

Additional Value for **F**actory **A**utomation Sensors



Displacement
Sensors



Laser Sensors



BGS/TOF
Distance Setting
Sensors



Communication
Units



Photoelectric
Sensors



Transparent-object
Detection Sensors



Color Mark
Sensors



Non-contact
Thermometers



Fiber Sensors



Vision
Sensors

Realize World's No. 1 Linearity : +/- 0.015 %F.S.

CDX Series



Web server CDA amplifier

Model No.	Repeat Accuracy	Measurement Range*1	Reflection Mode
CDX-L15A/LW15A	0.25 μm	15 +/- 1 mm	Specular
CDX-30A/W30A	0.25 μm	30 +/- 5 mm	Specular / Diffuse
CDX-85A/W85A	0.25 μm	85 +/- 20 mm	Specular / Diffuse
CDX-150A/W150A	0.25 μm	150 +/- 40 mm	Diffuse

*1: Value of diffuse installation

Best-in-class, All-in-one Middle-range Sensors

CD2H Series

IO-Link



OLED display IO-Link 4-20 mA / 0-10 V NPN / PNP / Push-Pull

Model No.	Repeat Accuracy	Measurement Range	Laser Class
CD2H-30*A	0.25 μm	30 +/- 5 mm	Class 1
CD2H-50*A	0.25 μm	50 +/- 10 mm	Class 1
CD2H-130*	4 μm	130 +/- 70 mm	Class 1
CD2H-245*	10 μm	245 +/- 175 mm	Class 2
CD2H-350*	20 μm	350 +/- 250 mm	Class 2
CD2H-700*	100 μm	700 +/- 500 mm	Class 2

Compact, Amplifier Built-in Sensors

CD22 Series

Aluminum / SUS housing CDA amplifier



Model No.	Repeat Accuracy	Measurement Range	Laser Class
CD22-15*	1 μm	15 +/- 5 mm	Class 1
CD22-35*	6 μm	35 +/- 15 mm	Class 1
CD22-100*	20 μm	100 +/- 50 mm	Class 2



Flexible system building with 11 sensor heads and a 3ch amplifier

CD5 Series



Specular / Diffuse UQ1 I/F unit



Small-sized, amplifier built-in sensors for wide range of measurement distances

CD33 Series

Specular / Diffuse UQ1 I/F unit



Compact amplifier for data calculation, multiple outputs and network connectivity

CDA Series

CD22 sensors TD1 sensor



Through-beam edge sensor for width and gap measurement

TD1 Series

10x300 mm W9.6xD21 xH61 mm CDA amplifier



2-dimensional laser sensor for width and height measurement

LS Series

3 control outputs 1 analog output



Smallest Time-Of-Flight Sensors in the Class

Laser

IO-Link

TOF-DL Series

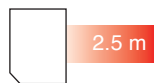
- Display
- Analog output
- 3 control outputs
- IO-Link

TOF-L Series

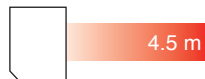
- Long distance

Sensing Distance

TOF-DL



TOF-L



Minimum Detectable Height Difference by 0.08 mm

Laser

BGS-HDL Series

- 0.08 mm height gap
- 2 control outputs

BGS-HL Series

- 0.08 mm height gap
- 1 control output

BGS-HLM Series

- 0.08 mm height gap
- SUS housing
- 1 control output

Sensing Distance

Short Range



Middle Range



Industry-standard Laser BGS Sensors

Laser

BGS-ZL Series

- 25.4 mm screw pitch
- Low hysteresis

Sensing Distance

Short Range



Middle Range



Diffuse reflective and retro reflective models **Laser**

TOF-3V Series

- Retro reflective
- Diffuse reflective
- up to 20 m

CMOS laser sensor with teaching functions **Laser**

BGS-DLT Series

- Display
- Teach

Laser sensors with potentiometers **Laser**

BGS-DL (Potentiometer) Series

- up to 700 mm

Industry-standard LED BGS sensors

BGS-Z Series

- 25.4 mm screw pitch

Stainless steel housing for water and oil resistance **IP67g**

BGS-ZM Series

- 25.4 mm screw pitch
- SUS housing

Small-sized BGS sensors

BGS-S Series

- W10xD17.4 xH28 mm

AC/DC power-input models

BGS-2V Series

- AC/DC / 24 VDC
- up to 1 m
- Relay output

M18 cylindrical sensors

BGS-C2 Series

- Metal housing
- Plastic housing

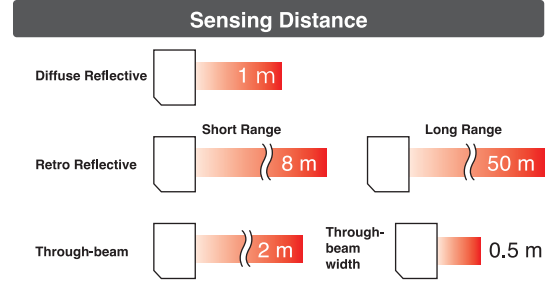
High-power Amplifier-separate Laser Sensors

