

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

Displacement  
Sensors



BGS/TOF Distance Setting Sensors



Laser Sensors



Photoelectric Sensors



Transparent-object  
Detection Sensors



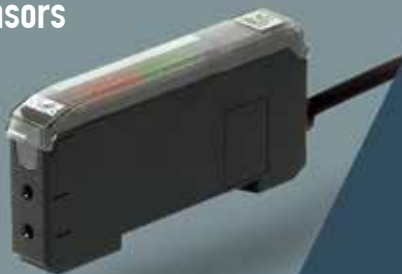
Color Mark Sensors



Communication Units



Fiber Sensors



Vision Sensors



Non-contact  
Thermometers





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

## CDX Series



Web Server CDA amplifier

Model	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

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

### CD33 Series



UQ1 I/F Unit

Model	Repeat accuracy	Measurement range*1	Reflection mode
CD33-L30*30*	2μm	30 +/-4 mm	Specular / Diffuse
CD33-L50*50*	5μm	50 +/-10 mm	Specular / Diffuse
CD33-L85*85*	10μm	85 +/-20 mm	Specular / Diffuse
CD33-120*	30μm	120 +/-60 mm	Diffuse
CD33-250*	75μm	250 +/-150 mm	Diffuse

\*1: Value of diffuse installation

## Compact, amplifier built-in sensors

### CD22 Series



W17.8xD31 xH44.4mm CDA amplifier

Model	Repeat accuracy	Measurement range	Laser class
CD22-15*	1μm	15 +/-5 mm	Class 1
CD22-35*	6μm	35 +/-15 mm	Class 1
CD22-100*	20μm	100 +/-50 mm	Class 2



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

#### CD5 Series

Specular / Diffuse UQ1 I/F Unit



Through-beam edge sensor for width and gap measurement

#### TD1 Series

W9.6xD21 xH61mm CDA amplifier



2-dimensional laser sensor for width and height measurement

#### LS Series

3 control outputs 1 analog output

Compact amplifier for data calculation, multiple outputs and network connectivity

#### CDA Series



Master / slave CD22 Sensor TD1 Sensor

Communication interface unit for Mitsubishi PLC

#### UQ1 Series



2 channels CD33 Sensor



## 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 = 0.08 mm

Laser



### BGS-HDL Series

- 0.08 mm GAP
- 2 Control Outputs

### BGS-HL Series

- 0.08 mm GAP
- 1 control output

### BGS-HLM Series

- 0.08 mm GAP
- SUS Housing
- 1 control output

#### Sensing distance

Short range



Middle range



## Industry-standard laser BGS sensor

Laser

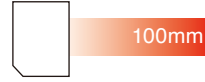


### BGS-ZL Series

- 25.4mm 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 20m

CMOS laser sensor with teaching functions **Laser**

### BGS-DL Series

- Display
- Teaching

Laser Type with Potentiometer **Laser**

### BGS-DL (Volume) Series

- up to 700mm

Industry-standard LED BGS sensor

### BGS-Z Series

- 25.4mm screw pitch

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

### BGS-ZM Series

- 25.4mm screw pitch
- SUS Housing

Small-sized with elongated installation holes

### BGS-S/2S Series

- BGS-S W10xD17.4xH28mm
- BGS-2S W11xD20xH31mm

Basic BGS sensors

### BGS Series

- Low hysteresis

AC/DC power models

### BGS-2V Series

- AC/DC and DC24V
- up to 1m
- Relay output

M18 cylindrical housing

### BGS-C2 Series

- Metal Housing
- Plastic Housing



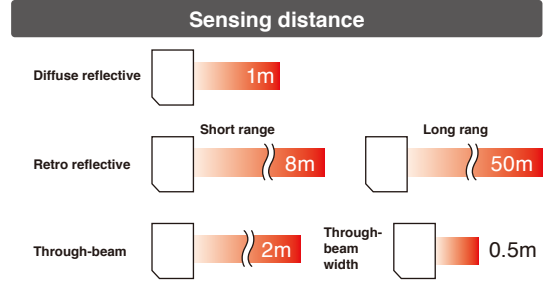
# High-power amplifier-separate laser sensors

Laser



## DS Series

- Coaxial
- 1 or 2 control outputs
- 4-20mA output
- Flexible Teaching
- Master/slave Max. 8 units



