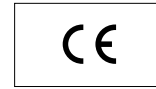


Manually Set Fiber Sensor FX-311 SERIES

Related Information

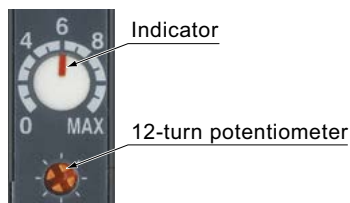
- General terms and conditions..... F-3
- Selection guide P.3~
- SC..... P.987~
- Glossary of terms / General precautions...P.1549~ / P.1552~



Highly sensitive manual tuning made easy

12-turn potentiometer with visible indicator

12-turn potentiometer has been incorporated for fine adjustments. It enables detection of very fine differences. Moreover, since the pointer of indicator has a red backlight, you can confirm the position at a glance, even in a dark area.



Long life and reduced maintenance work-hours

The light-emitting elements of conventional fiber sensors are affected by temperature and long-term use, changing their emission over time and requiring sensitivity readjustment. **FX-311** (Red LED type) employs the new "four-chemical LED", first used in the **FX-301** (red LED type). This emitter greatly reduces adverse influences on emission performance, resulting in stable operation that almost never needs adjustment.

Rapid flashing "assist function" eases adjustment for optimum sensitivity

The **FX-311** series has a convenient built-in "assist function" which indicates the optimum sensitivity position by flashing rapidly when optimum sensitivity is reached. This enables easy and reliable sensitivity adjustment, which is convenient for a narrow sensing range requiring fine tuning.

* In order enable the "assist function", switch the operation selection switch from **L-ON**→**D-ON**→**L-ON**.

1 Find the point (A) where the sensor is switched ON in the sensing (beam received) condition

Sensing method Sensing (beam received) condition

The pointer flashes once at point (A)

2 In the non-sensing (beam not received) condition, turn the adjuster until ON state again, turn the adjuster counterclockwise and find the point (B) where it is switched OFF

Sensing method Non-sensing (beam not received) condition

Confirm operation indicator lights up

The pointer flashes twice at point (B)

3 Optimum sensitivity point located

Sensing method


Sensing range

The pointer flashes faster at optimum sensitivity

- FIBER SENSORS
- LASER SENSORS
- PHOTOELECTRIC SENSORS
- MICRO PHOTOELECTRIC SENSORS
- AREA SENSORS
- SAFETY LIGHT CURTAINS / SAFETY COMPONENTS
- PRESSURE / FLOW SENSORS
- INDUCTIVE PROXIMITY SENSORS
- PARTICULAR USE SENSORS
- SENSOR OPTIONS
- SIMPLE WIRE- SAVING UNITS
- WIRE- SAVING SYSTEMS
- MEASUREMENT SENSORS
- STATIC CONTROL DEVICES
- LASER MARKERS
- PLC
- HUMAN MACHINE INTERFACES
- ENERGY MANAGEMENT SOLUTIONS
- FA COMPONENTS
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- FX-301-F7/ FX-301-F
- FX-11A
- FX2
- FX-CH2
- FX-CH

ORDER GUIDE

Amplifiers Quick-connection cable is not supplied with the amplifier. Please order it separately.

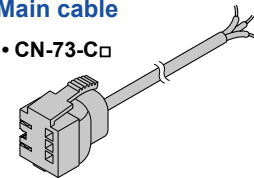
Type	Appearance	Model No.	Emitting element	Output	
Manually set		FX-311	Red LED	NPN open-collector transistor	
		FX-311B	Blue LED		
		FX-311G	Green LED		
		PNP output	FX-311P	Red LED	PNP open-collector transistor
			FX-311BP	Blue LED	
			FX-311GP	Green LED	

Quick-connection cables Quick-connection cable is not supplied with the amplifier. Please order it separately.

