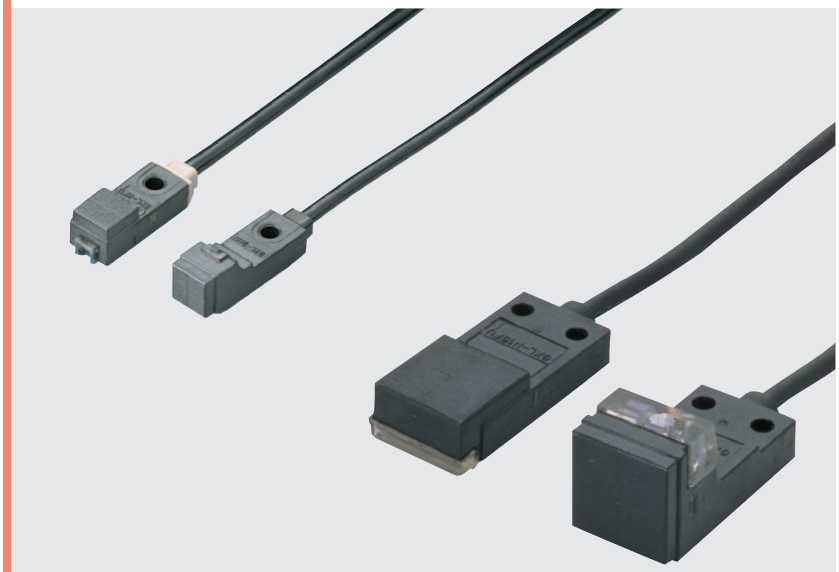
DC 2-wire type Micro-size Inductive Proximity Sensor Amplifier Built-in

GXL SERIES

Related Information
■ General terms and conditions..... F-17
■ Glossary of terms..... P.1386~
■ Sensor selection guide ..... P.757~
■ General precautions P.1405



panasonic-electric-works.net/sunx

Conforming to EMC Directive

Recognition (Only **GXL-8F□**)


2-wire type available

Oil resistant


Flexible cable type available

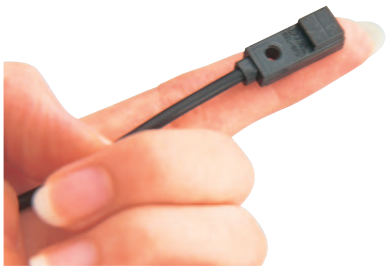

Different freq. type available

High performance in micro-size design

BASIC PERFORMANCE

Versatile mounting

Since the sensor is fingertip size, it can be mounted in a tight space.



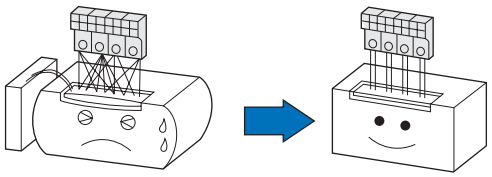
Reduced wiring operation

The wiring cost of the DC 2-wire type is 2/3 that of a conventional model.
Besides, the possibility of miswiring is reduced.

Particularly convenient when many sensors are used.

Wiring of the 3-wire type is cumbersome.

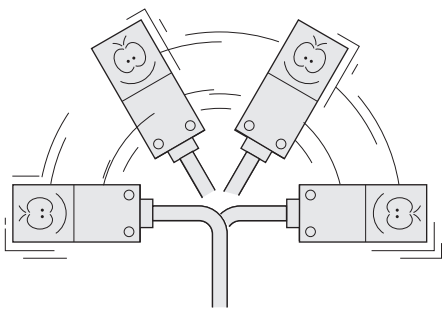
Wiring of the 2-wire type is simple and neat.



ENVIRONMENTAL RESISTANCE

Flexible cable type

The bending durability of its cable is ten times that of the conventional model. The sensor can be mounted on a moving table or a robot arm.



Others

Cost performance

Achieve high performance at an affordable price.

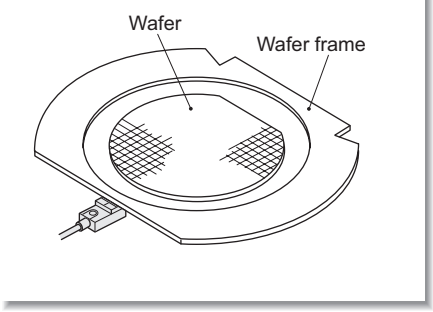
FIBER SENSORS
LASER SENSORS
PHOTOELECTRIC SENSORS
MICRO PHOTOELECTRIC SENSORS
AREA SENSORS
LIGHT CURTAINS
PRESSURE / FLOW SENSORS
INDUCTIVE PROXIMITY SENSORS
PARTICULAR USE SENSORS
SENSOR OPTIONS
SIMPLE WIRE-SAVING UNITS
WIRE-SAVING SYSTEMS
MEASUREMENT SENSORS
STATIC CONTROL DEVICES
ENDOSCOPE
LASER MARKERS
PLC / TERMINALS
HUMAN MACHINE INTERFACES
ENERGY CONSUMPTION VISUALIZATION COMPONENTS
FA COMPONENTS
MACHINE VISION SYSTEMS
UV CURING SYSTEMS

