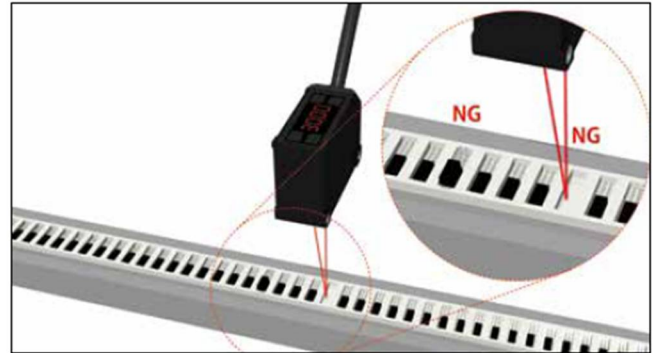
Slackness measurements for rubber materials
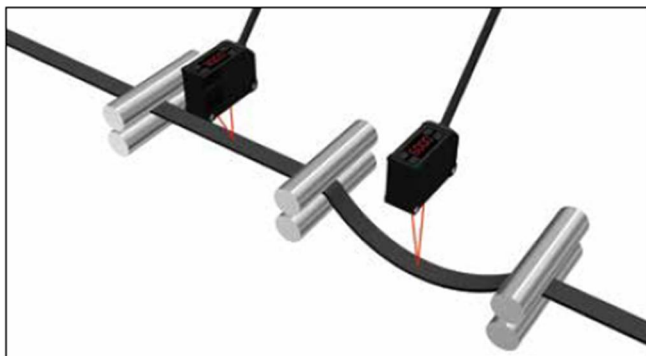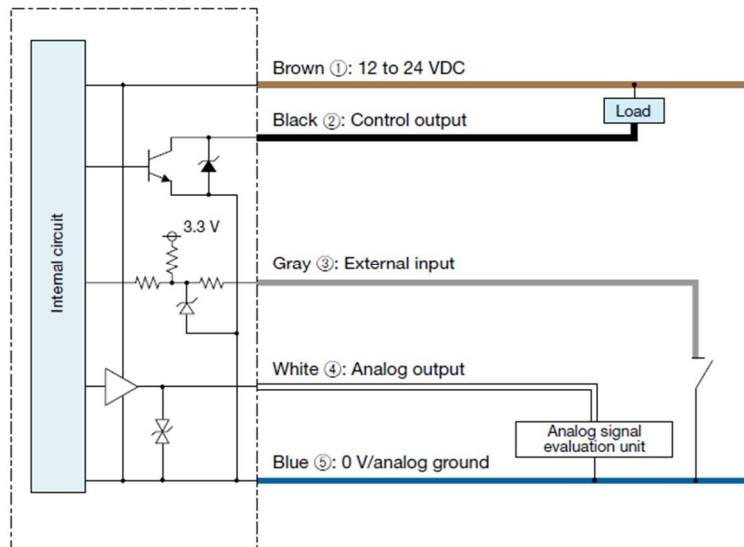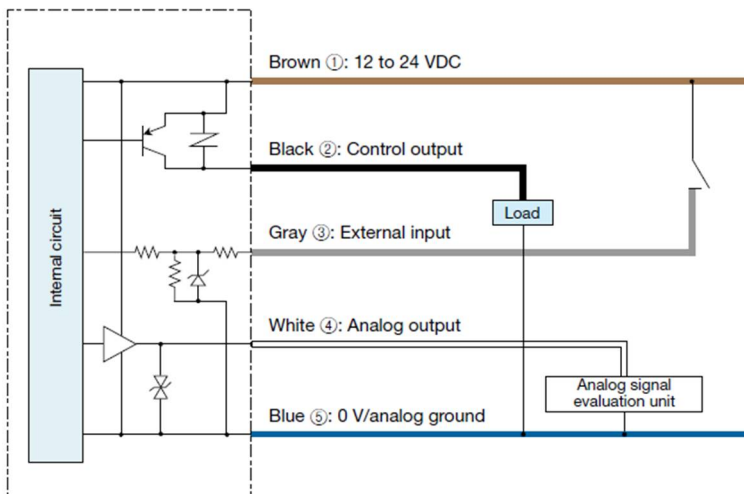
Electrode thickness measurement

Displacement Sensors   CD22 series

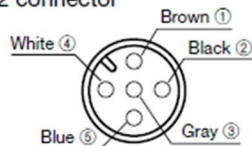## I/O circuit diagram

■ Analog output type: With the NPN setting

Internal circuit

Brown ①: 12 to 24 VDC

Black ②: Control output

Load

3.3 V

Gray ③: External input

White ④: Analog output

Analog signal evaluation unit

Blue ⑤: 0 V/analog ground

■ Analog output type: With the PNP setting

Internal circuit

Brown ①: 12 to 24 VDC

Black ②: Control output

Load

Gray ③: External input

White ④: Analog output

Analog signal evaluation unit

Blue ⑤: 0 V/analog ground

■ Connector pin configuration

(Sensor side)

M12 connector

Brown ①
White ④
Black ②
Blue ⑤
Gray ③

Analog output type

Brown ① 12 to 24 VDC
Black ② Control output
Gray ③ External input
White ④ Analog output
Blue ⑤ 0 V

RS-485 communication type

Brown ① 12 to 24 VDC
Black ② RS-485 (A)
Gray ③ Not used
White ④ RS-485 (B)
Blue ⑤ 0 V