

High-Precision Digital
Fiber Optic Sensor
FX-N10 Series



Ask SENPUM

+86-755-83330055

Fast Delivery Standard Models



Most products are in stock. Upon receiving your order, we will arrange prompt shipment to minimize your downtime-related costs and losses.



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LINE

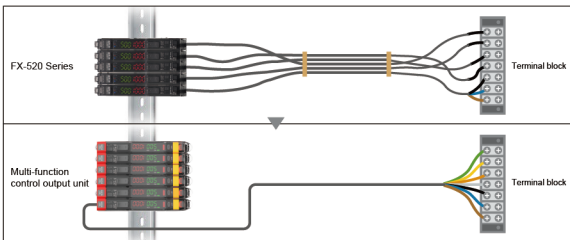
Reduce work hours required for startup, operation and maintenance, simplifying wiring and cabling

The anti-interference function provides strong stability, allowing multiple devices to be added.



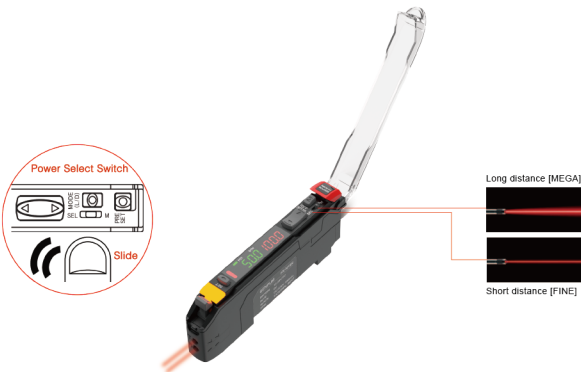
Reduce the number of cables

By adopting a multi-function control output unit, the amplifier's power and output cables can be consolidated into a single line, simplifying wiring.



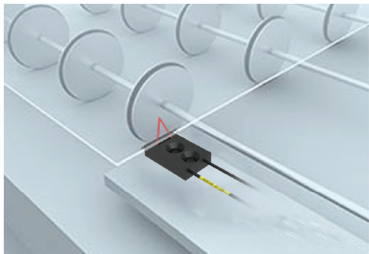
Switch MEGA power

Easily switch between standard power and high power with simple operation



* For more product features, please contact a SENPUM sales engineer.

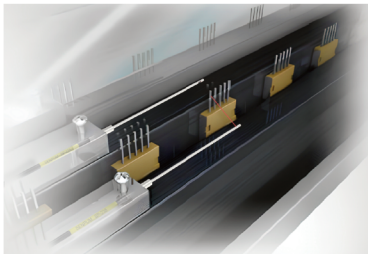
Applications



Detect glass



Detect presence/absence of bottle caps



Detect pin needles

Product List

Cable Type

Appearance	Type		Control output	External input	Analog output	Model	
						NPN	PNP
	Standard	Main module	1	1	-	FX-N18N	FX-N18P
		Main module	1	1	-	FX-N11N	FX-N11P
		Expansion module				FX-N12N	FX-N12P
	Dual-channel output	Main module	2	1	-	FX-N13N	FX-N13P
		Expansion module				FX-N14N	FX-N14P
	Zero-line	Expansion module	-	-	-	FX-N10 (No output, NPN/PNP not differentiated)	

Relay Type

Appearance	Type		Control output	External input	Analog output	Model	
						NPN	PNP
	Standard	Main module	1	1	-	FX-N11CAN	FX-N11CAP
		Expansion module				FX-N12CAN	FX-N12CAP
	Dual-channel output	Main module	2	1	-	FX-N13CAN	FX-N13CAP
		Expansion module				FX-N14CAN	FX-N14CAP

Relay-type Cable (sold separately)

Appearance	Sensor side	Cable termination	Length	Model	Compatible amplifier main unit
	M8 6-Pin Straight	Loose wire	2 m ^{*1}	OW-FXN001	FX-N11CAN
				OW-FXN002	FX-N12CAN
				OW-FXN003	FX-N13CAN
				OW-FXN004	FX-N14CAN

^{*1} The standard cable length is 2 m. Other lengths are available upon request. For example, the 5 m cable length model is OW-FXN001-5M.

