

SPECIFICATIONS

DC 3-wire type

Item	Model No.	Type	Shielded type				Non-shielded type		
		Normally open	GX-M8A □	GX-M12A □	GX-M18A □	GX-M30A □	GX-MK12A □	GX-MK18A □	GX-MK30A □
		Normally closed	GX-M8B □	GX-M12B □	GX-M18B □	GX-M30B □	GX-MK12B □	GX-MK18B □	GX-MK30B □
Max. operation distance (Note 2,3)			1.5 mm 0.06 in ±10 %	2 mm 0.08 in ±10 %	5 mm 0.20 in ±10 %	10 mm 0.39 in ±10 %	7 mm 0.28 in ±10 %	12 mm 0.47 in ±10 %	22 mm 0.87 in ±10 %
Stable sensing range (Note 2,3)			0 to 1.2 mm 0 to 0.05 in	0 to 1.6 mm 0 to 0.06 in	0 to 4 mm 0 to 0.16 in	0 to 8 mm 0 to 0.32 in	0 to 5.6 mm 0 to 0.22 in	0 to 9.6 mm 0 to 0.38 in	0 to 17.6 mm 0 to 0.69 in
Standard sensing object			Iron sheet 8 × 8 × t1 mm 0.32 × 0.32 × t0.04 in	Iron sheet 12 × 12 × t1 mm 0.47 × 0.47 × t0.04 in	Iron sheet 18 × 18 × t1 mm 0.71 × 0.71 × t0.04 in	Iron sheet 30 × 30 × t1 mm 1.18 × 1.18 × t0.04 in	Iron sheet 24 × 24 × t1 mm 0.94 × 0.94 × t0.04 in	Iron sheet 24 × 24 × t1 mm 0.94 × 0.94 × t0.04 in	Iron sheet 45 × 45 × t1 mm 1.77 × 1.77 × t0.04 in
Hysteresis (Note 2)			15 % or less of operation distance (with standard sensing object)						
Repeatability (Note 2)			Along sensing axis: 5 % or less of operation distance						
Supply voltage			12 to 24 V DC ±10 % Ripple P-P 10 % or less						
Current consumption (Note 4)			10 mA or less						
Output			<NPN output type> NPN open-collector transistor • Maximum sink current 200 mA • Applied voltage: 24 V DC or less (between output and 0 V) • Residual voltage 2 V or less				<PNP output type> PNP open-collector transistor • Maximum source current 200 mA • Applied voltage: 24 V DC or less (between output and + V) • Residual voltage 2 V or less		
	Utilization category		DC-12 or DC-13						
Short-circuit protection			Incorporated						
Max. response frequency			5 kHz	5 kHz	2 kHz	1 kHz	2.5 kHz	1 kHz	0.5 kHz
Operation indicator			Yellow LED (lights up when the output is ON)						
Environmental resistance	Pollution degree		3 (industrial environment)						
	Protection		IP67 (IEC)	IP69K (DIN), IP68 (IEC) (2 m cable length type only), IP67 (IEC) (M12 plug-in connector type only)					
	Ambient temperature		-25 to +70 °C -13 to +158 °F , Storage: -40 to +85 °C -40 to +185 °F						
	Ambient humidity		50 % RH or less (at +70 °C +158 °F)						
	EMC		EN 60947-5-2						
	Voltage withstandability		500 V AC for one min. between all supply terminals connected together and enclosure						
	Vibration resistance		10 to 55 Hz frequency, 0.5 mm 0.02 in amplitude in X, Y and Z directions for 1.5 hours each						
Shock resistance		294 m/s ² acceleration (30 G approx.) in X, Y and Z directions for three times each							
Sensing range variation (Note 2)			Within ±10 % fluctuation of sensing range at +23 °C +73 °F and rated voltage in the range of allowable temperature and supply voltage						
Material			Enclosure: Brass (Nickel plated), Sensing part: PPS						
Cable (except for M12 plug-in connector type)			0.44 mm ² (0.15 mm ² for GX-M8 □) 3-core cabtyre cable, 2 m 6.56 ft long						
Cable extension			Extension up to total 10 m 32.80 ft is possible with 0.34 mm ² , or more, cable.						
Net weight (Note 5)	2 m cable length type		40 g approx.	70 g approx.	90 g approx.	150 g approx.	75 g approx.	100 g approx.	180 g approx.
	M12 plug-in connector type		15 g approx.	20 g approx.	45 g approx.	110 g approx.	25 g approx.	55 g approx.	140 g approx.
Accessories			Nut: 2 pcs.						

- Notes: 1) Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +23 °C **+73.4 °F**.
 2) It is the value in state where the circumference of a detection side has a metal object.
 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 weight includes the weight of two nuts.