Selection Guide
Amplifier Built-in
Amplifier-separated

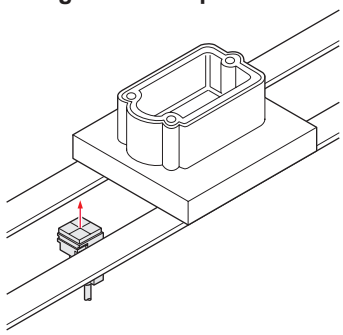
GX-F/H
GXL
GL
GX-U/GX-FU/GX-N
GX

APPLICATIONS

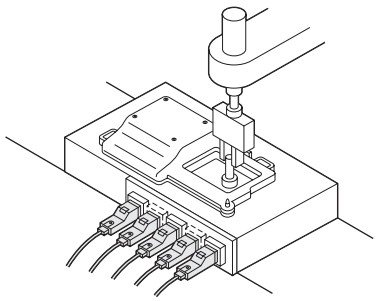
Detecting wafer frame



Detecting aluminum pallet

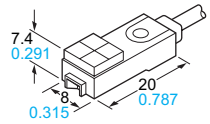
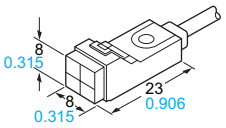


Code reading



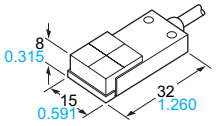
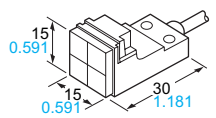
ORDER GUIDE

GXL-8 type

Type		Appearance (mm in)	Sensing range (Note 1)	Model No. (Note 2)	Output	Output operation
DC 2-wire	Front sensing		Maximum operation distance 2.5 mm 0.098 in; (0 to 1.8 mm) (0 to 0.071 in) Stable sensing range	**GXL-8FU**	Non-contact DC 2- wire type	Normally open
				GXL-8FUI		
				GXL-8FUB		Normally closed
				GXL-8FUIB		
	Top sensing			**GXL-8HU**		Normally open
				GXL-8HUI		
				GXL-8HUB		Normally closed
				GXL-8HUIB		

Notes: 1) The maximum operation distance stands for the maximum distance for which the sensor can detect the standard sensing object.
The stable sensing range stands for the sensing range for which the sensor can stably detect the standard sensing object even if there is an ambient temperature drift and/or supply voltage fluctuation.
2) " **I** " in the model No. indicates a different frequency type.

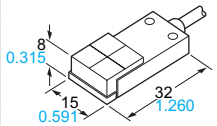
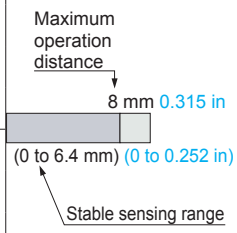
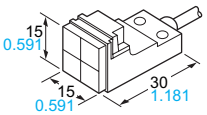
GXL-15 (Standard) type

Type		Appearance (mm in)	Sensing range (Note 1)	Model No. (Note 2)	Output	Output operation
DC 2-wire	Front sensing		Maximum operation distance 5 mm 0.197 in; (0 to 4 mm) (0 to 0.157 in) Stable sensing range	**GXL-15FU**	Non-contact DC 2- wire type	Normally open
				GXL-15FUI		
				GXL-15FUB		Normally closed
				GXL-15FUIB		
	Top sensing			**GXL-15HU**		Normally open
				GXL-15HUI		
				GXL-15HUB		Normally closed
				GXL-15HUIB		

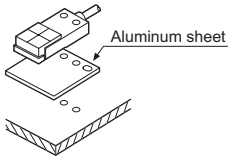
Notes: 1) The maximum operation distance stands for the maximum distance for which the sensor can detect the standard sensing object.
The stable sensing range stands for the sensing range for which the sensor can stably detect the standard sensing object even if there is an ambient temperature drift and/or supply voltage fluctuation.
2) " **I** " in the model No. indicates a different frequency type.

ORDER GUIDE

GXL-15 (Long sensing range) type ··· For mounting on non-magnetic material (Note 3)

Type		Appearance (mm in)	Sensing range (Note 1)	Model No. (Note 2)	Output	Output operation
DC 2-wire	Front sensing			**GXL-15FLU**	Non-contact DC 2- wire type	Normally open
				GXL-15FLUI		
				GXL-15FLUB		Normally closed
				GXL-15FLUIB		
	Top sensing			**GXL-15HLU**		Normally open
				GXL-15HLUI		
				GXL-15HLUB		Normally closed
				GXL-15HLUIB		

Notes: 1) The maximum operation distance stands for the maximum distance for which the sensor can detect the standard sensing object.
The stable sensing range stands for the sensing range for which the sensor can stably detect the standard sensing object even if there is an ambient temperature drift and/or supply voltage fluctuation.
2) " **I** " in the model No. indicates a different frequency type.
3) To mount the long sensing range **GXL-15** type on a magnetic body, such as iron, the enclosed aluminum sheet, or any other aluminum sheet having a minimum size of 30 × 39.5 × t 0.3 mm 1.181 × 1.555 × t 0.012 in (**GXL-15HLU** type: 30 × 30 × t 0.3 mm 1.181 × 1.181 × t 0.012 in), should be inserted between the sensor and the magnetic body.
However, it is not necessary to use the aluminum sheet when mounting on a non-magnetic body, such as, aluminum or an insulator.



Flexible cable type and 5 m 16.404 ft cable length type

Flexible cable type and 5 m 16.404 ft cable length type (standard: 1 m 3.281 ft) are also available.

