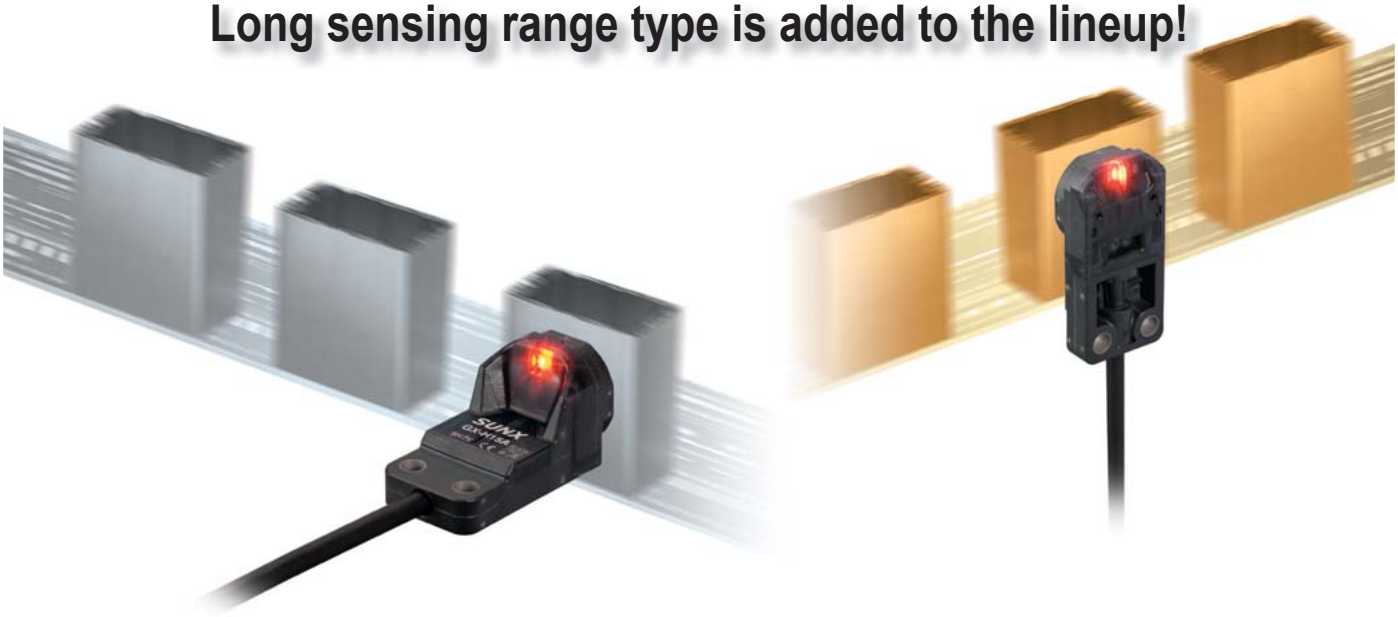
SUNX

Amplifier Built-in
NEW **RECTANGULAR INDUCTIVE PROXIMITY SENSOR**

GX-F15/H15 SERIES

CE Conforming to EMC Directive | Ro RoHS compatible

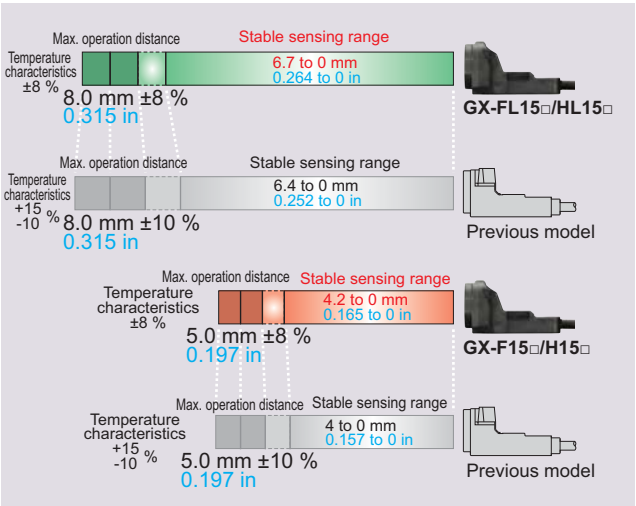
Long sensing range type is added to the lineup!



Stable detection by superior basic performance!

Variation at the max. operation distance is within ±8 % | Temperature characteristics vary within ±8 %

Having little individual variability in the sensors along with excellent temperature characteristics, stable detection can be obtained.



Strong against vibration or shock!

With the new integrated construction method, the sensors was able to clear endurance tests of shock resistance of 10,000 m/s^2 acceleration (1,000 G approx. in X, Y and Z directions for three times each), and vibration resistance of 10 to 500 Hz frequency [3 mm 0.118 in (20 G max.) amplitude in X, Y and Z directions for two hours each].

Close mounting of two sensors

Different frequency type is available so that two sensors can be mounted closely together.

