OPTEX FA

Product Lineup

Additional Value for Factory Automation 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

Sensing Distance

Diffuse Reflective		1 m
Retro Reflective	Short Range	8 m
	Long Range	50 m
Through-beam		2 m
	Through-beam width	0.5 m

Industry-standard Laser Sensors

Laser

Z-L Series

- 25.4 mm screw pitch
- 250 µs

Sensing Distance

Diffuse Reflective	400 mm
Retro Reflective	10 m
Through-beam	30 m

IO-Link Supported LED Sensors

IO-Link

Z4 Series

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

Sensing Distance

Limited Diffuse Reflective	90 mm
Diffuse Reflective	1 m
Retro Reflective	4 m
Through-beam	25 m

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

Sensing Distance

Diffuse Reflective	2 m
Retro Reflective	12 m
Through-beam	70 m

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

IP67g

Z-M Series

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

M18 cylindrical metal housing

Infrared

C-R Series

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

M18 cylindrical metal and plastic housing

Infrared

C2 Series

- 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

Infrared

J Series

- 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

Infrared

V/V2 Series

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

Laser

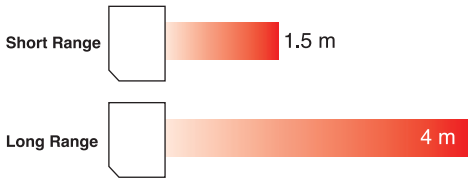
High-power Laser Sensors with Flexible Detection Settings

DR-Q Series

Coaxial retro reflective | Digital teach

Sensing Distance

Coaxial Retro Reflective



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 xH28 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

CC-Link IE TSN
CC-Link IE Field

UR-ES16DT

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

IO-Link

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

High-performance Digital Fiber Amplifiers

D3RF Series

Stand-alone | Main / Expansion Max. 16 untis | 1ch / 2ch outputs | Digital teach | Up to 16 µs | UC1 / UC2

High usability with digital teach and IP66 protection

D1RF Series

Stand-alone | Up to 50 µs

Easy teach with sensitivity indicator

V2RF Series

Stand-alone | 250 µs

Analog-output fiber amplifiers

D2RF Series

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

Potentiometer adjustment for mark detection — Green LED

BGF Series

Stand-alone | 250 µs

Infrared light source for water detection — Infrared

D3IF Series

Stand-alone | Up to 16 µs

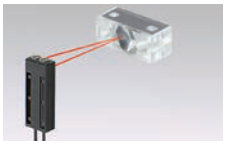
Basic potentiometer models

BRF Series

Stand-alone | 50 µs / 250 µs

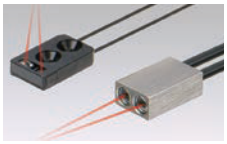
Fiber Units

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

4-20 mA output

2 C contacts

Measurement Range

-40~500 ℃ / -40~932 ℉

0~1000 ℃ / 32~1832 ℉

Heat Resistance

0~100 ℃ / 32~212 ℉

0~180 ℃ / 32~356 ℉

M18 cylindrical models

IP67

SA-80 Series

IO-Link

4-20 mA output

Measurement Range

0~200 ℃ / 32~392 ℉

0~400 ℃ / 32~752 ℉

Heat Resistance

0~70 ℃ / 32~158 ℉

All-in-one models

IP65

BA Series

4-20 mA output

1 mV/℃ output

Measurement Range

0~500 ℃ / 32~932 ℉

Heat Resistance

0~50 ℃ / 32~122 ℉

Separate models

IP67

BS Series

4-20 mA output

1 mV/℃ output

Measurement Range

0~500 ℃ / 32~932 ℉

Heat Resistance

0~50 ℃ / 32~122 ℉

0~150 ℃ / 32~302 ℉

*with optional cooling jacket

Hand-held Models

Wide measurement range

PT-2LD

Measurement Range

-40~510 ℃ / -40~950 ℉

Waterproof and shock resistant

PT-5LD/7LD

Measurement Range

PT-5LD 0~500 ℃ / 32~932 ℉

PT-7LD -30~200 ℃ / -22~392 ℉

Long range with narrow FOV

PT-S80/U80

Measurement Range

-30~600 ℃ / -22~1112 ℉

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

CVSE1 CVS1 CVS2 CVS3 CVS4

OPTEX FA

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