Fiber Optic Sensors

Photoelectric Sensors

Color Sensors

Laser Sensors

Proximity Sensors

Precision Contact Sensors

Area Sensors/
Safety Light Curtains

Laser Scanners

Digital Contact Sensors

Laser Displacement
Sensors

Laser Micrometers

Confocal Displacement
Sensors

Barcode Readers

AI Vision Sensors

RFID

Infrared Temperature
Sensors

Pressure Sensors

Flow Sensors

Magnetic Sensors

Ultrasonic Sensors

Magnetic Scales

Static Eliminators



SP

P-20/40

SP2

FX-N10

FX-N425

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Static Eliminators



SENPUM
0159

FX-N10

High-Precision Digital Fiber Optic Sensor

Specifications

Cable Type

Type		Standard			Dual-channel output		Zero-line
		Main module	Main module	Expansion module	Main module	Expansion module	Expansion module
Model	NPN	FX-N18N	FX-N11N	FX-N12N	FX-N13N	FX-N14N	FX-N10
	PNP	FX-N18P	FX-N11P	FX-N12P	FX-N13P	FX-N14P	(No output,
Control output		1 output			2 outputs		NPN/PNP not differentiated)
External input		1 input			1 input		-
Light source LED		Red 4-element LED (wavelength 630 nm)					
Response time		50 μs (H-SP) / 250 μs (M-SP) 500 μs (L-SP) / 1 ms (SUPER) 4 ms (ULTRA) / 16 ms (MEGA)					
Output switching		LIGHT-ON/DARK-ON switching					
Conductive material		Cable					
Timer function		Timer off/OFF delay/ON delay/One-shot					
Control output		Max. load current: 100 mA or 20 mA (when connecting multiple expansion modules) Residual voltage: less than 1 V					
Expansion module		Up to 15 connectable (16 modules total including main module)					
Protection circuit		Reverse current connection protection, output overcurrent protection and output surge protection					
Number of anti-interference modules		Maximum 16 modules can be connected, depending on power mode. HIGH SPEED: 0; FINE: 4; TURBO/SUPER/ULTRA/MEGA: 8 (These numbers double when "Double" is selected.)					
Power voltage		12 to 24 VDC ±10%, Ripple Voltage (P-P): Max. 10%					
Ambient light		Incandescent lamp: Maximum 20,000 lux; Sunlight: Maximum 30,000 lux					
Ambient temperature		-20 to +55 °C (no freezing)					
Relative humidity		35 to 85% RH (no condensation)					
Vibration resistance		10 to 55 Hz, Compound amplitude 1.5 mm, 2 hours in each of the X, Y, and Z directions					
Shock resistance		500 m/s², 3 times in each of the X, Y, and Z directions					
Housing material		Main module and expansion module housing material: Polycarbonate					
Dimensions (H*W*L mm)		30.8 × 10.05 × 83.62					
Weight		Approx. 55.6 g					

