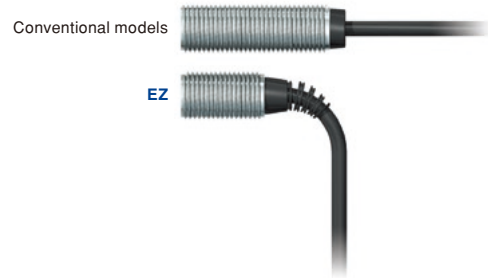


3-wire type Proximity Sensors EZ Series

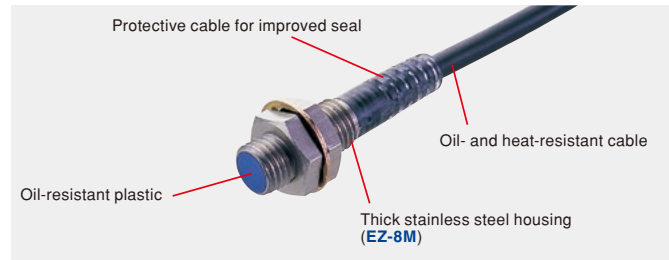


Space-saving

With a sensor body up to 30% shorter than previous models, the EZ Series proximity sensor offers high sensitivity and long detecting distance.



Excellent water and oil resistance



Flat design, space-saving, 8-mm **0.31"** thick model available

Provides an impressive detecting distance of 5 mm **0.20"** and features a die-cast aluminum housing.



Easy-to-see output indicator

An output indicator is built into the sensor unit in such a manner that sensor operation can be easily confirmed from virtually any angle.



For standard certification and conformance list, see our website.
www.keyence.com/products/certified/

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1-888-KEYENCE
www.keyence.com/ASKG

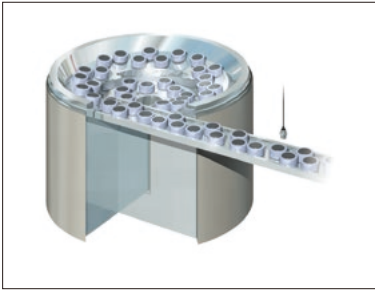


FREE DOWNLOAD

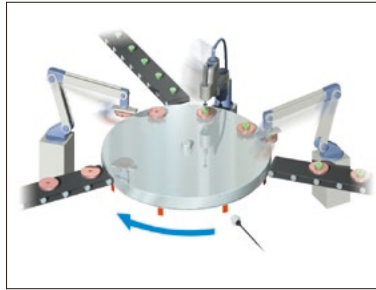
www.keyence.com/DLG

Free downloads for product and technical support are readily available in one convenient location

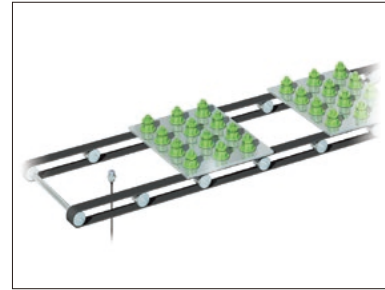
Applications



Detecting full/empty parts feeder



Detecting the index position of a rotary table



Detecting the presence of moving pallets

Specifications

DC 3-wire type

| Type | | Shielded | | | | |
|--------------------------------------|-----|---|---|---|--|---|
| Model | NPN | EZ-8M | EZ-12M | EZ-18M | EZ-30M | EZ-18T |
| Appearance | |  |  |  |  |  |
| Size | | M8 | M12 | M18 | M30 | 20 x 32 x 8 mm 0.79" x 1.26" x 0.31" |
| Detecting distance | | 1.5 mm 0.06" ±10% | 2.5 mm 0.10" ±10% | 5 mm 0.20" ±10% | 10 mm 0.39" ±10% | 5 mm 0.20" ±10% |
| Detectable object | | Ferrous metals (see Characteristics for nonferrous metals) | | | | |
| Standard target (iron, t=1 mm 0.04") | | 10 x 10 mm 0.39" | 12 x 12 mm 0.47" | 18 x 18 mm 0.71" | 30 x 30 mm 1.18" | 18 x 18 mm 0.71" |
| Hysteresis | | 10% max. of detecting distance | | | | |
| Response frequency | | 800 Hz | 600 Hz | 350 Hz | 250 Hz | 350 Hz |
| Temperature fluctuation | | ±10% max. of detecting distance at 23°C (73.4°F), within -25 to +70°C (-13 to +158°F) | | | | |
| Operation mode | | N.O./N.C. | | | | |
| Control output | | NPN open collector 100 mA max. (40 V max.), Residual voltage: 1 V max. | | | | |
| Power supply | | 12 to 24 VDC ±10% | | | | |
| Current consumption | | 13 mA max. | | | | |
| Enclosure rating | | IP67 | | | | |
| Ambient temperature | | -25 to +80°C (-13 to +176°F), No freezing | | | | |
| Relative humidity | | 35 to 95%, No condensation | | | | |
| Vibration resistance | | 10 to 55 Hz, 1.5 mm 0.06" double amplitude in X, Y, and Z directions, 2 hours | | | | |
| Shock resistance | | 500 m/s² 1640.4' in X, Y, and Z directions, 3 times respectively | | 1,000 m/s² 3280.8' in X, Y, and Z directions, 3 times respectively | | |
| Cable length | | 2 m 6.6' | | | | |
| Weight (including cable and nuts) | | Approx. 50 g | Approx. 65 g | Approx. 130 g | Approx. 235 g | Approx. 55 g |