Highly resistant to water and oil! IP68g protection structure

The new integrated construction method used improves environmental resistance performance. Sensors can be used even in places where water or oil presents.

Operation indicator of high visibility

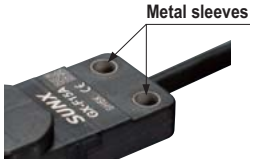
An easy-to-see operation indicator (orange) that has a prism with a wide field of view is incorporated.

GX-F(L)15□(-P)

GX-H(L)15□(-P)

Mounting holes with metal sleeves for secure tightening

The mounting holes have metal sleeves inserted to prevent damage to the sensor due to over tightening.



Tightening torque: 1 N·m

SPECIFICATIONS

Item \ Type	NPN output				PNP output			
			Long sensing range				Long sensing range	
Model No. (Note 2) Front sensing	GX-F15A(I)	GX-F15B(I)	GX-FL15A(I)	GX-FL15B(I)	GX-F15A(I)-P	GX-F15B(I)-P	GX-FL15A(I)-P	GX-FL15B(I)-P
Top sensing	GX-H15A(I)	GX-H15B(I)	GX-HL15A(I)	GX-HL15B(I)	GX-H15A(I)-P	GX-H15B(I)-P	GX-HL15A(I)-P	GX-HL15B(I)-P
Max. operation distance (Note 3)	5.0 mm 0.197 in ±8 %		8.0 mm 0.315 in ±8 % (Note 4)		5.0 mm 0.197 in ±8 %		8.0 mm 0.315 in ±8 % (Note 4)	
Stable sensing range (Note 3)	0 to 4.2 mm 0 to 0.165 in		0 to 6.7 mm 0 to 0.264 in (Note 4)		0 to 4.2 mm 0 to 0.165 in		0 to 6.7 mm 0 to 0.264 in (Note 4)	
Standard sensing object	Iron sheet 20 × 20 × t 1 mm 0.7874 × 0.7874 × t 0.039 in		Iron sheet 30 × 30 × t 1 mm 1.181 × 1.181 × t 0.039 in		Iron sheet 20 × 20 × t 1 mm 0.7874 × 0.7874 × 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 0.0016 in or less							
Supply voltage	12 to 24 V DC $^{+10}_{-15}$ % Ripple P-P 10 % or less							
Current consumption	15 mA or less							
Output	NPN open-collector transistor • Maximum sink current: 100 mA • Applied voltage: 30 V DC or less (between output and 0 V) • Residual voltage: 2 V or less (at 100 mA sink current)				PNP open-collector transistor • Maximum source current: 100 mA • Applied voltage: 30 V DC or less (between output and +V) • Residual voltage: 2 V or less (at 100 mA source current)			
Output operation	Normally open	Normally closed	Normally open	Normally closed	Normally open	Normally closed	Normally open	Normally closed
Max. response frequency	250 Hz		150 Hz (Note 5)		250 Hz		150 Hz (Note 5)	
Operation indicator	Orange LED (lights up when the output is ON)							
Protection	IP68 (IEC), IP68g (JEM) (Note 6, 7)							
Ambient temperature	-25 to +70 °C -13 to +158 °F, Storage: -40 to +85 °C -40 to +185 °F							
Ambient humidity	45 to 85 % RH, Storage: 35 to 95 % RH							
Sensing range variation: Temperature characteristics	Over ambient temperature range −25 to +70 °C -13 to +158 °F: Within ±8 % of sensing range at +23 °C +73.4 °F.							
Sensing range variation: Voltage characteristics	Within ±2 % for $^{+10}_{-15}$ % fluctuation of the supply voltage							
Material	Enclosure: PBT, Indicator part: Polyester							
Cable	0.15 mm² 3-core oil, heat and cold resistant cabtyre cable, 1 m 3.281 ft long							
Net weight	20 g approx.							

Notes: 1) Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +23 °C +73.4 °F.
2) "I" in the model No. indicates a different frequency type.
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) This is when mounted onto an insulant plate. When mounted onto a steel or stainless steel plate, insert the optional aluminum sheet between the sensor and the plate.
5) This is when mounted onto an insulant plate. When mounted onto a metallic plate, max. response frequency will decrease.
6) SUNX's IP68 test method
①Immerse at 0 m below 0 °C +32 °F water surface and leave for 30 min. Then, immerse at 0 m below +70 °C +158 °F water surface and leave for 30 min.
②Regard the heat shock test in ① as one cycle and perform 20 cycles.
③Leave in water at a depth of 1 m 3.281 ft in water for 500 hours.
④After tests ① to ③, insulation resistance, voltage withstandability, current consumption, and sensing range must meet the standard values.
7) If using the sensor in an environment where cutting oil droplets splatter, the sensor may be deteriorated due to added substances in the oil.