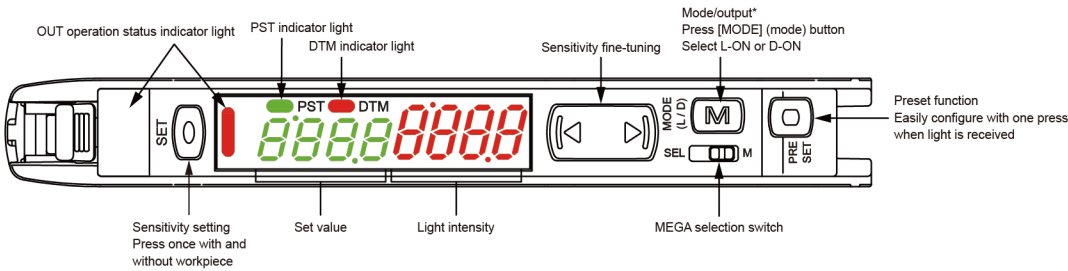
Relay Type

Type		Standard		Dual-channel output	
		Main module	Expansion module	Main module	Expansion module
Model	NPN	FX-N11CAN	FX-N12CAN	FX-N13CAN	FX-N14CAN
	PNP	FX-N11CAP	FX-N12CAP	FX-N13CAP	FX-N14CAP
Control output		1 output		2 outputs	
External input		1 input		1 input	
Light source LED		Red 4-element LED (wavelength 630 nm)			
Response time		50 μs (H-SP) / 250 μs (M-SP) 500 μs (L-SP) / 1 ms (SUPER) 4 ms (ULTRA) / 16 ms (MEGA)			
Output switching		LIGHT-ON/DARK-ON switching			
Conductive material		Cable			
Timer function		Timer off/OFF delay/ON delay/One-shot			
Control output		Max. load current: 100 mA or 20 mA (when connecting multiple expansion modules) Residual voltage: less than 1 V			
Expansion module		Up to 15 connectable (16 modules total including main module)			
Protection circuit		Reverse current connection protection, output overcurrent protection and output surge protection			
Number of anti-interference modules		Maximum 16 modules can be connected, depending on power mode. HIGH SPEED: 0; FINE: 4; TURBO/SUPER/ULTRA/MEGA: 8 (These numbers double when "Double" is selected.)			
Power voltage		12 to 24 VDC ±10%, Ripple Voltage (P-P): Max. 10%			
Ambient light		Incandescent lamp: Maximum 20,000 lux; Sunlight: Maximum 30,000 lux			
Ambient temperature		-20 to +55 °C (no freezing)			
Relative humidity		35 to 85% RH (no condensation)			
Vibration resistance		10 to 55 Hz, Compound amplitude 1.5 mm, 2 hours in each of the X, Y, and Z directions			
Shock resistance		500 m/s², 3 times in each of the X, Y, and Z directions			
Housing material		Main module and expansion module housing material: Polycarbonate			
Dimensions (H*W*L mm)		30.8 × 10.05 × 83.62			
Weight		Approx. 55.6 g			

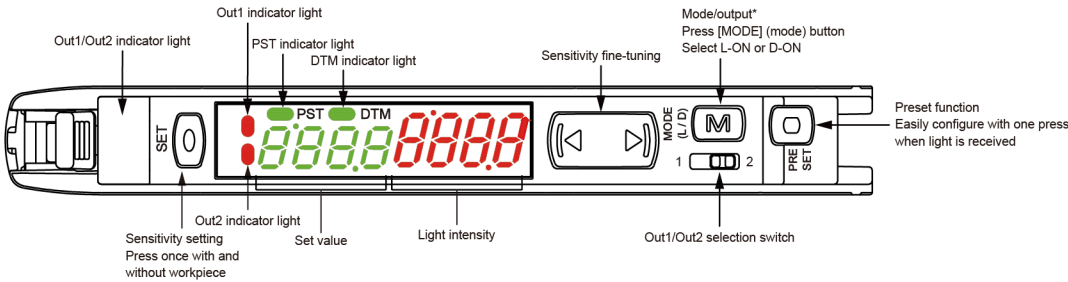
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Key/Display Description

FX-N18N/P FX-N11N/P FX-N12N/P FX-N10
FX-N11CAN/P FX-N12CAN/P



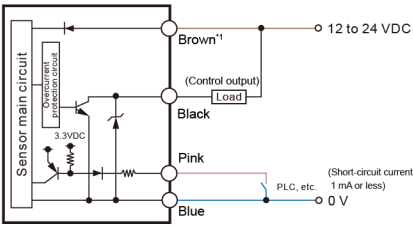
FX-N13N/P FX-N14N/P
FX-N13CAN/P FX-N14CAN/P