- **Table of Model Nos.**

Type		Standard	Flexible cable type	5 m 16.404 ft cable length type	Flexible cable of 5 m 16.404 ft cable length type
DC 2-wire	Front sensing	**GXL-8FU**	**GXL-8FU-R**	**GXL-8FU-C5**	**GXL-8FU-R-C5**
		GXL-8FUI	**GXL-8FUI-R**	**GXL-8FUI-C5**	**GXL-8FUI-R-C5**
		GXL-8FUB	**GXL-8FUB-R**	**GXL-8FUB-C5**	**GXL-8FUB-R-C5**
		GXL-8FUIB	**GXL-8FUIB-R**	**GXL-8FUIB-C5**	**GXL-8FUIB-R-C5**
	Top sensing	**GXL-8HU**	**GXL-8HU-R**	**GXL-8HU-C5**	**GXL-8HU-R-C5**
		GXL-8HUI	**GXL-8HUI-R**	**GXL-8HUI-C5**	**GXL-8HUI-R-C5**
		GXL-8HUB	**GXL-8HUB-R**	**GXL-8HUB-C5**	**GXL-8HUB-R-C5**
		GXL-8HUIB	**GXL-8HUIB-R**	**GXL-8HUIB-C5**	**GXL-8HUIB-R-C5**
	Front sensing	**GXL-15FU**	**GXL-15FU-R**	**GXL-15FU-C5**	**GXL-15FU-R-C5**
		GXL-15FUI	**GXL-15FUI-R**	**GXL-15FUI-C5**	**GXL-15FUI-R-C5**
		GXL-15FUB	**GXL-15FUB-R**	**GXL-15FUB-C5**	**GXL-15FUB-R-C5**
		GXL-15FUIB	**GXL-15FUIB-R**	**GXL-15FUIB-C5**	**GXL-15FUIB-R-C5**
	Top sensing	**GXL-15HU**	**GXL-15HU-R**	**GXL-15HU-C5**	**GXL-15HU-R-C5**
		GXL-15HUI	**GXL-15HUI-R**	**GXL-15HUI-C5**	**GXL-15HUI-R-C5**
		GXL-15HUB	**GXL-15HUB-R**	**GXL-15HUB-C5**	**GXL-15HUB-R-C5**
		GXL-15HUIB	**GXL-15HUIB-R**	**GXL-15HUIB-C5**	**GXL-15HUIB-R-C5**
	Front sensing	**GXL-15FLU**	**GXL-15FLU-R**	**GXL-15FLU-C5**	**GXL-15FLU-R-C5**
		GXL-15FLUI	**GXL-15FLUI-R**	**GXL-15FLUI-C5**	**GXL-15FLUI-R-C5**
		GXL-15FLUB	**GXL-15FLUB-R**	**GXL-15FLUB-C5**	**GXL-15FLUB-R-C5**
		GXL-15FLUIB	**GXL-15FLUIB-R**	**GXL-15FLUIB-C5**	**GXL-15FLUIB-R-C5**
	Top sensing	**GXL-15HLU**	**GXL-15HLU-R**	**GXL-15HLU-C5**	**GXL-15HLU-R-C5**
		GXL-15HLUI	**GXL-15HLUI-R**	**GXL-15HLUI-C5**	**GXL-15HLUI-R-C5**
		GXL-15HLUB	**GXL-15HLUB-R**	**GXL-15HLUB-C5**	**GXL-15HLUB-R-C5**
		GXL-15HLUIB	**GXL-15HLUIB-R**	**GXL-15HLUIB-C5**	**GXL-15HLUIB-R-C5**

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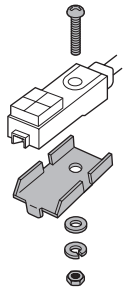
Accessories

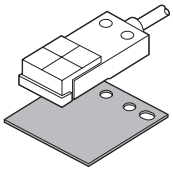
- **MS-GXL8-4** (Sensor mounting bracket for **GXL-8FU**, **GXL-8HU** type)
- **MS-A15F** (Aluminum sheet for **GXL-15FLU** type)
- **MS-A15H** (Aluminum sheet for **GXL-15HLU** type)

• MS-GXL8-4



1 pc. each of M3 (length: 12 mm 0.472 in) truss head screw, nut, spring washer and plain washer is attached.

• MS-A15F
• MS-A15H

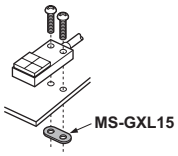


OPTIONS

Designation	Model No.	Description
Sensor mounting bracket	**MS-GXL15**	Mounting bracket for **GXL-15** type
	MS-GXL15-2	Mounting bracket for **GXL-15F** type

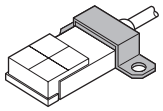
Sensor mounting bracket

• MS-GXL15



Screws are not supplied.

• MS-GXL15-2



Screws are not supplied.