New Products

Fiberoptic Sensors

Photoelectric Sensors

Proximity Sensors

Safety Equipment

Flow/Pressure/Temperature

Measurement Sensors

Controls

Static Eliminators

Vision Systems

Marking Equipment

Code Readers

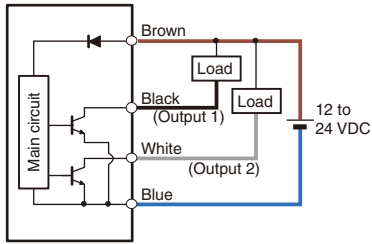
Handheld Mobile Computers

Microscopes

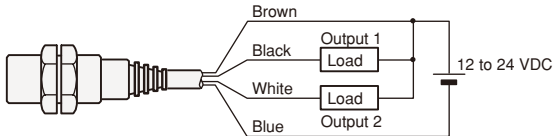
Projector/3D Measurement Systems



Input/Output Circuits



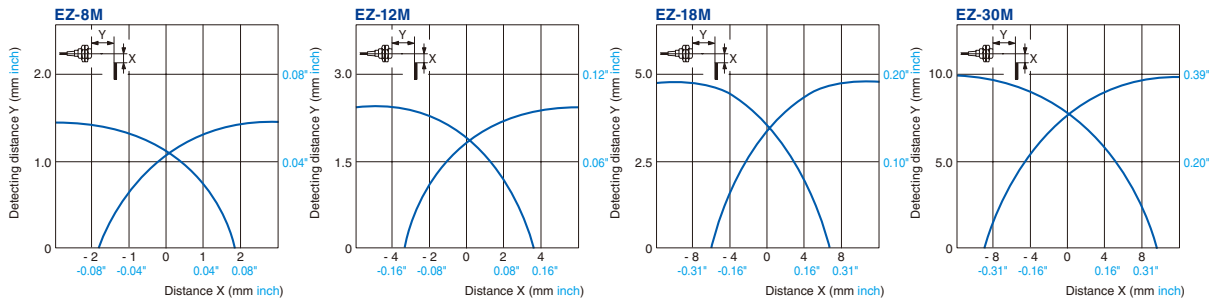
Connections



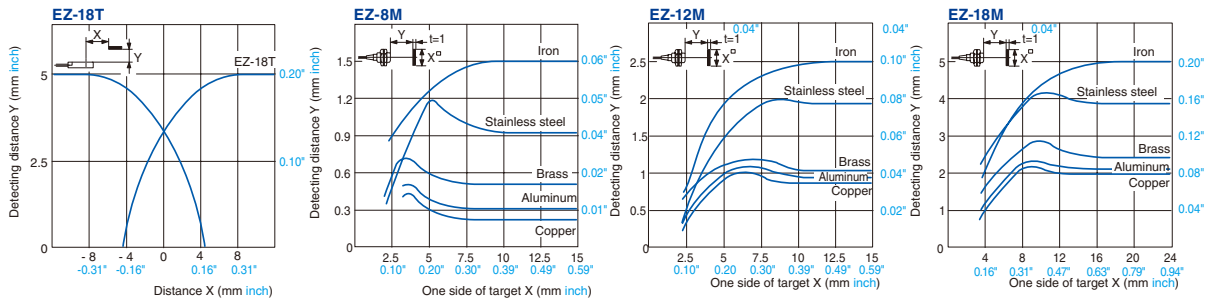
Black (output 1): N.O.
White (output 2): N.C.