Type	Model No.	Description	
Main cable (3-core)	CN-73-C1	Length: 1 m 3.281 ft	0.2 mm ² 3-core cabtyre cable, with connector on one end Cable outer diameter: \varnothing 3.3 mm \varnothing0.130 in
	CN-73-C2	Length: 2 m 6.562 ft	
	CN-73-C5	Length: 5 m 16.404 ft	
Sub cable (1-core)	CN-71-C1	Length: 1 m 3.281 ft	0.2 mm ² 1-core cabtyre cable, with connector on one end Cable outer diameter: \varnothing 3.3 mm \varnothing0.130 in
	CN-71-C2	Length: 2 m 6.562 ft	
	CN-71-C5	Length: 5 m 16.404 ft	

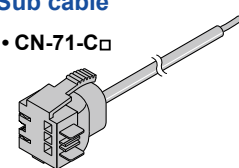
Main cable

- **CN-73-C□**

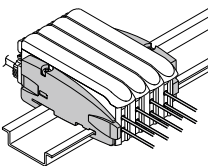


Sub cable

- **CN-71-C□**



End plates End plates are not supplied with the amplifier. Please order them separately when the amplifiers are mounted in cascade.

Appearance	Model No.	Description
	MS-DIN-E	When amplifiers are mounted in cascade, or when an amplifier moves depending on the way it is installed on a DIN rail, these end plates clamp amplifiers into place on both sides. Make sure to use end plates when cascading multiple amplifiers together. 2 pcs. per set

FIBER SENSORS

LASER SENSORS

PHOTO-ELECTRIC SENSORS

MICRO PHOTO-ELECTRIC SENSORS

AREA SENSORS

SAFETY LIGHT CURTAINS / SAFETY COMPONENTS

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FX-311

FX-301-F7 / FX-301-F

FX-11A

FX2

FX-CH2

FX-CH

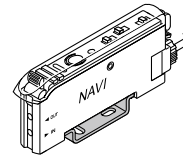
- FIBER SENSORS
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OPTIONS

Designation	Model No.	Description
Amplifier mounting bracket	MS-DIN-2	Mounting bracket for amplifier
Hand-turned knob attached cover	FX-AJ1	Hand-turned knob allows easy adjustment of sensor sensitivity.
Fiber amplifier protection seal	FX-MB1	10 sets of 2 communication window seals and 1 connector seal Communication window seal: It prevents malfunction due to transmission signal from another amplifier, as well as, prevents effect on another amplifier. Connector seal: It prevents contact of any metal, etc., with the pins of the quick-connection cable.

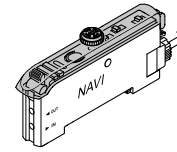
Amplifier mounting bracket

- MS-DIN-2



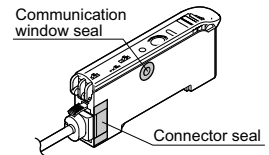
Hand-turned knob attached cover

- FX-AJ1



Fiber amplifier protection seal

- FX-MB1



LIST OF FIBERS

Refer to "Fiber Selection p.5 ~" for details of each fiber. Refer to our website for sensing range.

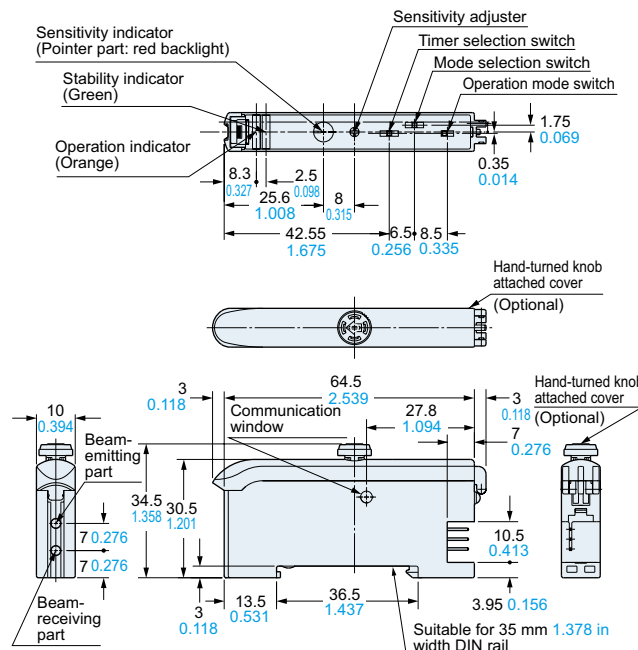
DIMENSIONS (Unit: mm in)

Refer to p.63~ for dimensions of the fibers. The CAD data can be downloaded from our website.

