

SPECIFICATIONS

Non-threaded type

Item	Type Model No.	Shielded type											
		Flexible cable				Flexible cable				Flexible cable			
		GX-3S	GX-3SB	GX-3S-R	GX-3SB-R	GX-4S	GX-4SB	GX-4S-R	GX-4SB-R	GX-5S	GX-5SB	GX-5S-R	GX-5SB-R
Max. operation distance (Note 1)		0.8 mm 0.031 in ± 15 %								1 mm 0.039 in ± 15 %			
Stable sensing range (Note 1)		0 to 0.6 mm 0 to 0.024 in								0 to 0.8 mm 0 to 0.031 in			
Standard sensing object		Iron sheet 5 × 5 × t 1 mm 0.197 × 0.197 × t 0.039 in								Iron sheet 6 × 6 × t 1 mm 0.236 × 0.236 × t 0.039 in			
Hysteresis		15 % or less of operation distance											
Repeatability		20 μm 0.787 mil or less								8 μm 0.315 mil or less			
Supply voltage		12 to 24 V DC ± 10 % Ripple P-P 10 % or less								10 to 30 V DC Ripple P-P 10 % or less			
Current consumption		15 mA or less											
Output		NPN open-collector transistor • Maximum sink current: 50 mA • Applied voltage: 30 V DC or less (between output and 0 V) • Residual voltage: 0.4 V or less (at 50 mA sink current)								NPN open-collector transistor • Maximum sink current: 200 mA (Note 2) • Applied voltage: 30 V DC or less (between output and 0 V) • Residual voltage: 1.5 V or less (at 200 mA sink current) 0.4 V or less (at 50 mA sink current)			
	Utilization category	DC-12 or DC-13											
	Output operation	Normally open	Normally closed	Normally open	Normally closed	Normally open	Normally closed	Normally open	Normally closed	Normally open	Normally closed	Normally open	Normally closed
Short-circuit protection		Incorporated								Incorporated			
Max. response frequency		1 kHz								1.5 kHz			
Operation indicator		Red LED (lights up when the output is ON)											
Environmental resistance	Pollution degree	3 (Industrial environment)											
	Protection	IP67 (IEC)											
	Ambient temperature	− 25 to + 70 °C − 13 to + 158 °F, Storage: − 25 to + 80 °C − 13 to + 176 °F											
	Ambient humidity	35 to 95 % RH, Storage: 35 to 95 % RH								35 to 85 % RH, Storage: 35 to 95 % RH			
	EMC	EN 50081-2, EN 50082-2, EN 60947-5-2											
	Voltage withstandability	500 V AC for one min. between all supply terminals connected together and enclosure											
	Insulation resistance	5 MΩ, or more, with 250 V DC megger between all supply terminals connected together and enclosure								50 MΩ, or more, with 500 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											
Sensing range variation	Temperature characteristics	Over ambient temperature range − 25 to + 70 °C − 13 to + 158 °F: Within ± 20 % of sensing range at + 20 °C + 68 °F								Over ambient temperature range − 25 to + 70 °C − 13 to + 158 °F: Within ± 15 % of sensing range at + 20 °C + 68 °F			
	Voltage characteristics	Within ± 2 % for ± 10 % fluctuation of the supply voltage								Within ± 2.5 % for ± 15 % fluctuation of the supply voltage			
Material		Enclosure: Stainless steel (SUS304), Resin part: TPX								Enclosure: Brass (Nickel plated) Resin part: ABS			
Cable		0.08 mm ² 3-core oil, heat and cold resistant cabtyre cable, 3 m 9.843 ft long	0.1 mm ² 3-core flexible, oil and heat resistant cabtyre cable, 3 m 9.843 ft long	0.08 mm ² 3-core oil, heat and cold resistant cabtyre cable, 3 m 9.843 ft long	0.1 mm ² 3-core flexible, oil and heat resistant cabtyre cable, 3 m 9.843 ft long	0.14 mm ² 3-core oil, heat and cold resistant cabtyre cable, 3 m 9.843 ft long	0.15 mm ² 3-core flexible, oil and heat resistant cabtyre cable, 3 m 9.843 ft long						
Cable extension		Extension up to total 100 m 328.084 ft is possible with 0.3 mm ² , or more, cable.											
Weight		30 g approx.								55 g approx.			
Accessories		MS-SS3 (Sensor mounting bracket): 1 pc. MS-SS3-2 (C bracket): 1 pc.								MS-SS5 (Sensor mounting bracket): 1 pc.			

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) The maximum sink current varies depending on the ambient temperature. Refer to 'I/O CIRCUIT AND WIRING DIAGRAMS' (p.749) for details.

