SUNX

Amplifier Built-in

NEW RECTANGULAR INDUCTIVE PROXIMITY SENSOR

GX-F6/H6 SERIES

CE Conforming to EMC Directive

Ro RoHS compatible

Rectangular inductive proximity sensors come in even smaller bodies!

Introducing the even smaller □6 mm □0.236in type following □8 mm □0.315 in and □12 mm □0.472 in types

□6 mm □0.236 in super compact type is added to the high-precision inductive proximity sensor **GX-F/H** series.

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].

Easy sensor installation

The new type of mounting bracket [**MS-GX6-1** (optional)] makes mounting of the sensor easy with just one M3 screw. Also, close mounting is possible which contributes to space-saving.

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.

SPECIFICATIONS

Item \ Type		NPN output		PNP output	
Model No. (Note 2)	Front sensing	GX-F6A(I)	GX-F6B(I)	GX-F6A(I)-P	GX-F6B(I)-P
	Top sensing	GX-H6A(I)	GX-H6B(I)	GX-H6A(I)-P	GX-H6B(I)-P
Max. operation distance (Note 3)		1.6 mm 0.063 in ±8 %			
Stable sensing range (Note 3)		0 to 1.3 mm 0 to 0.051 in			
Standard sensing object		Iron sheet 12 × 12 × t 1 mm 0.472 × 0.472 × 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: 1 V or less (at 100 mA sink current) 0.4 V or less (at 16 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: 1 V or less (at 100 mA source current) 0.4 V or less (at 16 mA source current)	
Output operation		Normally open	Normally closed	Normally open	Normally closed
Max. response frequency		400 Hz			
Operation indicator		Orange LED (lights up when the output is ON)			
Protection		IP68 (IEC), IP68g (JEM) (Note 4, 5)			
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.			
	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		15 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.
T□
there is an ambient temperature drift and/or supply voltage fluctuation.
4) 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.
5) If using the sensor in an environment where cutting oil droplets splatter, the sensor may be deteriorated due to added substances in the oil.

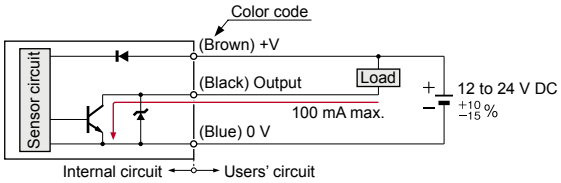
OPTIONS

Designation	Model No.	Description
Sensor mounting bracket	MS-GX6-1	Recommended sensor mounting bracket. Sensors can be mounted closely together for space-saving.
	MS-GL6-1	Sensor mounting brackets for **GL-6** can be used. Interchange is possible.
	MS-GL6-2	

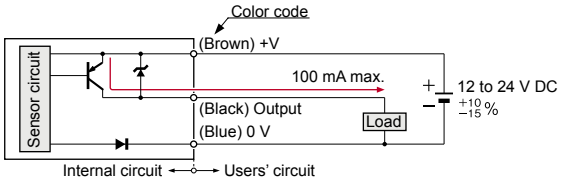
• MS-GX6-1 
• MS-GL6-1 
• MS-GL6-2 

I/O CIRCUIT DIAGRAM

GX-F6□ GX-H6□ — NPN output type



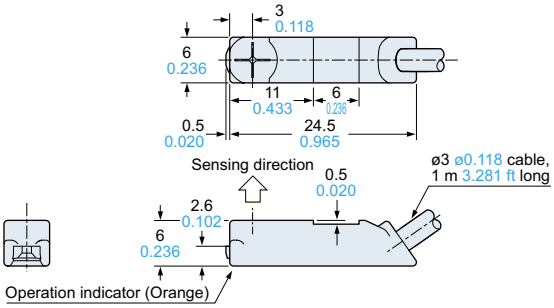
GX-F6□-P GX-H6□-P — PNP output type



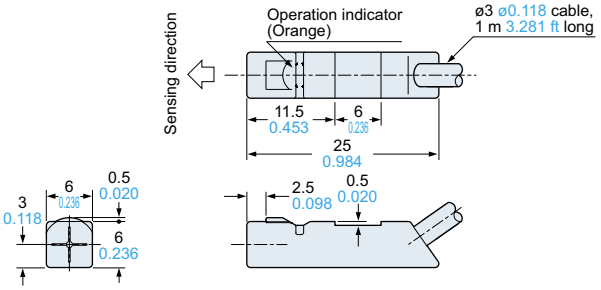
DIMENSIONS (Unit: mm in)

The CAD data in the dimensions can be downloaded from the SUNX website: http://www.sunx.com

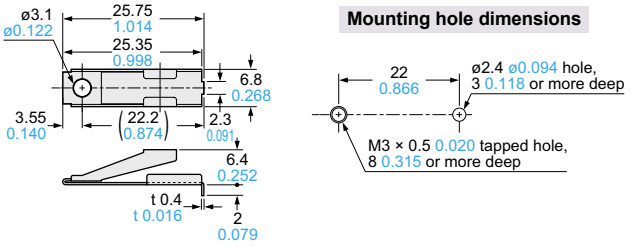
GX-F6□ Sensor



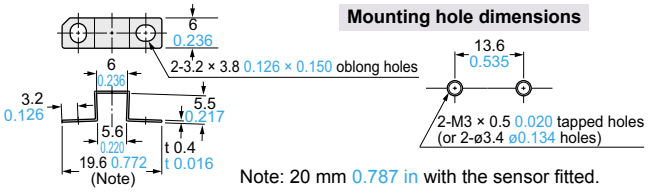
GX-H6□ Sensor



MS-GX6-1 Sensor mounting bracket (Optional)

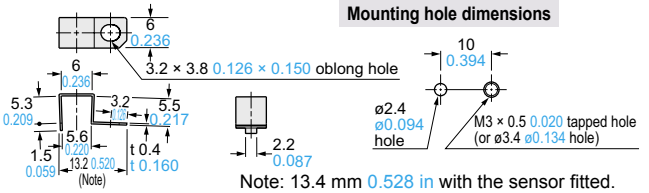


MS-GL6-1 Sensor mounting bracket (Optional)



Note: 20 mm 0.787 in with the sensor fitted.

MS-GL6-2 Sensor mounting bracket (Optional)



Note: 13.4 mm 0.528 in with the sensor fitted.

All information is subject to change without prior notice.

SUNX Sensing the Future

http://www.sunx.com

SUNX Limited
2431-1 Ushiyama-cho, Kasugai-shi, Aichi,
486-0901, Japan
Phone: +81-568-33-7211
FAX: +81-568-33-2631

Overseas Sales Division
Phone: +81-568-33-7861
FAX: +81-568-33-8591

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