SPECIFICATIONS

DC 2-wire type

Item \ Type		GXL-8 type		GXL-15 type			
		Standard		Standard		Long sensing range (For mounting on non-magnetic body) (Note 2)	
		Front sensing	Top sensing	Front sensing	Top sensing	Front sensing	Top sensing
Model No.		GXL-8FU	GXL-8HU	GXL-15FU	GXL-15HU	GXL-15FLU	GXL-15HLU
Max. operation distance (Note 3)		2.5 mm 0.098 in ±20 %		5 mm 0.197 in ±10 %		8 mm 0.315 in ±10 %	
Stable sensing range (Note 3)		0 to 1.8 mm 0 to 0.071 in		0 to 4 mm 0 to 0.157 in		0 to 6.4 mm 0 to 0.252 in	
Standard sensing object		Iron sheet 15 × 15 × t 1 mm 0.591 × 0.591 × t 0.039 in		Iron sheet 20 × 20 × t 1 mm 0.787 × 0.787 × t 0.039 in		Iron sheet 30 × 30 × t 1 mm 1.181 × 1.181 × t 0.039 in	
Hysteresis		20 % or less of operation distance (with standard sensing object)					
Repeatability		Along sensing axis, perpendicular to sensing axis: 0.04 mm 0.002 in or less					
Supply voltage		12 to 24 V DC ±10 % Ripple P-P 10 % or less					
Current consumption (Note 4)		0.8 mA or less					
Output		Non-contact DC 2-wire type • Load current: 3 to 70 mA (Note 5) • Residual voltage: 3 V or less (Note 6)		Non-contact DC 2-wire type • Load current: 3 to 100 mA (Note 5) • Residual voltage: 3 V or less (Note 6)			
	Utilization category	DC-12 or DC-13					
	Short-circuit protection	Incorporated					
Max. response frequency		1 kHz					
Operation indicator		Normally closed type: Red LED (lights up when the output is ON)					
2-color indicator		Normally open type: Lights up in green under stable sensing condition Lights up in red under unstable sensing condition					
Environmental resistance	Pollution degree	3 (Industrial environment)					
	Protection	IP67 (IEC), IP67 g (JEM)					
	Ambient temperature	–25 to +70 °C –13 to +158 °F, Storage: –30 to +80 °C –22 to +176 °F					
	Ambient humidity	45 to 85 % RH, Storage: 35 to 95 % RH					
	EMC	EN 60947-5-2					
	Voltage withstandability	1,000 V AC for one min. between all supply terminals connected together and enclosure					
	Insulation resistance	50 MΩ, or more, with 250 V DC megger between all supply terminals connected together and enclosure					
	Vibration resistance	10 to 55 Hz frequency, 1.5 mm 0.059 in amplitude in X, Y and Z directions for two hours each					
	Shock resistance	1,000 m/s² acceleration (100 G approx.) in X, Y and Z directions for three times each					
Sensing range variation	Temperature characteristics	Over ambient temperature range –25 to +70 °C –13 to +158 °F: Within $^{+15}_{-10}$ % of sensing range at +20 °C +68 °F					
	Voltage characteristics	Within ±2 % for ±10 % fluctuation of the supply voltage					
Material		Enclosure: PBT, Indicator part: Polyalylate			Enclosure: PET Indicator part: Polyalylate	Enclosure: PBT Indicator part: Polyalylate	Enclosure: PET Indicator part: Polyalylate
Cable (Note 7)		0.15 mm² 2-core oil, heat and cold resistant cable, 1 m 3.281 ft long		0.2 mm² 2-core oil, heat and cold resistant cable, 1 m 3.281 ft long			
Cable extension		Extension up to total 50 m 164.042 ft is possible with 0.3 mm², or more, cable.					
Weight		Net weight: 12 g approx.		Net weight: 20 g approx.			
Accessories		**MS-GXL8-4** (Sensor mounting bracket): 1 set		———		**MS-A15F** (Aluminum sheet): 1 pc.	**MS-A15H** (Aluminum sheet): 1 pc.

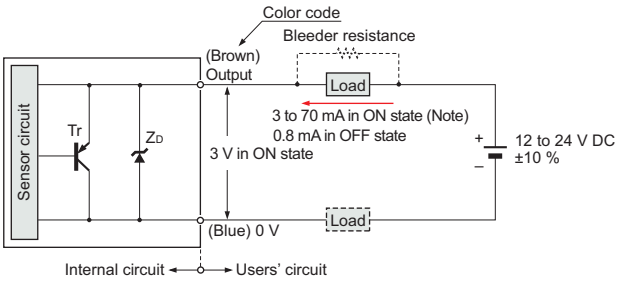
Notes: 1) Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +23 °C +73.4 °F.
2) To mount the long sensing range type on a magnetic body, such as iron, the enclosed aluminum sheet, or any other aluminum sheet having a minimum size of 30 × 39.5 × t 0.3 mm 1.181 × 1.555 × t 0.012 in (**GXL-15HLU** type: 30 × 30 × t 0.3 mm 1.181 × 1.181 × t 0.012 in), should be inserted between the sensor and the magnetic body.
However, it is not necessary to use the aluminum sheet when mounting on a non-magnetic body, such as, aluminum or an insulator.
3) The maximum operation distance stands for the maximum distance for which the sensor can detect the standard sensing object.
The stable sensing range stands for the sensing range for which the sensor can stably detect the standard sensing object even if there is an ambient temperature drift and/or supply voltage fluctuation.
4) It is the leakage current when the output is in the OFF state.
5) The maximum load current varies with the ambient temperature. Refer to "**I/O CIRCUIT AND WIRING DIAGRAMS**" for more details.
6) When the cable is extended, the residual voltage becomes larger according to the resistance of the cable.
The residual voltage of 5 m 16.404 ft cable length type increases by +0.1 V.
7) The flexible cable type (model No. with suffix "**-R**") has a 0.15 mm² (**GXL-15** type: 0.2 mm²) flexible, oil, heat and cold resistant cabtyre cable, 1 m 3.281 ft long.

I/O CIRCUIT AND WIRING DIAGRAMS

DC 2-wire type

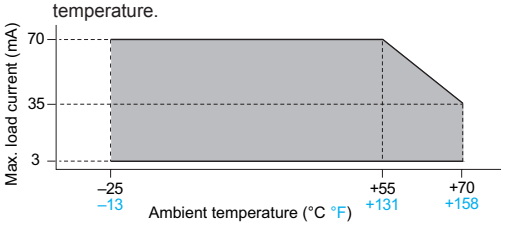
GXL-8 type

I/O circuit diagram

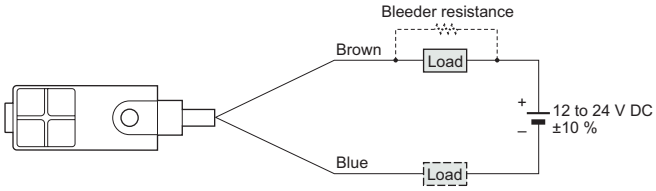


Symbols … ZD: Surge absorption zener diode
Tr: PNP output transistor

Note: The maximum load current varies depending on the ambient temperature.



