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# Photoelectric Sensors

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# Photoelectric Sensors

Photoelectric sensors, also called photo eyes, detect object presence or distance using light. These sensors use a light source from an emitter and a receiver that detects changes in light intensity reflected or interrupted by the target object.

With no physical contact required, photo eyes can detect objects at extremely close range or out to a meter or more, depending on the specific photo eye technology employed.



## What type of photoelectric sensor is best for me?

There are many different styles of photoelectric sensors, but really only four basic technologies: through-beam, reflective, diffuse, and background suppression. The chart describes some advantages and disadvantages of each technology.

Type	Operation	Advantages	Disadvantages
Through-beam		<ul style="list-style-type: none"> <li>• Most accurate</li> <li>• Longest sensing range</li> <li>• Very reliable</li> </ul>	<ul style="list-style-type: none"> <li>• Must install at two points on system: emitter and receiver</li> <li>• Costly - must purchase both emitter and receiver</li> </ul>
Reflective		<ul style="list-style-type: none"> <li>• Cost less than through-beam</li> <li>• Only slightly less accurate than through-beam</li> <li>• Sensing range better than diffuse</li> <li>• Very reliable</li> </ul>	<ul style="list-style-type: none"> <li>• Must install at two points on system: sensor and reflector</li> <li>• Slightly more costly than diffuse</li> <li>• Sensing range less than through-beam</li> </ul>
Diffuse		<ul style="list-style-type: none"> <li>• Only install at one point</li> <li>• Cost less than through-beam or reflective</li> </ul>	<ul style="list-style-type: none"> <li>• Less accurate than through-beam or reflective</li> <li>• More setup time involved</li> </ul>
Background Suppression	 BACKGROUND	<ul style="list-style-type: none"> <li>• Effective with reflective backgrounds</li> </ul>	<ul style="list-style-type: none"> <li>• Cost more than diffuse, reflective or through-beam</li> <li>• Most setup time required</li> </ul>

# Photoelectric Sensor Types

Photoelectric sensors allow non-contact detection of objects using red or infrared light, or lasers. A variety of sensor types are available, depending on the target material, sensing distance, and the output signal required for the application.



### General Purpose

General purpose photoelectric sensors allow non-contact detection of objects using red or infrared guided light. IP69K sensors are rated for harsh duty (food grade/ washdown) applications.

### Clear Object Detection

Clear object detection sensors are a special type of retroreflective photoelectric sensor that can detect transparent objects such as glass or plastic.



### Distance Measuring

Distance measuring sensors can measure the distance of objects at long ranges using a time of transit calculation. For shorter distances, high-resolution CMOS technology models offer greater precision using triangulation.

### Discrete Distance

Discrete distance sensors are diffuse laser sensors that detect presence via reflected laser light from the target object and use time-of-light distance calculations for background suppression. These sensors operate consistently regardless of the object's material, color, or brightness.



### Dark & Shiny Object Detection

Dark objects absorb light instead of reflecting it, making it difficult for standard diffuse photoelectric sensors to detect. Shiny objects overly reflect and can cause objects to be detected more than once. Dark and shiny object detection sensors use blue light, which is less likely to be absorbed by a dark object and is less likely to cause multiple reads or misdetections from shiny objects.

# Photoelectric Sensor Types (continued)

## Fiber Optic Sensors

Fiber optic sensors typically consist of two devices specified separately: the photoelectric amplifier and the fiber optic cable. The fiber cable includes the optic sensor head and cabling needed to transmit light to and from the amplifier. Because the amplifier is separate from the sensor head, these sensors work well in tight spots and applications with high electrical noise.



## Color Sensors

Color sensors use pre-defined reference colors to reliably select colored objects in high-speed automation processes. They are capable of evaluating up to 3 colors simultaneously.

## Contrast Sensors

Contrast print mark sensors determine contrast by sensing reflected light to detect the difference in the wavelength of the reflected light between the mark and background.



## Fork Sensors

Fork sensors (also called slot sensors or "U" sensors) offer advantages over standard through-beam sensors including identical mechanical/optical axis, operational reliability and repeatability with transmitter and receiver built into the same housing.