FIBER SENSORS

LASER SENSORS

PHOTO-ELECTRIC SENSORS
MICRO PHOTO-ELECTRIC SENSORS

AREA SENSORS

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SENSOR OPTIONS

SIMPLE WIRE-SAVING UNITS

WIRE-SAVING SYSTEMS

MEASUREMENT SENSORS

STATIC ELECTRICITY PREVENTION DEVICES

LASER MARKERS

PLC

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-M

GX-U/GX-FU/GX-N

GX

SPECIFICATIONS

DC 2-wire type

Item	Model No.	Type	Standard type				Long range type			
		Normally open	GX-M8A-U(-J)	GX-M12A-U(-Z)	GX-M18A-U(-Z)	GX-M30A-U(-Z)	GX-ML8A-U(-J)	GX-ML12A-U(-Z)	GX-ML18A-U(-Z)	GX-ML30A-U(-Z)
		Normally closed	GX-M8B-U(-J)	GX-M12B-U(-Z)	GX-M18B-U(-Z)	GX-M30B-U(-Z)	GX-ML8B-U(-J)	GX-ML12B-U(-Z)	GX-ML18B-U(-Z)	GX-ML30B-U(-Z)
Max. operation distance (Note 2,3)			1.5 mm 0.06 in ±10 %	2 mm 0.08 in ±10 %	5 mm 0.20 in ±10 %	10 mm 0.39 in ±10 %	2.5 mm 0.10 in ±10 %	4 mm 0.16 in ±10 %	8 mm 0.32 in ±10 %	15 mm 0.59 in ±10 %
Stable sensing range (Note 2,3)			0 to 1.2 mm 0 to 0.05 in	0 to 1.6 mm 0 to 0.06 in	0 to 4 mm 0 to 0.09 in	0 to 8 mm 0 to 0.22 in	0 to 2 mm 0 to 0.08 in	0 to 3.2 mm 0 to 0.13 in	0 to 6.4 mm 0 to 0.25 in	0 to 12 mm 0 to 0.47 in
Standard sensing object			Iron sheet 8 × 8 × 1.1 mm 0.32 × 0.32 × 10.04 in	Iron sheet 12 × 12 × 1.1 mm 0.47 × 0.47 × 10.04 in	Iron sheet 18 × 18 × 1.1 mm 0.71 × 0.71 × 10.04 in	Iron sheet 30 × 30 × 1.1 mm 1.18 × 1.18 × 10.04 in	Iron sheet 8 × 8 × 1.1 mm 0.32 × 0.32 × 10.04 in	Iron sheet 12 × 12 × 1.1 mm 0.47 × 0.47 × 10.04 in	Iron sheet 18 × 18 × 1.1 mm 0.71 × 0.71 × 10.04 in	Iron sheet 30 × 30 × 1.1 mm 1.18 × 1.18 × 10.04 in
Hysteresis (Note 2)			15 % or less of operation distance (with standard sensing object)							
Repeatability (Note 2)			Along sensing axis: 5 % or less of operation distance							
Supply voltage			12 to 24 V DC ±10 % Ripple P-P 10 % or less							
Current consumption (Note 4)			0.5 mA or less							
Output			Non-contact DC 2-wire type • Load current: 1.5 to 100 mA • Residual voltage: 4.2 V or less (Note 5)							
	Utilization category		DC-12 or DC-13							
	Short-circuit protection		Incorporated							
Max. response frequency			1 kHz	1 kHz	1.2 kHz	1.3 kHz	1.1 kHz	1.3 kHz	1.5 kHz	0.8 kHz
Operation indicator			Yellow LED (lights up when the output is ON)							
Environmental resistance	Pollution degree		3 (Industrial environment)							
	Protection		IP67 (IEC)	IP69K (DIN), IP68 (IEC) (2 m cable length type only), IP67 (IEC) (M12 plug-in connector type only)						
	Ambient temperature		-25 to +70 °C -13 to +158 °F , Storage: -40 to +85 °C -40 to +185 °F							
	Ambient humidity		50 % RH or less (at +70 °C +158 °F)							
	EMC		EN 60947-5-2							
	Voltage withstandability		500 V AC for one min. between all supply terminals connected together and enclosure							
	Vibration resistance		10 to 55 Hz frequency, 0.5 mm 0.02 in amplitude in X, Y and Z directions for 1.5 hours each							
Shock resistance		294 m/s ² acceleration (30 G approx.) in X, Y and Z directions for three times each								
Sensing range variation (Note 2)			Within ±10 % fluctuation of sensing range at +23 °C +73.4 °F and rated voltage in the range of allowable temperature and supply voltage							
Material			Enclosure: Brass (Nickel plated), Sensing part: PPS							
Cable (except for M12 plug-in connector type)			0.44 mm ² [0.15 mm ² for GX-M(L)8□-U] 2-core cabtyre cable, 2 m 6.56 ft long							
Cable extension			Extension up to total 10 m 32.80 ft is possible with 0.34 mm ² , or more, cable.							
Net weight (Note 6)	2 m cable length type		40 g approx.	70 g approx.	90 g approx.	150 g approx.	40 g approx.	70 g approx.	90 g approx.	150 g approx.
	M12 pigtailed(-J type) / M12 plug-in connector type		20 g approx.	20 g approx.	45 g approx.	110 g approx.	20 g approx.	20 g approx.	45 g approx.	110 g approx.
Accessories			Nut: 2 pcs.							

Notes: 1) Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +23 °C **+73.4 °F**.

2) It is the value in state where the circumference of a detection side has a metal object.

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) When the cable is extended, the residual voltage becomes larger.

6) The weight includes the weight of two nuts.

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