I/O Circuit Diagrams

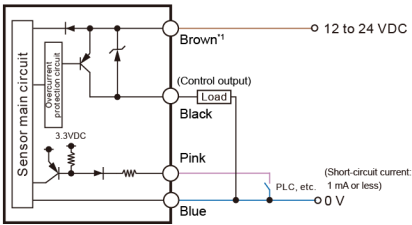
Cable Type

1 channel NPN output
FX-N11N / N12N / N18N



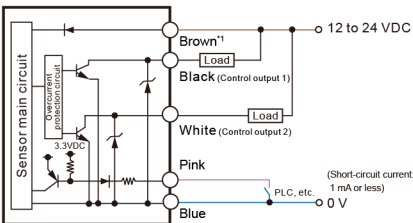
*1 FX-N11N / FX-N18N only.

1 channel PNP output
FX-N11P / N12P / N18P



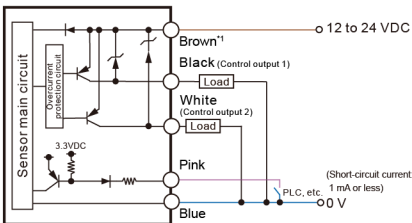
*1 FX-N11P / FX-N18P only.

2-channel NPN output
FX-N13N / N14N



*1 FX-N13N only.

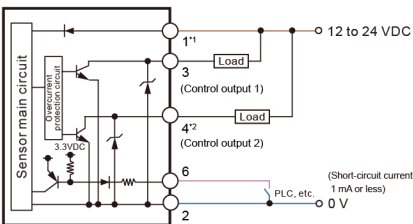
2-channel PNP output
FX-N13P / N14P



*1 FX-N13P only.

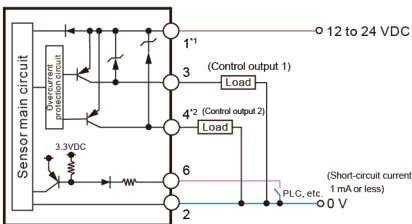
Relay Type

NPN
FX-N11CAN / N12CAN / N13CAN / N14CAN



*1 FX-N11CAN / N13CAN only.
*2 FX-N13CAN / N14CAN only.

PNP
FX-N11CAP / N12CAP / N13CAP / N14CAP



*1 FX-N11CAP / N13CAP only.
*2 FX-N13CAP / N14CAP only.

M8 Pinout



M8 Pinout



SP
P-20/40
SP2
FX-N10
FX-N425

Fiber Optic Sensors

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Color Sensors

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Precision Contact Sensors

Area Sensors/
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Laser Scanners

Digital Contact Sensors

Laser Displacement
Sensors

Laser Micrometers

Confocal Displacement
Sensors

Barcode Readers

AI Vision Sensors

RFID

Infrared Temperature
Sensors

Pressure Sensors

Flow Sensors

Magnetic Sensors

Ultrasonic Sensors

Magnetic Scales

Static Eliminators



FX-N10

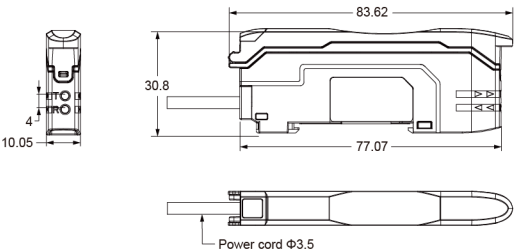
High-Precision Digital Fiber Optic Sensor