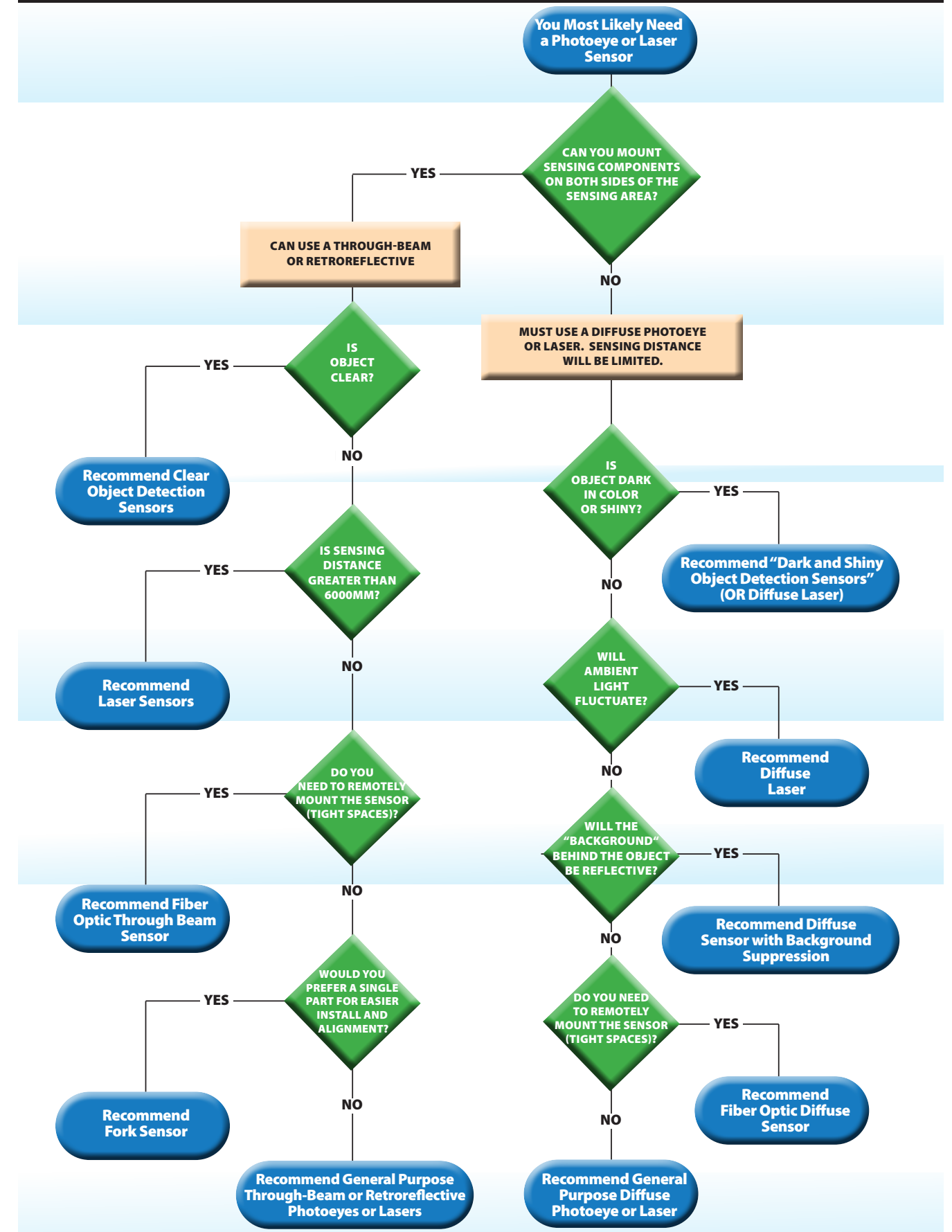


## Light Grids

Industrial light grids, also known as measuring light curtains, light barriers, or area sensors, are optoelectronic sensors used in industrial automation for a variety of applications. Unlike safety light grids, which focus on protecting personnel from hazardous machinery, industrial light grids focus on object detection, measurement, and control. These non-contact sensors have high accuracy, a fast response time, and are built to withstand harsh industrial environments.



# Photoeye/Laser Sensor Selection Decision Tree



# General Purpose Photoelectric Sensors

General-purpose photoelectric sensors, in tubular or rectangular body styles, are suitable for many presence sensing applications. They use infrared or visible red light technology and are available in diffuse, diffuse with background suppression, retroreflective, and through-beam sensing styles.

## 4 mm and 5 mm Tubular

### CONTRINEX D04 and M5 Series Stainless Steel

- 4 and 5 mm diameters
- Diffuse and through-beam styles
- IO-Link v1.0 on select PNP models
- Sensing distances up to 600 mm
- Stainless steel housing
- IP67 protection rating



## 8 mm Tubular

### AUTOMATIONDIRECT.com HE Series Stainless Steel

- 8 mm diameter
- Through-beam sensing style
- 10 kHz switching frequency
- 1 m sensing distance
- Stainless steel housing
- IP67 protection rating



### proSense ProSense F8 Series Stainless Steel

- 8 mm diameter
- Diffuse, diffuse with background suppression, polarized retroreflective, and through-beam sensing styles
- Sensing distances up to 2.2 m
- Stainless steel housing
- IP67 protection rating