SPECIFICATIONS

Threaded type

Item	Type Model No.	Shielded type								Non-shielded type	
		Flexible cable				Flexible cable				GX-8ML	GX-8MLB
		GX-5M	GX-5MB	GX-5M-R	GX-5MB-R	GX-8M	GX-8MB	GX-8M-R	GX-8MB-R		
Max. operation distance (Note 1)		0.8 mm 0.031 in ± 15 %				1 mm 0.039 in ± 15 %				2 mm 0.079 in ± 15 %	
Stable sensing range (Note 1)		0 to 0.6 mm 0 to 0.024 in				0 to 0.8 mm 0 to 0.031 in				0 to 1.6 mm 0 to 0.063 in	
Standard sensing object		Iron sheet 5 × 5 × t 1 mm 0.197 × 0.197 × t 0.039 in				Iron sheet 8 × 8 × t 1 mm 0.315 × 0.315 × t 0.039 in				Iron sheet 12 × 12 × t 1 mm 0.472 × 0.472 × t 0.039 in	
Hysteresis		15 % or less of operation distance				10 % or less of operation distance					
Repeatability		20 μm 0.787 mil or less				8 μm 0.315 mil or less				40 μm 1.575 mil or less	
Supply voltage		12 to 24 V DC ± 10 % Ripple P-P 10 % or less				10 to 30 V DC Ripple P-P 10 % or less					
Current consumption		15 mA or less									
Output		NPN open-collector transistor • Maximum sink current: 50 mA • Applied voltage: 30 V DC or less (between output and 0V) • Residual voltage: 0.4 V or less (at 50 mA sink current)				NPN open-collector transistor • Maximum sink current: 200 mA (Note 2) • Applied voltage: 30 V DC or less (between output and 0 V) • Residual voltage: 1.5 V or less (at 200 mA sink current) 0.4 V or less (at 50 mA sink current)					
	Utilization category	DC-12 or DC-13									
	Output operation	Normally open	Normally closed	Normally open	Normally closed	Normally open	Normally closed	Normally open	Normally closed	Normally open	Normally closed
	Short-circuit protection					Incorporated					
Max. response frequency		1 kHz								500 Hz	
Operation indicator		Red LED (lights up when the output is ON)									
Environmental resistance	Pollution degree	3 (Industrial environment)									
	Protection	IP67 (IEC)									
	Ambient temperature	− 25 to + 70 °C − 13 to + 158 °F, Storage: − 25 to + 80°C − 13 to + 176 °F									
	Ambient humidity	35 to 95 % RH, Storage: 35 to 95 % RH				35 to 85 % RH, Storage: 35 to 95 % RH					
	EMC	EN 50081-2, EN 50082-2, EN 60947-5-2									
	Voltage withstandability	500 V AC for one min. between all supply terminals connected together and enclosure									
	Insulation resistance	5 MΩ, or more, with 250 V DC megger between all supply terminals connected together and enclosure				50 MΩ, or more, with 500 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									
Sensing range variation	Temperature characteristics	Over ambient temperature range − 25 to + 70 °C − 13 to + 158 °F: Within ± 20 % of sensing range at + 20 °C + 68 °F				Over ambient temperature range − 25 to + 70 °C − 13 to + 158 °F: Within $\pm 15\%$ % of sensing range at + 20 °C + 68 °F					
	Voltage characteristics	Within ± 2 % for ± 10 % fluctuation of the supply voltage				Within ± 2.5 % for ± 15 % fluctuation of the supply voltage					
Material		Enclosure: Brass (Nickel plated) Resin part: TPX				Enclosure: Brass (Nickel plated) Resin part: ABS					
Cable		0.08 mm ² 3-core oil, heat and cold resistant cabtyre cable, 3 m 9.843 ft long	0.1 mm ² 3-core flexible, oil and heat resistant cabtyre cable, 3 m 9.843 ft long	0.14 mm ² 3-core oil, heat and cold resistant cabtyre cable, 3 m 9.843 ft long	0.15 mm ² 3-core flexible, oil and heat resistant cabtyre cable, 3 m 9.843 ft long	0.14 mm ² 3-core, oil, heat and cold resistant cabtyre cable, 3 m 9.843 ft long					
Cable extension		Extension up to total 100 m 328.084 ft is possible with 0.3 mm ² , or more, cable.								Extension up to total 100 m 328.084 ft is possible with 0.14 mm ² , or more, cable.	
Weight (Note 3)		30 g approx.				60 g approx.					
Accessories		Nut: 2 pcs. Toothed lock washer: 1 pc.	Nut: 2 pcs. Toothed lock washer: 2 pcs.	Nut: 2 pcs. Toothed lock washer: 1 pc.	Nut: 2 pcs. Toothed lock washer: 2 pcs.	Nut: 2 pcs. Toothed lock washer: 1 pc.	Nut: 2 pcs. Toothed lock washer: 2 pcs.	Nut: 2 pcs. Toothed lock washer: 1 pc.			

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) The maximum sink current varies depending on the ambient temperature. Refer to 'I/O CIRCUIT AND WIRING DIAGRAMS' (p.749) for details.
 3) The given weight of the threaded type includes the weight of two nuts and one toothed lock washer.