Wiring diagram

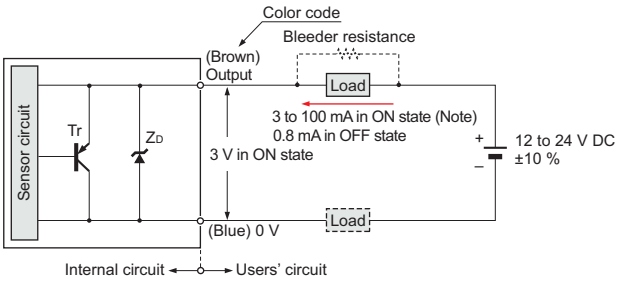


Conditions for the load

1) The load should not be actuated by the leakage current (0.8 mA) in the OFF state.
2) The load should be actuated by (supply voltage – 3 V) in the ON state.
3) The current in the ON state should be between 3 to 70 mA DC.
   [In case the current is less than 3 mA, connect a bleeder resistance in parallel to the load so that a current of 3 mA, or more, flows.]

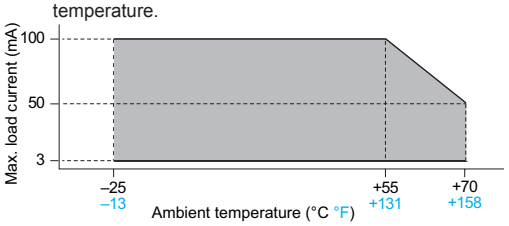
GXL-15 type

I/O circuit diagram

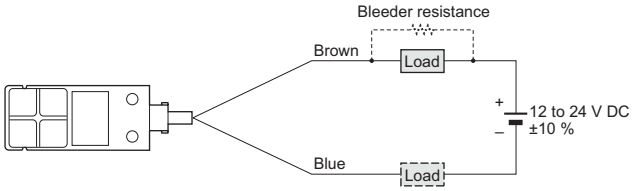


Symbols … ZD: Surge absorption zener diode
Tr: PNP output transistor

Note: The maximum load current varies depending on the ambient temperature.



Wiring diagram



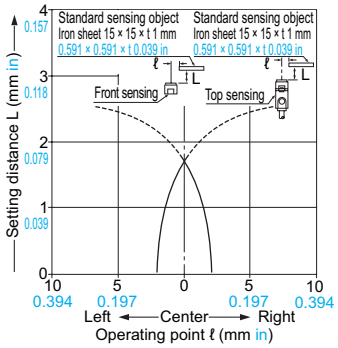
Conditions for the load

1) The load should not be actuated by the leakage current (0.8 mA) in the OFF state.
2) The load should be actuated by (supply voltage – 3 V) in the ON state.
3) The current in the ON state should be between 3 to 100 mA DC.
   [In case the current is less than 3 mA, connect a bleeder resistance in parallel to the load so that a current of 3 mA, or more, flows.]

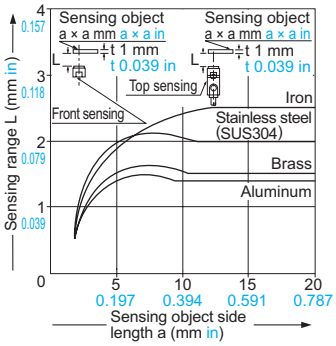
SENSING CHARACTERISTICS (TYPICAL)

GXL-8 type

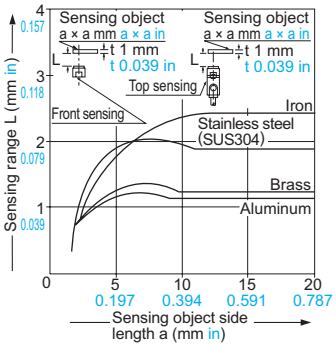
Sensing field (common)



Correlation between sensing object size and sensing range (DC 2-wire type)



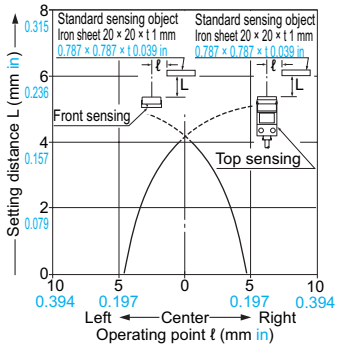
Correlation between sensing object size and sensing range (NPN output type)



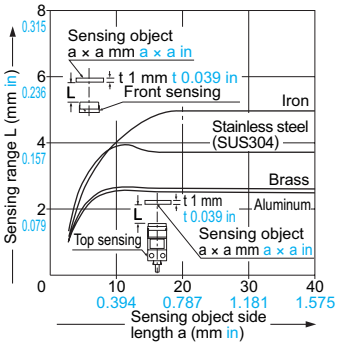
As the sensing object size becomes smaller than the standard size (iron sheet 15 × 15 × t 1 mm 0.591 × 0.591 × t 0.039 in), the sensing range shortens as shown in the left figures.

GXL-15 (Standard) type

Sensing field



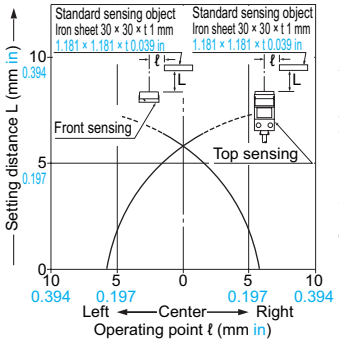
Correlation between sensing object size and sensing range



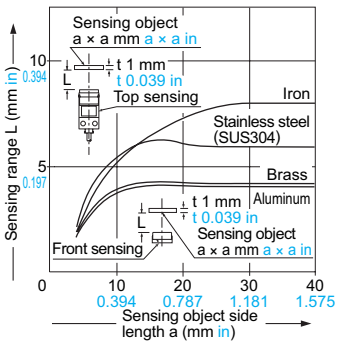
As the sensing object size becomes smaller than the standard size (iron sheet 20 × 20 × t 1 mm 0.787 × 0.787 × t 0.039 in), the sensing range shortens as shown in the left figure.