Laser



DS Series

- Coaxial
- 1 or 2 control outputs
- 4-20 mA output
- Teach modes
- Main / Expansion Max. 8 units



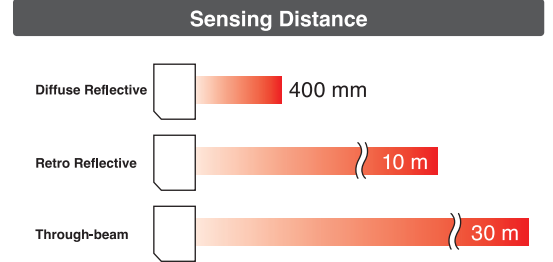
Industry-standard Laser Sensors

Laser



Z-L Series

- 25.4 mm screw pitch
- 250 μs



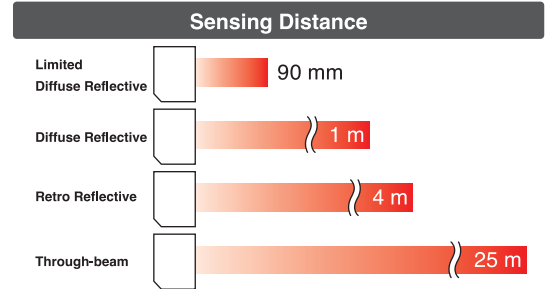
IO-Link Supported LED Sensors

IO-Link



Z4 Series

- IO-Link
- NPN / PNP output
- 25.4 mm screw pitch

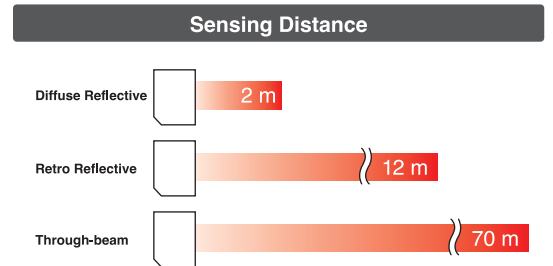


Universal Power-input Sensors with Choices of Outputs and Connections



V3/V4 Series

- AC/DC / 24 VDC
- Relay output
- Terminal block
- NPN / PNP
- Cable
- Connector



High performance and wide range of line-up

Z3 Series

- Limited diffuse
- Wide diffuse
- Diffuse reflective
- Retro reflective
- Through-beam
- 25.4 mm screw pitch

Standard LED sensors

Z2 Series

- Diffuse reflective
- Retro reflective
- Through-beam
- 25.4 mm screw pitch

Stainless steel housing for water and oil resistance

Z-M Series IP67g

- Diffuse reflective
- Retro reflective
- Through-beam
- 25.4 mm screw pitch

M18 cylindrical metal housing

C-R Series Infrared

- Limited diffuse
- Diffuse reflective
- Retro reflective
- Through-beam

M18 cylindrical metal and plastic housing

C2 Series Infrared

- Limited diffuse
- Diffuse reflective
- Retro reflective
- Through-beam

Miniature Flat-on/Side-on sensors

E Series

- Flat-on / Side-on
- Limited diffuse
- Diffuse reflective
- Through-beam

Resin-filled environmental resistant sensors

J Series Infrared

- Head-on / Side-on
- Limited diffuse
- Wide diffuse
- Diffuse reflective
- Retro reflective
- Through-beam

Small-sized sensors

S Series

- Diffuse reflective
- Retro reflective
- Through-beam
- W10xD17.4 xH28 mm

AC/DC power models

V/V2 Series Infrared

- AC/DC / 24 VDC
- Diffuse reflective
- Terminal block
- Retro reflective
- Through-beam
- Relay output

Laser

High-power Laser Sensors with Flexible Detection Settings



DR-Q Series

Coaxial retro reflective

Digital teach

Sensing Distance

Coaxial Retro Reflective

Short Range



1.5 m

Long Range



4 m

Long-time seller with a wide range of detection distances

KR-Q Series

Wide / Pin spots

Retro reflective

500 mm

1.5 mm

2.5 mm



Small-sized sensors

SR-Q Series

Wide spots

Retro reflective

W10xD17.4 xH20 mm

300 mm



High-performance coaxial sensors

ZR-QX Series

Coaxial retro reflective

2 m



Standard transparent-object detection sensors

Z3R-Q Series

Retro reflective

2 m



RGB LED color mark sensor

DM Series

Digital teach

Color / Mark mode

8 presets

18 +/- 2 mm



Fiber sensor amplifier with white LED light

D3WF Series

Main / Expansion Max. 16 units

UC1 / UC2

62 mm



Field network communication units

UC1-CL11

CC-Link

UC1-EC

EtherCAT

UC1-EP

EtherNet/IP



Scanner adapter

Max. 16 devices

CDA amplifier

D3RF / D3WF sensors

IO-Link gateway for fiber sensors and displacement sensor amplifiers

UC2-IOL

IO-Link

Max. 16 devices

D3RF / D3WF sensors

CDA amplifier



Compact IO-Link Master

IO-Link

UR-MS16DT

UR-ES16DT



CC-Link IE TSN

CC-Link IE Field

CC-Link IE Field Basic

Modbus TCP

EtherNet/IP

EtherCAT

Ethernet protocol (TCP/IP, UDP/IP)