## 12 mm Tubular

### Achieve™ FDM Series Metal

- 12 mm diameter
- Diffuse, polarized retroreflective, and through-beam sensing styles
- Teach function or potentiometer sensitivity adjustment
- Sensing distances up to 4 m
- Nickel-plated brass housing
- IP67 protection rating



## 12 mm Tubular (continued)

### CONTRINEX M12 Series Metal

- 12 mm diameter
- Diffuse, retroreflective, and through-beam sensing styles
- IO-Link V 1.0 on PNP models
- Sensing distances up to 10 m
- Chrome-plated brass housing
- IP67 protection rating



## 18 mm Tubular

### AUTOMATIONDIRECT.com FA Series Laser Metal/Plastic

- 18 mm diameter
- Diffuse, diffuse with background suppression, polarized retroreflective, and through-beam sensing styles
- Axial or right-angle optical head models
- Sensing distances up to 50 m
- Nickel plated brass or PBT housings
- IP67 protection rating



### AUTOMATIONDIRECT.com FB Series M18 Plastic

- 18 mm diameter
- Diffuse, polarized retroreflective, and through-beam sensing styles
- Potentiometer sensitivity adjustment on diffuse models
- Sensing distances up to 8 m
- ABS plastic housing
- IP65 or IP67 protection rating



### AUTOMATIONDIRECT.com C18 Series Metal

- 18 mm diameter
- Diffuse, diffuse with background suppression, polarized retroreflective, and through-beam sensing styles
- Axial or right-angle optical head models
- Sensing distances up to 6 m
- Chrome-plated brass housing
- IP67 protection rating



## 18 mm Tubular (Continued)

### AUTOMATIONDIRECT.com FF Series Stainless Steel

- 18 mm diameter
- Diffuse, polarized retroreflective, and through-beam sensing styles
- Sensing distances up to 20 m
- 316L stainless steel housing
- IP68/69K protection rating



Starting from  
**\$78.00**



### AUTOMATIONDIRECT.com FFRS Series Stainless Steel

- 18 mm diameter
- Diffuse with background suppression sensing style
- Sensing distances up to 130 mm
- 316L stainless steel housing
- IP68/69K protection rating



Starting from  
**\$94.00**



### AUTOMATIONDIRECT.com MQ Series AC Powered Plastic

- 18 mm diameter
- Diffuse with background suppression sensing style
- 20-253 VAC operating voltage
- Sensing distances up to 100 mm
- PBT housing
- IP67 protection rating



Starting from  
**\$69.00**



### AUTOMATIONDIRECT.com MV Series AC Powered Plastic

- 18 mm diameter
- Diffuse, polarized reflective, and through-beam sensing styles
- 20-253 VAC operating voltage
- Sensing distances up to 16 m
- PBT housing
- IP67 protection rating



Starting from  
**\$44.50**



### CONTRINEX M18 Series Plastic

- 18 mm diameter
- Diffuse, diffuse with background suppression, polarized retroreflective, and through-beam sensing styles
- IO-Link v1.0 on PNP models
- Sensing distances up to 30 m
- ABS plastic housing
- IP67 protection rating



Starting from  
**\$23.00**



IO-Link

### CONTRINEX M18 Series Stainless Steel

- 18 mm diameter
- Diffuse, diffuse with background suppression, polarized retroreflective, and through-beam sensing styles
- IO-Link v1.0 on PNP models
- Sensing distances up to 30 m
- Stainless steel housing
- IP67 protection rating



Starting from  
**\$40.50**



IO-Link

### proense F18 Series 18 mm Plastic

- 18 mm diameter
- Diffuse, diffuse with background suppression, polarized retroreflective, and through-beam sensing styles
- Sensing distances up to 25 m
- PBT housing
- IP67 protection rating



Starting from  
**\$32.00**



## 30 mm Tubular

### EATON E58 Series Stainless Steel

- 30 mm diameter
- Diffuse reflective with background suppression, retroreflective, polarized reflective, and through-beam sensing style
- High excessive gain
- Sensing distances up to 800 ft
- 303 stainless steel housing
- IP69 protection rating



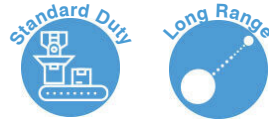
Starting from  
**\$355.00**



## Rectangular Sensors

### AUTOMATIONDIRECT.com GX Series Plastic

- Diffuse with background suppression, polarized retroreflective, and through-beam sensing styles
- 18mm diameter threaded lens with mounting hex nut included
- Sensing distances up to 20m
- 52.6 X 19.1 X 36.1mm LCP and PEI plastic housings
- IP67 protection rating