GXL-15 (Long sensing range) type

Sensing field



Correlation between sensing object size and sensing range



As the sensing object size becomes smaller than the standard size (iron sheet 30 × 30 × t 1 mm 1.181 × 1.181 × t 0.039 in), the sensing range shortens as shown in the left figure.

PRECAUTIONS FOR PROPER USE

Refer to General precautions.

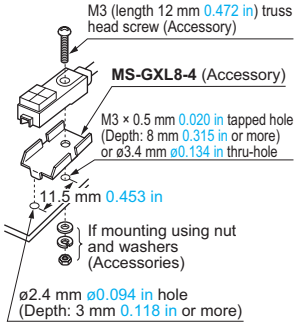
- Never use this product as a sensing device for personnel protection.
- In case of using sensing devices for personnel protection, use products which meet laws and standards, such as OSHA, ANSI or IEC etc., for personnel protection applicable in each region or country.

Mounting

GXL-8 type

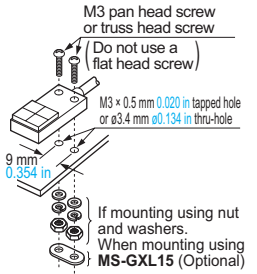
- The tightening torque should be 0.5 N·m or less.
- To mount the sensor with a nut, the thru-hole diameter should be ø3.4 mm ø0.134 in. With the attached mounting screw and nut, take care that the thickness of the mounting plate should be 2.3 mm 0.091 in or less.
- If a screw other than the attached screw is used, make sure to use a M3 truss head screw.

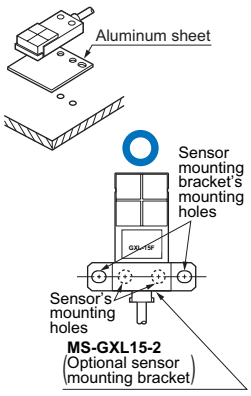
(Do not use a flat head screw or a pan head screw.)



GXL-15 type

- The tightening torque should be 1 N·m or less.
- To mount the sensor with the optional sensor mounting bracket **MS-GXL15**, the thru-hole diameter should be ø3.4 mm ø0.134 in.
- Screw, nut or washers are not supplied. Please arrange them separately.
- To mount the long sensing range type on a magnetic body, such as iron, the enclosed aluminum sheet, or any other aluminum sheet having a minimum size of 30 × 39.5 × t 0.3 mm 1.181 × 1.555 × t 0.012 in (**GXL-15HLU** type: 30 × 30 × t 0.3 mm 1.181 × 1.181 × t 0.012 in), should be inserted between the sensor and the magnetic body. However, it is not necessary to use the aluminum sheet when mounting on a non-magnetic body, such as, aluminum or an insulator.
- When mounting the inductive proximity sensor with the optional sensor mounting bracket **MS-GXL15-2**, if the bracket is mounted close to the sensing part, the bracket itself gets sensed and the operation becomes unstable. Make sure to mount such that the mounting holes of the sensor and those of the mounting bracket are in one horizontal straight line.





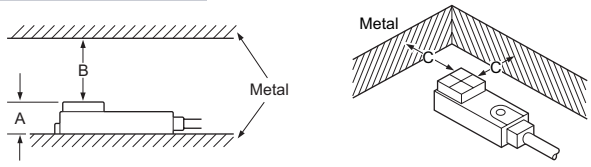
PRECAUTIONS FOR PROPER USE

Refer to General precautions.

Influence of surrounding metal

• When there is a metal near the sensor, keep the minimum separation distance specified below.

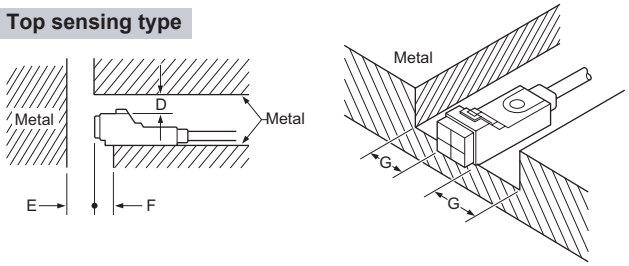
Front sensing type



	GXL-8F type	GXL-15FU type	GXL-15FLU type
A	7 mm 0.276 in	8 mm 0.315 in	8 mm 0.315 in (Note)
B	8 mm 0.315 in	20 mm 0.787 in	30 mm 1.181 in
C	3 mm 0.118 in	7 mm 0.276 in	10 mm 0.394 in

Note: The **GXL-15FLU** type should be mounted on an insulator or a non-magnetic body. To mount it on a magnetic body, such as iron, use the enclosed aluminum sheet.

Top sensing type



	GXL-8H type	GXL-15HU type	GXL-15HLU type
D	4 mm 0.157 in	6 mm 0.236 in	12 mm 0.472 in
E	10 mm 0.394 in	20 mm 0.787 in	30 mm 1.181 in
F	3 mm 0.118 in	0 mm 0 in	10 mm 0.394 in (Note)
G	3 mm 0.118 in	3 mm 0.118 in	10 mm 0.394 in

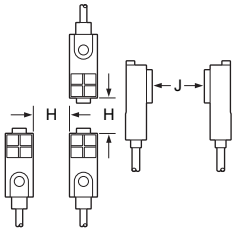
Note: When **GXL-15HLU** type is mounted on an insulator or a non-magnetic body, or seated on the enclosed aluminum sheet, the distance "F" can be zero.

Mutual interference prevention

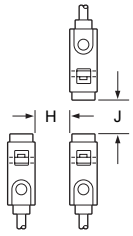
• When two or more sensors are installed in parallel or face to face, keep the minimum separation distance specified below to avoid mutual interference.