Cable length 5 m 16.404 ft type, flexible cable type

Cable length 5 m 16.404 ft type (standard is 1 m 3.281 ft) and flexible cable (excluding cable length 5 m type) are available. However, long sensing range type is not available.
When ordering cable length 5 m 16.404 ft type, suffix "**-C5**" to the model No.
When ordering flexible cable type, suffix "**-R**" to the model No.
(e.g.) 0.5m 1.640 ft cable length type of **GX-F15AI-P** is "**GX-F15AI-P-C5**".
Flexible cable type of **GX-F15AI-P** is "**GX-F15AI-P-R**".

OPTIONS

Sensor mounting bracket

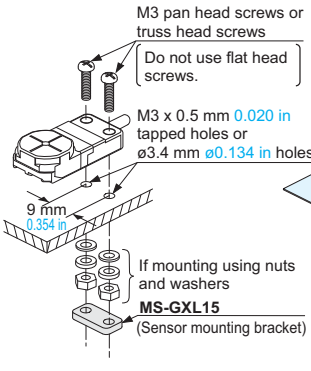
- **MS-GXL15**

Nut is not attached.

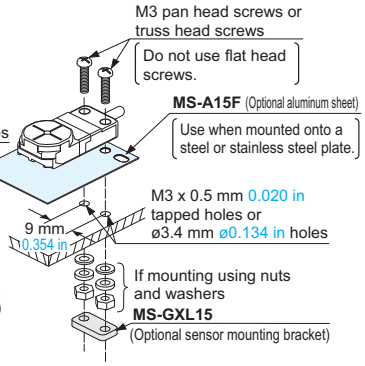
Aluminum sheet

- **MS-A15F [For GX-FL15□(-P)]**
- **MS-A15H [For GX-HL15□(-P)]**

Mounting

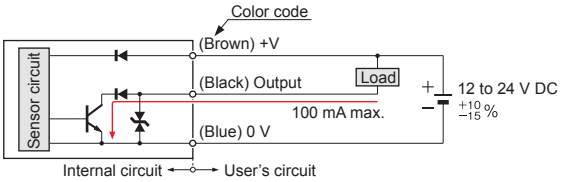


Mounting example when mounted onto a steel or stainless steel plate

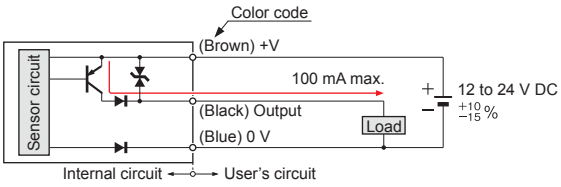


I/O CIRCUIT DIAGRAM

GX-F(L)15□ GX-H(L)15□ NPN output type

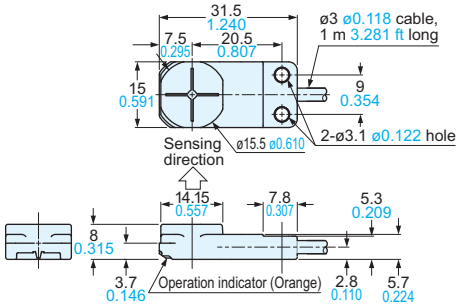


GX-F(L)15□-P GX-H(L)15□-P PNP output type

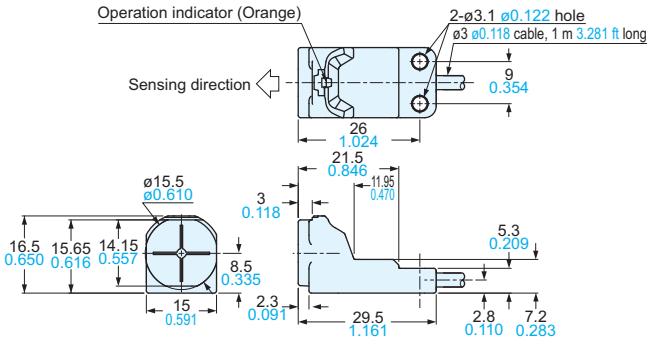


DIMENSIONS (Unit: mm in)

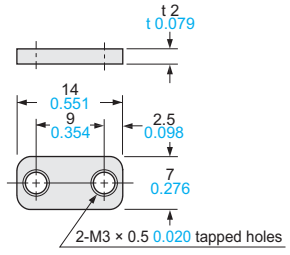
GX-F(L)15□(-P) Sensor



GX-H(L)15□(-P) Sensor

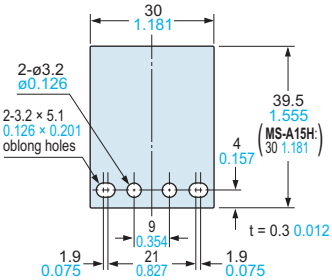


MS-GXL15 Sensor mounting bracket (Optional)



Material: SPCC

MS-A15F MS-A15H Aluminum sheet (Optional)



All information is subject to change without prior notice.

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