Starting from  
**\$47.50**



### AUTOMATIONDIRECT.com QM Series Plastic

- Diffuse, diffuse with background suppression, polarized retroreflective, and through-beam sensing styles
- Sensing distances up to 30m
- 21 X 12.8 X 31.2mm PA66 plastic housing
- IP67 protection rating



Starting from  
**\$41.00**



### AUTOMATIONDIRECT.com CX Series Plastic

- Diffuse, diffuse with background suppression, polarized retroreflective, and through-beam sensing styles
- Sensing distances up to 6m
- 30 X 15 X 30mm plastic housings
- IP65 protection rating



Starting from  
**\$63.00**



### AUTOMATIONDIRECT.com FM Series Stainless Steel

- Diffuse, diffuse with background suppression, polarized retroreflective, and through-beam sensing styles
- Sensing distances up to 10m
- 21 X 34.8 X 13mm 316L stainless steel housings
- IP65/67/68/69K protection rating

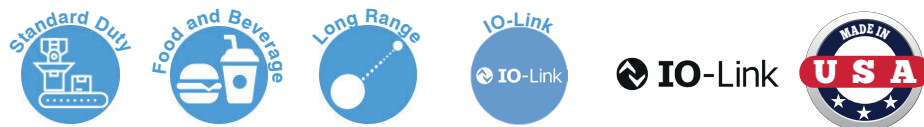


Starting from  
**\$51.00**



### CONTRINEX C23 Series Plastic

- Diffuse, diffuse with background suppression, polarized retroreflective, and through-beam sensing styles
- IO-Link v1.0 on select models
- Ecobal approved for use in hygienic areas
- Sensing distances up to 25m
- 20 X 10 X 30mm ABS plastic housings
- IP67 protection rating



Starting from  
**\$32.00**



### EATON Enhanced 50 Series Plastic

- Diffuse, through-beam, and polarized reflective sensing styles
- AC/DC output choices include robust 3A SPDT relays
- Sensing distances up to 500 ft
- 73 X 48.5 X 46 mm fiberglass-reinforced plastic housings
- IP67 protection rating



Starting from  
**\$131.00**



### Leuze 28 Series Plastic

- Diffuse, polarized retroreflective, and through-beam sensing styles
- Sensing distances up to 10 m
- 31.8 X 15 X 57.7 mm ABS plastic housings
- IP67 protection rating



Starting from  
**\$62.00**



### proense RW Series Plastic

- Diffuse, diffuse with background suppression, polarized retroreflective, and through-beam sensing styles
- Sensing distances up to 3 m
- Compact 14.4 X 8.1 X 28.1 mm ABS plastic housings
- IP65/67 protection rating



Starting from  
**\$46.00**



### proense F16 Series Die-Cast Zinc

- Diffuse, diffuse with background suppression, polarized retroreflective, and through-beam sensing styles
- Sensing distances up to 2.2 m
- 8 X 8 X 44 mm die-cast zinc housings
- IP67 protection rating

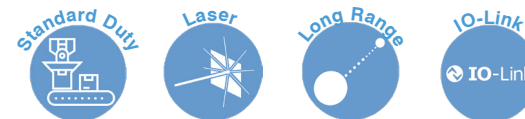


Starting from  
**\$102.00**



### wenglor OPT Series Plastic

- Diffuse, diffuse with background suppression, polarized retroreflective, and through-beam sensing styles
- IO-Link v1.1 compatibility
- Sensing distances up to 20 m
- 50 X 50 X 20 mm plastic housings
- IP67/68 protection rating



Starting from  
**\$76.00**



IO-Link

# Miniature Rectangular Sensors

## Autonics BTF Series Ultra-Thin Flat Plastic

- Diffuse with background suppression and through-beam sensing styles
- Ultra-thin, flat housings are only 3.7 mm thick (4.6 mm including lens)
- Sensing distances up to 1 m
- PBT thermoplastic housings
- IP67 protection rating



Starting from \$79.00

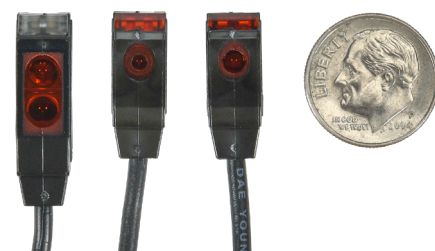


## Autonics BTS Series Ultra-Slim Plastic

- Diffuse, retroreflective, and through-beam sensing styles
- Ultra-slim, narrow housings are only 7.2 mm wide
- Sensing distances up to 1 m
- PBT thermoplastic housings
- IP67 protection rating



Starting from \$84.00



## Autonics BPS Series Compact Flat Plastic

- Through-beam sensing style
- Low-profile, flat housings are only 7.5 mm thick (8.1 mm including lens)
- Sensing distances up to 3 m
- PBT thermoplastic housings
- IP67 protection rating



Starting from \$91.00



# Clear Object Detection Sensors

Clear-object photoelectric sensors detect presence when a clear object interrupts light rebounding off a fixed reflector (sold separately) or when used as part of a through-beam pair. These sensors use infrared visible, red light, or UV light sources and offer detection ranges up to 4.2 meters.