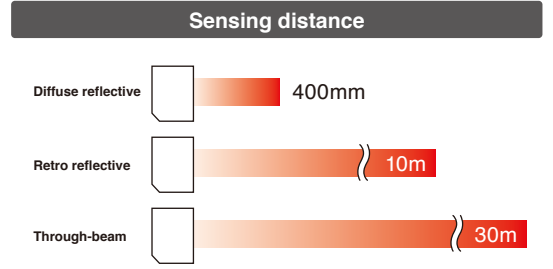
# Industry-standard Laser Sensors

Laser



## Z-L Series

- 25.4mm screw pitch
- 250µs



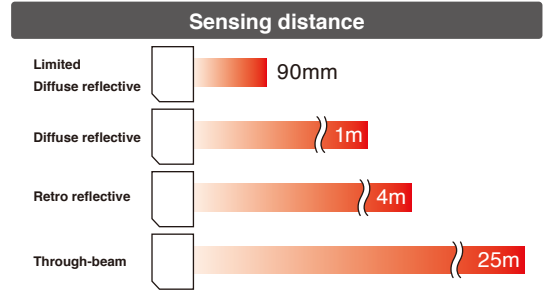
# IO-Link supported LED sensors

IO-Link



## Z4 Series

- IO-Link
- NPN PNP output

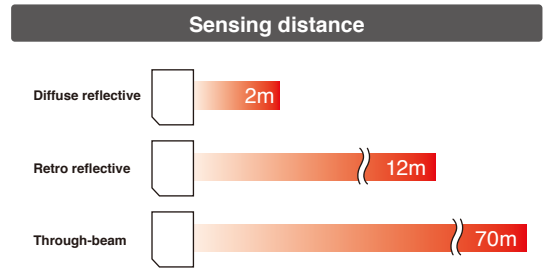


# Universal power input sensors with terminal blocks



## V3/V4 Series

- AC/DC and DC24V
- Relay output
- Terminal block



High performance and wide range of line-up

### Z3 Series

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



Standard LED sensors

### Z2 Series

- Diffuse reflective
- Retro reflective
- Through-beam



Stainless steel housing for water and oil resistance

IP67g

### Z-M Series

- Diffuse reflective
- Retro reflective
- Through-beam



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 xH28mm



AC/DC power models

### V/V2 Series

Infrared

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



Laser

# High power laser sensors with flexible adjustability



## DR-Q Series

Coaxial retro reflective

Digital teaching

### Sensing distance

Coaxial retro reflective



Long-time seller with a wide range of detection distances



## KR-Q Series

Wide / Pin spots

Retro reflective

500mm

1.5m

2.5m

Small-sized sensors

## SR-Q Series

Wide spots

Retro reflective

W10×D17.4×H28mm

300mm



High-performance coaxial sensors

## ZR-QX Series

Coaxial retro reflective

2m



Standard transparent-object detection sensors

## Z3R-Q Series

Retro reflective

2m



RGB LED color mark sensor

## DM Series

Digital teaching

Color / Mark mode

8 banks

18+/-2mm



Fiber sensor amplifier with white LED light

## D3WF Series

Master / slave Max. 16 units

UC1 UC2

62mm



## Field network communication units



UC1-CL11 **CC-Link**

UC1-EC **EtherCAT**

UC1-EP **EtherNet/IP**

Slave adapter

Max. 16 devices

CDA amplifier

D3RF/D3WF Sensors



## Compact IO-Link master unit

UR-MS16DT

IO-Link

16 channels

Input/Output

IO-Link / NPN / PNP

Online setting



CC-Link **IE TSN**  
CC-Link **IE Field**

## IO-Link gateway for fiber sensors and displacement sensor amplifiers

UC2-IOL

IO-Link

Max. 16 devices

D3RF/D3WF Sensors

CDA amplifier





# Fiber Sensor Amplifier

High performance with a wide range of line-up



## D3RF Series

- Stand-alone
- Master / slave Max. 16 units
- 1ch / 2ch outputs
- Digital teaching
- Up to 16µs
- UC1 UC2



Durable IP66 and analog-output models



## D2RF Series

- Stand-alone
- Master / slave Max. 8 units
- 1ch / 2ch outputs
- Digital teaching
- 4-20mA output
- IP66 model
- Up to 60µs

High usability with digital teaching and IP66 protection



## D1RF Series

- Stand-alone
- Up to 50µs

Easy teaching with sensitivity indicator



## V2RF Series

- Stand-alone
- 250µs

Digital teaching for mark detection



## D2GF Series

- Master / slave
- Up to 60µs

Green LED

Potentiometer adjustment for mark detection



## BGF Series

- Stand-alone
- 250µs

Green LED

Infrared light source for water detection



## D3IF Series

- Stand-alone
- Up to 16µs

Infrared

Basic potentiometer models



## BRF Series

- Stand-alone
- 50µs / 250µs

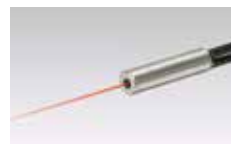
## Fiber Units



Easy mounting



Thread



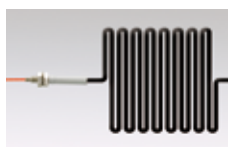
Cylindrical



Sleeve (straight view)



Sleeve (side view)



Flexible R1



Flexible R2



Flex resistance R4/R2



Retro-reflective



Screen/Array



Limited diffuse reflective



Narrow view / wafer mapping



Small object detection



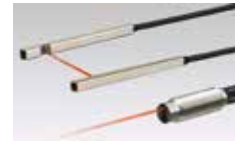
Lens for through-beam



Chemical resistant



Heat resistant (130°C or below)



Heat resistant (180 to 200°C)



Heat resistant (250 to 350°C)



Liquid level / leakage



Water detection



## Installation Models

Compact sensor head for flexible installation

IP69K



### CS Series

Measurement range

-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

4~20mA output

2 × C Contact

M18 cylindrical models

IP67

### SA-80 Series

Measurement range

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

Heat resistance

0~70°C / 32~158°F

4~20mA output



All-in-one models

IP65

### BA Series

Measurement range

0~500°C / 32~932°F

Heat resistance

0~50°C / 32~122°F

4~20mA output

1mV/°C output



Separate models

IP67

### BS Series

Measurement range

0~500°C / 32~932°F

Heat resistance

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

4~20mA output

1mV/°C output



\*with optional cooling jacket

## Hand-held Models

Wide Measurement Range

### PT-2LD

Measurement range

-40~510°C / -40~950°F



PT-5LD

Waterproof, Shock Resistant

### PT-5LD/7LD

Measurement range

PT-5LD    0~500°C / 32~932°F

PT-7LD    -30~200°C / -22~392°F

PT-7LD



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 sensor systems 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

W42×D33.8 ×H95mm

External lighting & monitor

IP67



CVSE1



CVS1



CVS2



CVS3



CVS4



# Global Sales Network

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