Dimensions

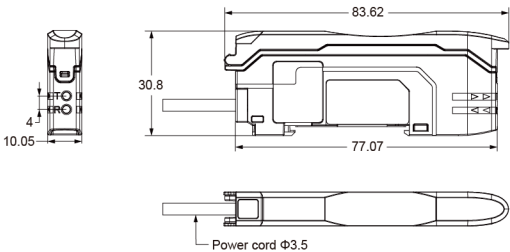
Unit: mm

Cable Type

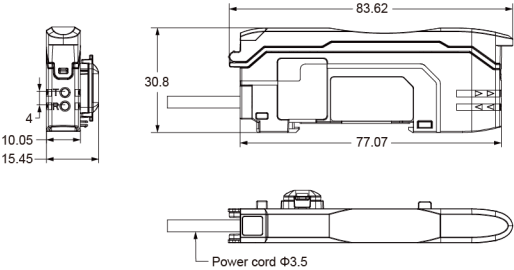
FX-N18N / N18P



FX-N11N / N11P / N13N / N13P

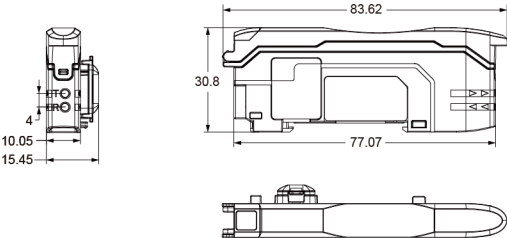


FX-N12N / N12P / N14N / N14P



Zero-line Type

FX-N10N

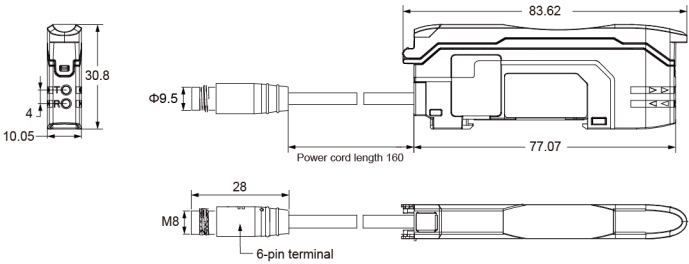


Dimensions

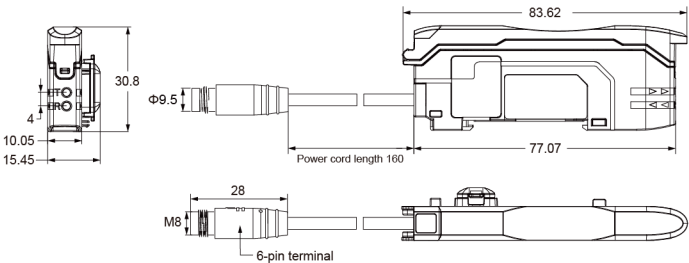
Unit: mm

Relay Type

FX-N11CAN / FX-N11CAP / FX-N13CAN / FX-N14CAN

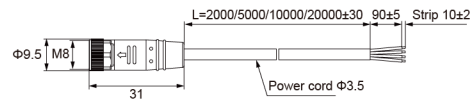


FX-N12CAN / FX-N12CAP / FX-N14CAN / FX-N14CAP

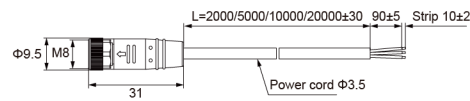


Cable

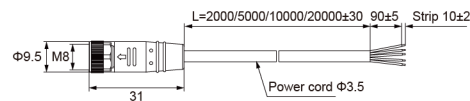
OW-FXN001-2M/5M/10M/20M (Suitable for FX-N11CAN/P)



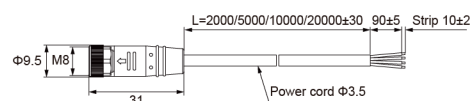
OW-FXN002-2M/5M/20M (Suitable for FX-N12CAN/P)



OW-FXN003-2M/5M/10M/20M (Suitable for FX-N13CAN/P)



OW-FXN004-2M/5M/10M/20M (Suitable for FX-N14CAN/P)



No.	Jacket color
①	Brown
②	Blue
③	Black
④	White
⑤	-
⑥	Pink

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