		H	J
GXL-8 type	Between "**I**" type and non "**I**" type	0 mm (Note 2)	15 mm 0.591 in
	Between two "**I**" types or two non "**I**" types	18 mm 0.709 in	30 mm 1.181 in
GXL-15FU GXL-15HU type	Between "**I**" type and non "**I**" type	0 mm (Note 2)	25 mm 0.984 in
	Between two "**I**" types or two non "**I**" types	30 mm 1.181 in	60 mm 2.362 in
GXL-15FLU GXL-15HLU type	Between "**I**" type and non "**I**" type	0 mm (Note 2)	25 mm 0.984 in
	Between two "**I**" types or two non "**I**" types	75 mm 2.953 in	90 mm 3.543 in

Front sensing



Top sensing



Notes: 1) "**I**" in the model No. specifies the different frequency type.
2) Close mounting is possible for up to two sensors.
When mounting three sensors or more at an equal spacing, align the model with "**I**" and the model without "**I**" alternately.
The minimum value of dimension "H" should be as given below.
GXL-8 type: 5 mm 0.1975 in,
GXL-15FU/15HU type: 7.5 mm 0.295 in,
GXL-15FLU/15HLU type: 30 mm 1.181 in

Sensing range

• The sensing range is specified for the standard sensing object. With a non-ferrous metal, the sensing range is obtained by multiplying with the correction coefficient specified below. Further, the sensing range also changes if the sensing object is smaller than the standard sensing object or if the sensing object is plated.

Correction coefficient

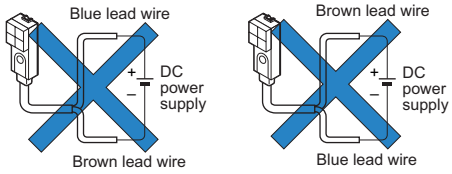
Model No. / Metal	GXL-8 type	GXL-15FU type	GXL-15HU GXL-15FLU GXL-15HLU type
Iron	1	1	1
Stainless steel (SUS304)	0.82 approx.	0.74 approx.	0.75 approx.
Brass	0.59 approx.	0.53 approx.	0.53 approx.
Aluminum	0.57 approx.	0.52 approx.	0.51 approx.

Others

• Do not use during the initial transient time (50 ms) after the power supply is switched on.

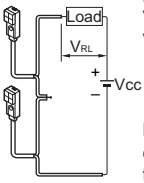
Wiring

• The sensor must be connected to a power supply via a load. If the sensor is connected to a power supply without a load, the short-circuit protection makes the sensor inoperable. (The output stays in the OFF state and the indicator does not light up.) In this case, rectify by connecting the power supply via a load. Now, the sensor becomes operable. Further, take care that if the power supply is connected with reverse polarity without a load, the sensor will get damaged.



• For series connection (AND circuit) or parallel connection (OR circuit) of sensors, take care of the following.

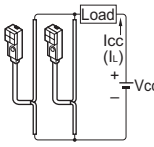
Series connection (AND circuit)



When all sensors are in the ON state, the load voltage V_{RL} is given by:
$V_{RL} = Vcc - n \times 3$ (V)
(Vcc: supply voltage (24 V DC max.), n: number of sensors)
Make sure that the load can work properly at this voltage.

Note: The output is generated normally even if the indicator does not light up properly.

Parallel connection (OR circuit)

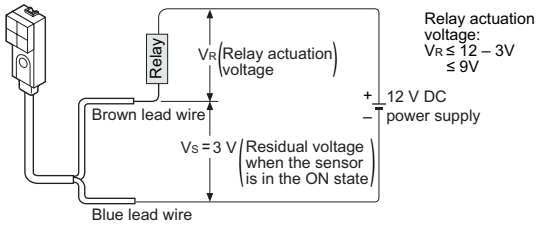


When all sensors are in the OFF state, the load leakage current Icc is given by:
Icc = n × 0.8 (mA)
(n : number of sensors)
Make sure that the load can work properly.
Note : The load current in the ON state is given by :

$$I_L = \frac{Vcc - 3\ V}{\text{Load resistance}}\ (mA)$$

GXL-8 type :
3 mA × n ≤ I_L ≤ 70 mA
(n: number of sensors turned ON)
GXL-15 type :
3 mA × n ≤ I_L ≤ 100 mA
(n: number of sensors turned ON)

• The residual voltage of the sensor is 3 V. Before connecting a relay at the load, take care of its actuation voltage. (Some 12 V relays may not be usable.)



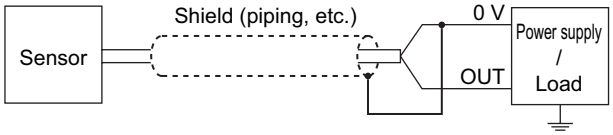
PRECAUTIONS FOR PROPER USE

Refer to General precautions.

Use conditions to comply with CE Marking

- Following work must be done in case of using this product as a CE Marking (European standard EMC Directive)conforming product.

Ensure that the shield is connected to 0 V.



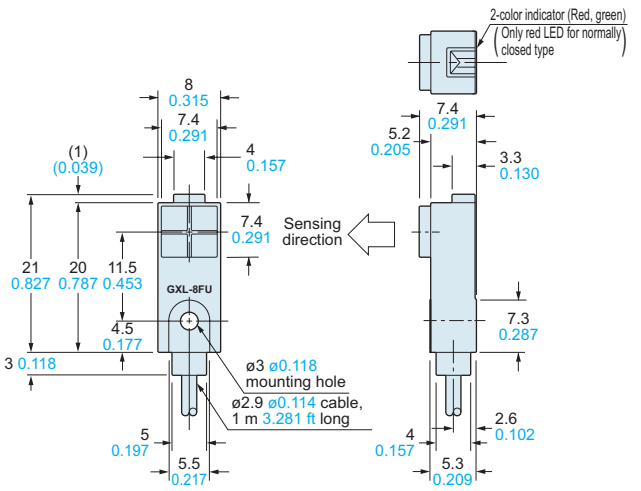
Note: The shield (piping, etc.) must be insulated.