## AUTOMATIONDIRECT FFRL Series Stainless Steel

- 18 mm diameter
- Retroreflective for transparent objects
- 316L stainless steel housing
- 1 m sensing distance
- IP68/69K protection rating



Starting from \$82.00



## CONTRINEX C23 Series Plastic

- Retroreflective for transparent objects
- IO-Link V 1.0 on PNP models
- Models with UV light offer easy sensitivity adjustment
- Sensing distances up to 4200 mm
- 20 X 10 X 30 mm ABS plastic housings
- Ecolab approved for use in hygienic areas
- IP67 protection rating



Starting from \$54.00



IO-Link

## AUTOMATIONDIRECT QM Series Plastic

- Retroreflective for transparent objects
- 21 X 12.8 X 31.2 mm PA66 plastic housings
- Sensing distances up to 4 m
- IP67 protection rating



Starting from \$57.00



## wenglor OPT Series Plastic

- Retroreflective for transparent objects
- IO-Link v1.1 compatibility
- Potentiometer sensitivity adjustment
- Sensing distances up to 2.6 m
- 50 X 50 X 20 mm plastic housings
- IP67/68 protection rating



Starting from \$119.00



IO-Link

## Clear Object Detection Sensors (continued)

### EATON Enhanced 50 Series Plastic

- Retroreflective for transparent objects
- 45in sensing distance
- NPN/PNP, solid-state relay, or SPDT EM relay outputs
- 73 X 79.5 X 46mm fiberglass-reinforced plastic housings
- AC or DC operating voltages
- IP67 protection rating



## Distance Measuring Sensors

Short-range, high-precision laser sensors measure down to an 8 micrometer resolution using CMOS technology; long-range models use time of flight (measuring transit time of the reflected light) to measure distances up to

100 meters. Employing Class 1 or 2 lasers (depending on model), these DC-powered units support analog outputs of 4-20 mA or 0-10 VDC.

### wenglor the innovative family OPT Short Range CMOS Series

- Diffuse laser distance sensing style with CMOS technology
- Sensing distances up to 350 mm
- Class 1 and 2 lasers available
- 50 X 50 X 20 mm polycarbonate housings
- High resolution down to 8  $\mu$ m
- High response times down to 660  $\mu$ s
- 4-20 mA or 0-10 VDC output
- IP67 protection rating



### wenglor the innovative family OPT Long Range Transit Time Series

- Diffuse and retro-reflective (transit time) sensing styles
- Sensing distances up to 100 m
- Measured value independent of material, color, and brightness
- Analog or switching output options
- Class 1 and 2 lasers available
- 50 X 50 X 20 mm or 81 X 55 X 30 mm polycarbonate housings
- IP68 protection rating



## High Precision Distance Sensing for Less!

### wenglor the innovative family OPT25 Laser Triangulation Series

Wenglor OPT25 series laser sensors offer our best-in-class distance sensing for ranges within 1 meter. They are IO-Link v1.1 compatible, employ a Class 1 red or Class 2 blue laser, and use triangulation to measure distances with extreme accuracy.

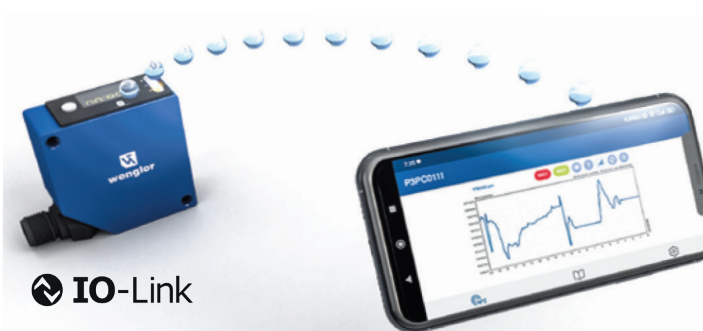
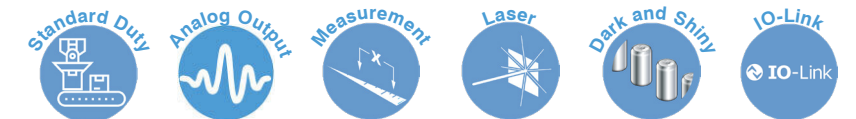
Powered by Wenglor's proprietary TripleA technology, the Wenglor OPT25 series ensures precise distance readings regardless of object material, color, or shape, even in demanding environments with fluctuating light and temperature conditions. They can even detect flat objects directly in front of a background.