PROFINET

16 channels

Inputs / outputs

IO-Link / NPN / PNP

Online setting

IO-Link Hub

IO-Link

UR-DS16D/UR-DS16T/
UR-DS8D8T



16 inputs

16 outputs

8 inputs / 8 outputs

IO-Link / NPN / PNP

Fiber Sensor Amplifiers

Digital Fiber Amplifiers with IO-Link Interface

D4RF Series



- OLED display
- Stand-alone
- 2 outputs
- 1ch output & 1ch input / output
- Digital teach
- Up to 16 μ s
- IO-Link

High-performance Digital Fiber Amplifiers

D3RF Series



- Stand-alone
- Main / Expansion Max. 16 units
- 1ch / 2ch outputs
- Digital teach
- Up to 16 μ s
- UC1 / UC2



High usability with digital teach and IP66 protection

D1RF Series

- Stand-alone
- Up to 50 μ s



Easy teach with sensitivity indicator

V2RF Series

- Stand-alone
- 250 μ s



Analog-output fiber amplifiers

D2RF Series

- Stand-alone
- Digital teach
- 1 control output
- 4-20 mA output
- IP66 / IP50
- Up to 60 μ s



Potentiometer adjustment for mark detection

BGF Series

- Stand-alone
- 250 μ s

Green LED



Infrared light source for water detection

D3IF Series

- Stand-alone
- Up to 16 μ s

Infrared



Basic potentiometer models

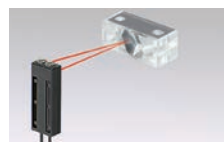
BRF Series

- Stand-alone
- 50 μ s / 250 μ s

Fiber Units



Square



Retro-reflective



Screen / Array



Limited Diffuse Reflective



Liquid Level / Leakage

- Bending Resistant R4/R2
- Chemical Resistant
- Cylindrical
- Flexible R1
- Flexible R2

- Heat Resistant (130 °C or below)
- Heat Resistant (180 to 200 °C)
- Heat Resistant (250 to 350 °C)

- Narrow View and Wafer Mapping
- Sleeve - Side-view
- Sleeve - Straight
- Small Object Detection
- Thread
- Water Detection

Installation Models

Compact sensor head for flexible installation IP69K

CS Series

Measurement Range

4-20 mA output

2 C contacts

-40~500 °C / -40~932 °F 0~1000 °C / 32~1832 °F

Heat Resistance

0~100 °C / 32~212 °F 0~180 °C / 32~356 °F

M18 cylindrical models IP67

SA-80 Series IO-Link

Measurement Range

4-20 mA output

0~200 °C / 32~392 °F 0~400 °C / 32~752 °F

Heat Resistance

0~70 °C / 32~158 °F

All-in-one models IP65

BA Series

Measurement Range

4-20 mA output

1 mV/°C output

0~500 °C / 32~932 °F

Heat Resistance

0~50 °C / 32~122 °F

Separate models IP67

BS Series

Measurement Range

4-20 mA output

1 mV/°C output

0~500 °C / 32~932 °F

Heat Resistance

0~50 °C / 32~122 °F 0~150 °C / 32~302 °F

*with optional cooling jacket

Hand-held Models

Wide measurement range

PT-2LD

Measurement Range

-40~510 °C / -40~950 °F

Waterproof and shock resistant

PT-5LD/7LD

Measurement Range

PT-5LD 0~500 °C / 32~932 °F

PT-7LD -30~200 °C / -22~392 °F

Long range with narrow FOV

PT-S80/U80

Measurement Range

-30~600 °C / -22~1112 °F

PT-U80:USB I/F & data memory

Multiple-camera Vision Sensors with a Separate Controller

MVS Series

- MVS-EM-R : Edge Measurement
- MVS-OCR2 : Optical Character Recognition
- MVS-PM-R : Color Pattern Matching

- Max. 3 cameras
- 4.3" display
- Touch operation
- Lighting control
- NPN / PNP x 6
- Ethernet
- USB



All-in-one Vision Sensors with Camera, Lighting, Monitor and Controller

CVS Series

- CVSE1 : Easy Setup Color Matching
- CVS1 : Color Matching
- CVS2 : Color Pattern Matching
- CVS3 : Edge Matching
- CVS4 : Optical Character Recognition

- Multiple viewing areas
- NPN / PNP x 2
- W42xD33.8 xH95 mm
- External lighting & monitor
- IP67



Global Sales Network

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