FX-311□ FX-311□P

Amplifier

Mounting drawing with a hand-turned knob attached cover FX-AJ1 (Optional)

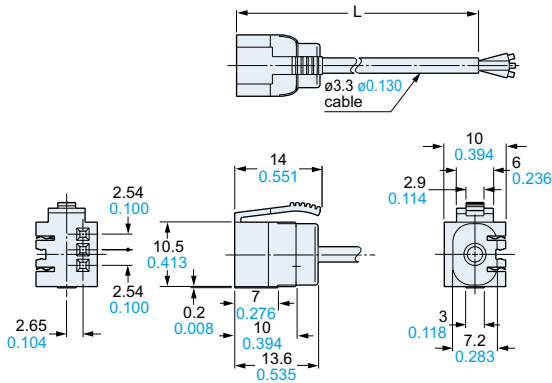


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DIMENSIONS (Unit: mm in)

Refer to p.63~ for dimensions of the fibers.
The CAD data can be downloaded from our website.

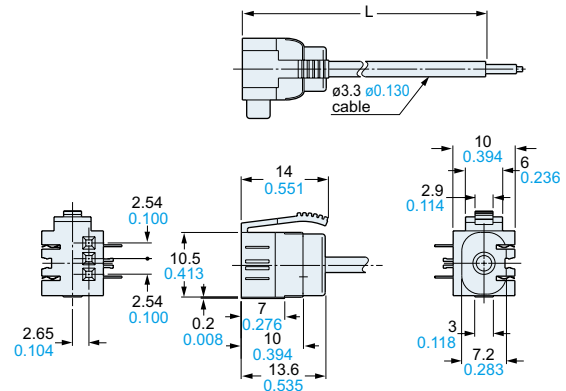
CN-73-C□ Main cable (Optional)



• Length L

Model No.	Length L
CN-73-C1	1,000 39.370
CN-73-C2	2,000 78.740
CN-73-C5	5,000 196.850

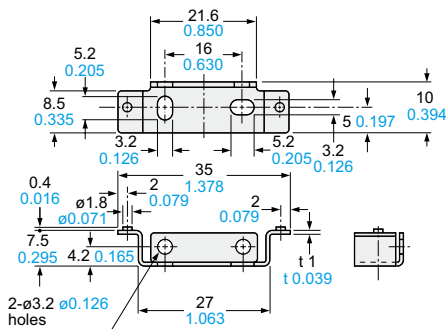
CN-71-C□ Sub cable (Optional)



• Length L

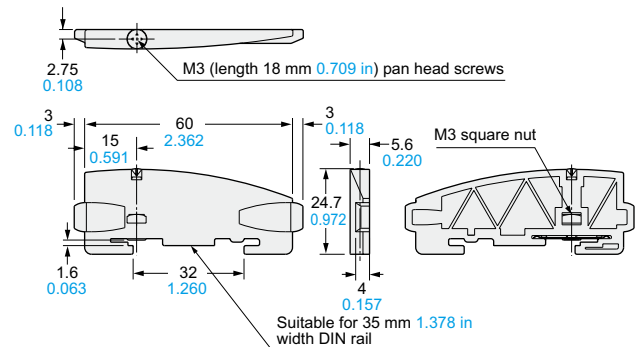
Model No.	Length L
CN-71-C1	1,000 39.370
CN-71-C2	2,000 78.740
CN-71-C5	5,000 196.850

MS-DIN-2 Amplifier mounting bracket (Optional)



Material: Cold rolled carbon steel (SPCC)
(Uni-chrome plated)

MS-DIN-E End plate (Optional)



Material: Polycarbonate

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