Characteristics

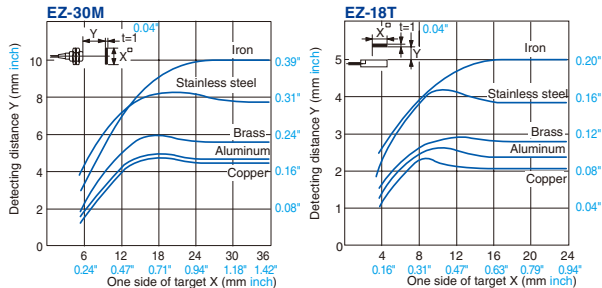
Detecting range (Typical)



Detecting distance vs. size and material of target (Typical)



Detecting distance vs. size and material of target (Typical)



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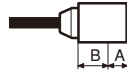
Microscopes

Projector/3D Measurement Systems

Hints on Correct Use

Mounting

When mounting the sensor, insert the attached toothed washer. Do not tighten beyond the torque specified in the following table.



| Model | Dimension A (mm inch) | Tightening torque | |
|---------------|--------------------------|-------------------|--------------|
| | | at A | at B |
| EZ-8M | 3 0.12" | 3 N-m max. | 5 N-m max. |
| EZ-12M | 6 0.24" | 6 N-m max. | 10 N-m max. |
| EZ-18M | 6 0.24" | 15 N-m max. | 20 N-m max. |
| EZ-30M | 10 0.39" | 50 N-m max. | 100 N-m max. |

Note: The sensor cable can be extended up to 100 m 328.0' (EZ Series).

Interference

When installing 2 or more sensors of the same model face-to-face or in parallel, separate them by the distance specified in the following table to prevent interference.

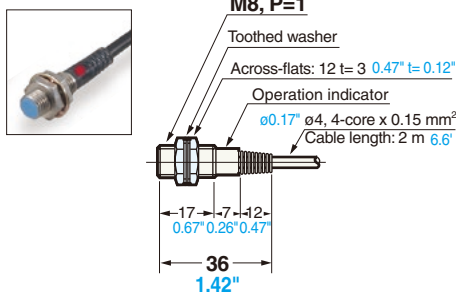
| Model | Distance | Face-to-face (mm inch min.) | Parallel (mm inch min.) |
|---------------|-----------|--------------------------------|----------------------------|
| | | | |
| EZ-8M | 20 0.79" | 23 0.91" | |
| EZ-12M | 30 1.18" | 32 1.26" | |
| EZ-18M | 40 1.57" | 48 1.89" | |
| EZ-30M | 100 3.94" | 100 3.94" | |

| Model | Distance | Face-to-face (mm inch min.) | Parallel (mm inch min.) |
|---------------|----------|--------------------------------|----------------------------|
| | | | |
| EZ-18T | 40 1.57" | 35 1.38" | |

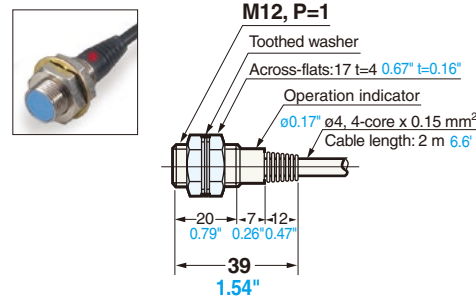
Dimensions

Unit: mm inch

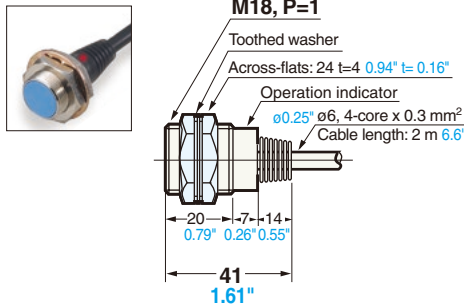
EZ-8M



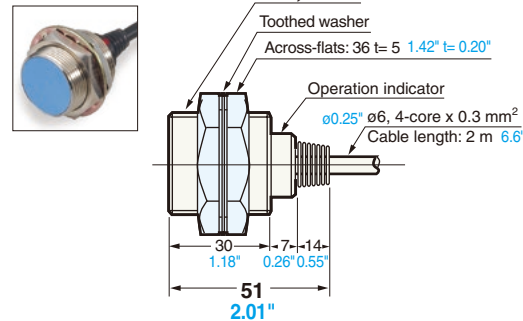
EZ-12M



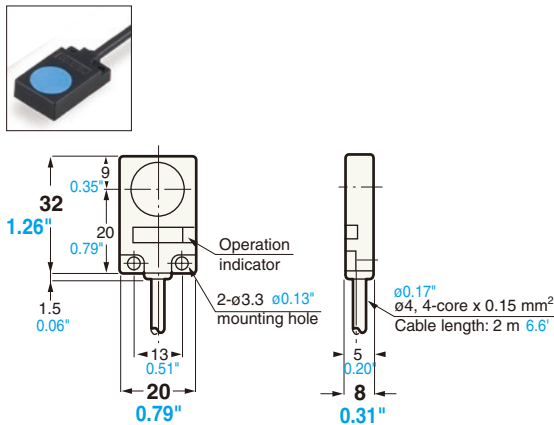
EZ-18M



EZ-30M



EZ-18T



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