DIMENSIONS (Unit: mm in)

The CAD data in the dimensions can be downloaded from our website.

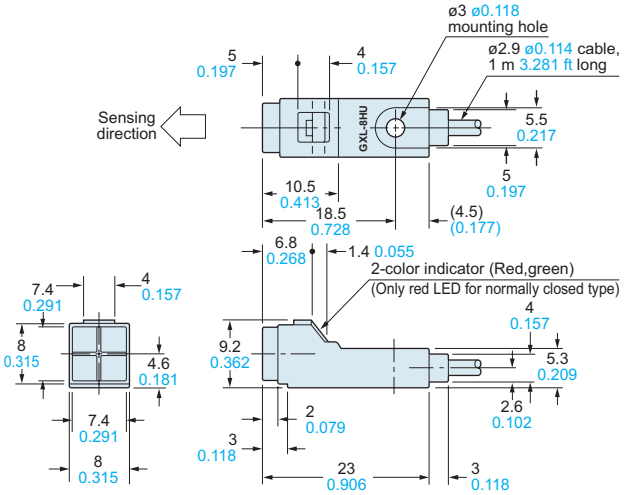
GXL-8FU type

Sensor



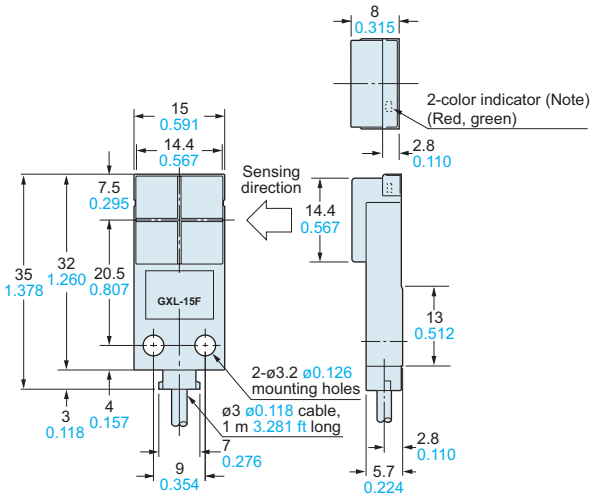
GXL-8HU type

Sensor



GXL-15F type

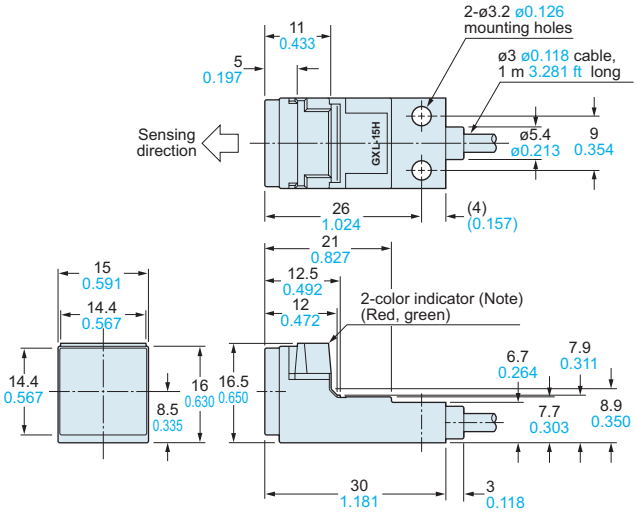
Sensor



Note: Normally closed type have an operation indicator (red) instead of the 2-color indicator.

GXL-15H type

Sensor



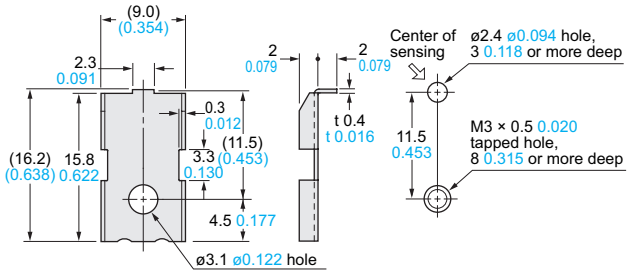
Note: Normally closed type have an operation indicator (red) instead of the 2-color indicator.

DIMENSIONS (Unit: mm in)

The CAD data in the dimensions can be downloaded from our website.

MS-GXL8-4 Sensor mounting bracket for GXL-8FU / GXL-8HU type (Accessory)

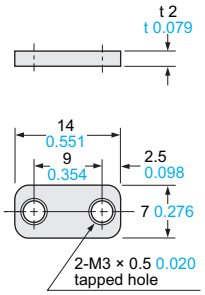
Mounting hole dimensions



Material: Stainless steel (SUS304)

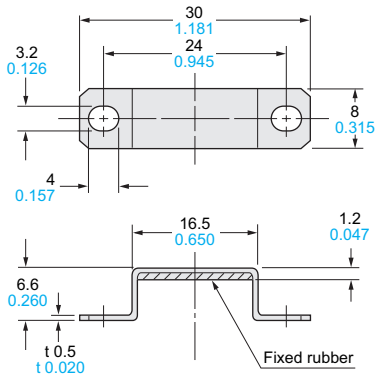
1 pc. each of M3 (length 12 mm 0.472 in) truss head screw, nut, spring washer and plain washer is attached.

MS-GXL15 Sensor mounting bracket for GXL-15 type (Optional)



Material: Cold rolled carbon steel (SPCC)

MS-GXL15-2 Sensor mounting bracket for GXL-15F type (Optional)



Material: Bracket ... Stainless steel (SUS304)
Fixed rubber ... FKM (Fluorine rubber)

MS-A15F MS-A15H Aluminum sheet

(Accessory for **GXL-15FLU / GXL-15HLU** type)