Blue laser light models provide enhanced performance for red-hot or organic surfaces, polished metals, shiny plastics, or dark paints. The shorter wavelength blue laser light does not penetrate as deeply into the surface, resulting in high accuracy.

Sensor configuration varies by model, with options including a teach-in button, an easy-to-read OLED display, or the intuitive Wenglor weCon Bluetooth app.



- Diffuse laser distance sensing style
- Red Class 1 lasers or blue Class 2 lasers for dark and shiny object detection
- Only 0.08% linearity deviation from the measuring range
- Teach-in, OLED, IO-Link, or Bluetooth configuration options (depending on model)
- Up to 2500/s measuring rate
- Reproducibility up to 0.8  $\mu$ m
- 4-20 mA or dual PNP/NPN output options
- Sensing distances up to 1000 mm
- 50 X 50 X 20 mm or 71 X 63 X 30 mm anodized aluminum housings
- IP67 protection rating



### FREE Wenglor weCon App

The Wenglor weCon app enables mobile settings and data transfer for distance sensors. Users can effortlessly configure sensors via the free Bluetooth app.

- Easily adjust Wenglor distance sensors directly from a smartphone or tablet
- Monitor sensor readings, diagnostics, and device status in real-time
- Available for Android and iOS





# Discrete Distance Sensors

Discrete distance sensors are diffuse laser sensors that detect presence via reflected laser light from the target object and use time-of-light distance calculations for background suppression. These sensors operate consistently regardless of the object's material, color, or brightness.

## wenglor the innovative family **OPT Short Range CMOS Series**

- Diffuse laser distance sensing style with CMOS technology
- Measured value independent of material, color, and brightness
- 60-660 mm sensing distance
- 50 X 50 X 20 mm polycarbonate housings
- IP68 protection rating

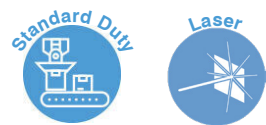


Starting from **\$390.00**



## wenglor the innovative family **OPT Transit Time Series**

- Diffuse and retro-reflective (transit time) sensing style
- Measured value independent of material, color, and brightness
- Sensing distances up to 3 m
- 50 X 50 X 20 mm polycarbonate or plastic housings
- IP68 protection rating



Starting from **\$259.00**



## wenglor the innovative family **OPT Compact Transit Time Series**

- Diffuse and retro-reflective (transit time) sensing style
- Measured value independent of material, color, and brightness
- Sensing distances up to 1 m
- 32 X 22 X 12 mm polycarbonate or plastic housings
- IP67 protection rating



Starting from **\$207.00**



# Dark and Shiny Object Detection Sensors

Dark and shiny object detection photoelectric sensors detect presence of objects that other sensors fail to detect or erroneously detect multiple times because they are either very dark or shiny.

## wenglor the innovative family **OPT Series Blue Light**

- Diffuse with background suppression sensing style
- Potentiometer sensitivity adjustment
- IO-Link V1.1
- Sensing distances up to 400 mm
- 50 X 20 X 50 mm or 32 X 12 X 16 mm plastic housings
- IP67/68 protection rating



Starting from **\$95.00**



IO-Link

# Fiber Optic Sensors

Fiber optic sensors provide a remotely mounted electronics and optics package with fiber optic extensions to the sensing area, perfect for extremely tight locations, or where even low power electronics are not allowed. Glass and cuttable plastic fiber optic cables are also available (sold separately), with sensing distances up to 1800 mm.

## AUTOMATIONDIRECT.com **DFT Series Plastic**

- Sensing distances and styles are dependent on the optical fiber
- Compact 10 X 31 X 60 mm PAT housings
- Teach-in sensitivity adjustment
- Bar graph signal-strength indicator
- IP64 protection rating



Starting from **\$172.00**



## AUTOMATIONDIRECT.com **DFP Series Plastic**

- Sensing distances and styles are dependent on the optical fiber
- Compact 10 X 31 X 60 mm PBT housings
- Potentiometer sensitivity adjustment
- IP64 protection rating



Starting from **\$109.00**



## Fiber Optic Sensors (continued)

### wenglor the innovative family OPT Series Plastic

- Diffuse and through-beam sensing styles
- Sensing distances are dependent on the optical fiber
- Plastic housings in various sizes
- IO-Link available on select units
- Teach-in sensitivity adjustment
- Bar graph signal-strength indicator
- IP65 or IP50 protection rating



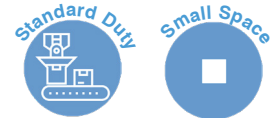
Starting from  
**\$101.00**



IO-Link

### MS Micro Detectors **SSF Series 18 mm Tubular Plastic**

- 18 mm diameter
- Sensing distances and styles are dependent on the optical fiber
- Teach-in sensitivity adjustment
- PBT housings
- IP67 protection rating



Starting from  
**\$53.00**



## Color Sensors

Color sensors are used for colored object detection, quality control, and print accuracy applications. The Wenglor OPT2023 color sensor can evaluate up to

3 colors simultaneously and has a variety of mounting accessories.

### wenglor the innovative family OPT2023 Color Series

- Capable of evaluating up to 3 colors simultaneously
- White light source
- Three switching outputs
- 40 mm sensing distance
- 50 X 50 X 20 mm plastic housing
- IP68 protection rating



Starting from  
**\$372.00**



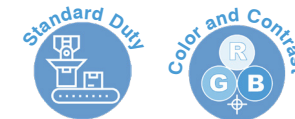
## Contrast Sensors

Contrast print mark sensors determine contrast by detecting the difference in the wavelength of reflected light from the mark and background. Contrast sensors

offer detection ranges up to 40mm, with quick-disconnect termination.

### wenglor the innovative family OPT Series Plastic

- 12 to 18 mm sensing distance
- White light emission
- Teach-in sensitivity adjustment
- 54.5 X 27 X 16 mm plastic housings
- IP67 protection rating



Starting from  
**\$121.00**



### DATALOGIC THE VISION IS YOURS S8 Series Stainless Steel

- 6 to 12 mm sensing distance
- RGB light emission
- Teach-in sensitivity adjustment
- 42 X 28 X 15 mm 316L stainless steel housings
- IP69K protection rating



Priced at  
**\$111.00**



### DATALOGIC THE VISION IS YOURS S8 Series Plastic

- 6 to 12 mm sensing distance
- RGB light emission
- Teach-in sensitivity adjustment
- 42 X 25 X 14 mm ABS plastic housings
- IP67 protection rating



Starting from  
**\$80.00**



### DATALOGIC THE VISION IS YOURS TL Series Metal

- 6 to 12 mm sensing distance
- RGB light emission
- Teach-in sensitivity adjustment
- 81.5 X 31.9 X 60.7 mm aluminum housings
- IP67 protection rating



Starting from  
**\$152.00**



# Fork Sensors

Fork sensors (also called slot sensors) use through-beam photoelectric technology to detect objects passing through the slot. The rugged one-piece housing keeps the emitter and receiver in alignment, and a convenient, single-cable

connection is provided. A variety of light sources are available for specialty sensing applications, with sensing distances up to 250mm.

## AUTOMATIONDIRECT.com PS Series Metal

- U-frame models in fork openings from 5 to 220 mm
- L-frame models in fork openings from 60 to 160 mm
- Visible red, infrared, and laser light options
- Up to 5kHz switching frequency
- Light-on/Dark-on selectable
- Rugged one-piece die-cast zinc housings
- Models for clear object and liquid detection
- IP67 protection rating



## AUTOMATIONDIRECT.com PS Series Stainless Steel

- U-frame models in 50 or 60 mm fork openings
- Visible red light
- Complementary Light-on/Dark-on outputs
- 3 kHz switching frequency
- Rugged one-piece stainless steel housings
- IP69K protection rating



## di-soric OGU Series Metal

- U-frame models in fork openings from 5 to 250 mm
- Standard, high-resolution, power, or speed sensor modes
- Visible red and infrared light options
- Up to 14 kHz switching frequency
- Light-on/Dark-on selectable
- Sensitivity adjustment via potentiometer or IO-Link
- IO-Link v1.1 compatibility
- 10 to 30 VDC operating voltage
- IP67 protection rating



IO-Link

# Light Grids

Light grids are multi-beam arrays of photoeyes used to detect presence anywhere within the controlled height of the sensor array. These sensors are perfect for detecting

various sized and shaped objects at random positions as they pass through the (2D) target area (not for use as safety light curtains).

## Detection Light Grids



## Micro Detectors

### Micro Detectors CX0 Series Light Grids

Micro Detectors CX0 series detection light grids are easy to install and feature a fast response time with high accuracy and repeatability.

- Operating distance up to 6 m
- 160 and 320 mm detection heights
- 5 or 10 mm resolution
- 16.8-30 VDC operating voltage
- Discrete PNP output
- Teach-in sensitivity adjustment
- Painted aluminum housings
- IP67 protection rating

### Micro Detectors BX Series Light Grids

Micro Detectors BX80 series detection light grids feature rugged thermoplastic housings and are designed for industrial applications such as conveyor belt monitoring, packaging machines, and access control.

- Operating distance up to 2 m
- 70 mm detection height
- 6 mm resolution
- 12-24 VDC operating voltage
- Discrete NPN or PNP output
- Adjustable sensitivity
- Plastic housings
- IP67 protection rating



## prosense

### ProSense FLG Series Light Grids

ProSense FLG series light grids offer a cost-effective solution for object detection, featuring a simple setup with no programming required. They have no dead zone on the full detection height and are suitable for a variety of applications, such as material handling, counting, and warehousing.

- 0.1-10 m operating distance
- 220 to 1580 mm detection heights
- 20 or 40 mm resolution
- 24 VDC operating voltage
- Discrete NPN or PNP output
- Rugged aluminum housings
- IP67 protection rating



## Detection Light Grids (cont.)



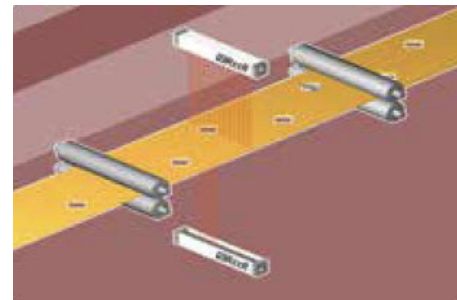
### ReeR Micron Series Light Grids with Push-Pull Complementary Outputs

ReeR Micron series light grids with push-pull complementary outputs provide a simple way to determine whether or not an object is present in the light grid's field of view. The outputs can be used to activate or stop a machine, or trigger an alarm.

- 0-10 m operating distance
- 120 to 740 mm detection heights
- 10 or 30 mm resolution
- 24 VDC operating voltage
- Software configurable
- Rugged anodized aluminum housings
- IP65/67 protection rating



Starting from  
**\$375.00**



**Quality Control: verification of presence/absence/position of holes**

## Measuring Light Grids (cont.)



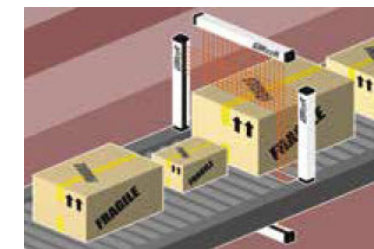
### ReeR Micron Series Light Grids with Analog Outputs

ReeR Micron series light grids with analog outputs are compact sensing devices for precision measurement and positioning tasks. They are configurable via easy-to-use software that offers an extensive parameter selection.

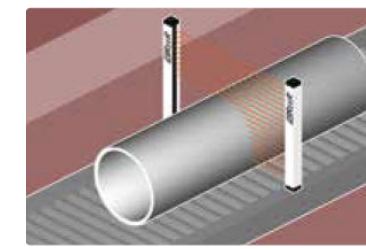
- 0-10 m operating distance
- 270 to 1490 mm detection heights
- 10 or 30 mm resolution
- 24 VDC operating voltage
- Two 4-20 mA outputs
- Two discrete push-pull outputs
- Software configurable
- Rugged anodized aluminum housings
- IP65/67 protection rating



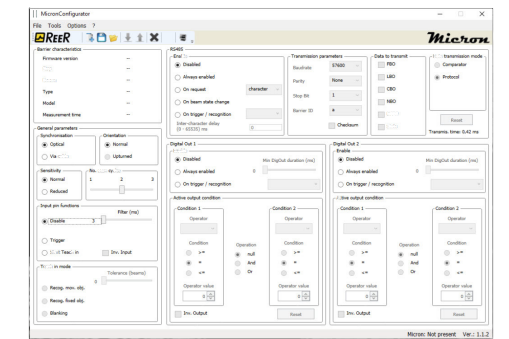
Starting from  
**\$551.00**



**Height Measurement**



**Measurement and Identification**



**Configurator Software**

## Measuring Light Grids



### Micro Detectors

#### Micro Detectors CX2 Series Light Grids

The blanking function of the CX2 series provides flexible configuration options by allowing the height of the active optic window to be adapted to an application by eliminating pairs of beams.

- Operating distance up to 6 m
- Detection height up to 960 mm
- 5 or 10 mm resolution
- Parallel beams and floating crossbeams with variable amplitude
- 16.8-30 VDC operating voltage
- PNP NO/NC configurable output
- 4-20 mA or 0-10 VDC output
- Painted aluminum housings
- IP67 protection rating



Starting from  
**\$313.00**



Starting from  
**\$606.00**



### ReeR Micron Series Light Grids with IO-Link Compatibility

ReeR Micron series IO-Link compatible light grids are versatile industrial devices for precise object detection, measurement, and identification. They offer flexible setup with protected heights and beam spacings to suit a variety of applications.

- 0-10 m operating distance
- 270 to 1490 mm detection heights
- 10 or 30 mm resolution
- 24 VDC operating voltage
- Output via IO-Link v1.1.2
- Configurable via IO-Link
- Rugged anodized aluminum housings
- IP65/67 protection rating