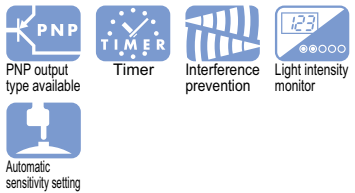
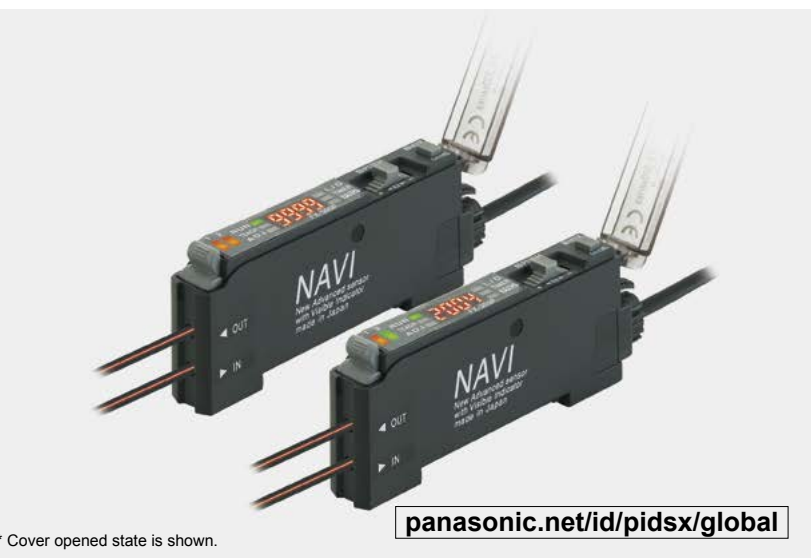


# Digital Fiber Sensor FX-300 SERIES

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- 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
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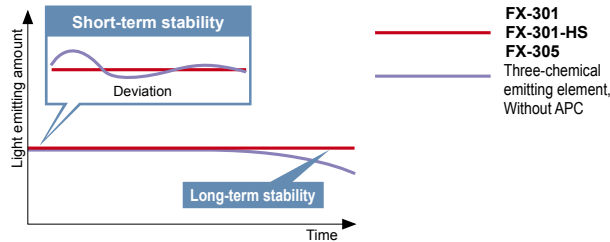


## Constant advances achieving significant improvement of sensing performance

### Stable sensing over long and short periods **FX-301 FX-301-HS FX-305**

In addition to a "four-chemical emitting element" which suppresses changes in the light emitting element over time so that a stable level of light emission can be maintained over long periods, a "APC (Auto Power Control) circuit" has also been adopted afresh. The light emitting amount can be controlled in minute degrees so that even changes occurring over very short periods can be handled, allowing stable sensing performance by suppressing deviations in light emitting amounts caused by changes in the ambient environment that could not previously be suppressed.

#### ■ Stable sensing comparison



### Ultra high-speed 35 μs response **FX-301-HS**

Ultra high-speed 35 μs response. Even small objects moving at high speeds can be sensed. In addition, at 65 μs the FX-301 standard type and FX-305 high-function type is also twice as fast as previous models.



### Large display 9999 **FX-305**

Large display with 4 digits (9999). With a greater difference in digit value than previous models, threshold values can be set in units of 1 digit up to maximum 9999. Threshold setting can now be done more easily and accurately.

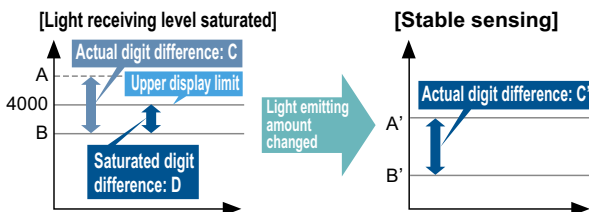


**2.5 times previous models!**

(During STDF, LONG and U-LG modes)

### Light-emitting amount selection **FX-301 FX-301-HS FX-305**

If the light receiving level becomes saturated during close-range sensing or when sensing transparent or minute objects, you can adjust the light emitting amount of the sensor to stabilize sensing **without needing to change the response time**. Sensing that previously required the response time or fibers to be changed can now be set much more easily using this function.

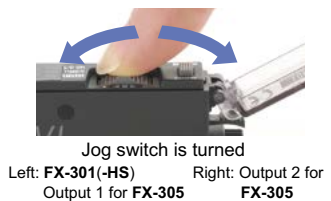


### Even beginners can quickly learn how to use the MODE NAVI **All models**

MODE NAVI uses six indicators to display the amplifier's basic operations. The current operating mode can be confirmed at a glance, so even a first time user can easily operate the amplifier without becoming confused.

### Easy confirming of threshold value settings **FX-301 FX-301-HS FX-305**

The threshold value can be confirmed by turning the jog switch even during RUN mode.



**ORDER GUIDE**

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

Type	Appearance	Model No.	Emitting element	Output		
Standard type		<b>FX-301</b>	Red LED	NPN open-collector transistor		
		<b>FX-301P</b>		PNP open-collector transistor		
		<b>FX-301B</b>	Blue LED	NPN open-collector transistor		
		<b>FX-301BP</b>		PNP open-collector transistor		
		<b>FX-301G</b>	Green LED	NPN open-collector transistor		
		<b>FX-301GP</b>		PNP open-collector transistor		
		<b>FX-301H</b>	Infrared LED	NPN open-collector transistor		
		<b>FX-301HP</b>		PNP open-collector transistor		
		High-speed type		<b>FX-301-HS</b>	Red LED	NPN open-collector transistor
				<b>FX-301P-HS</b>		PNP open-collector transistor
High-function type		<b>FX-305</b>	Red LED	NPN open-collector transistor		
		<b>FX-305P</b>		PNP open-collector transistor		

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**FX-CH**

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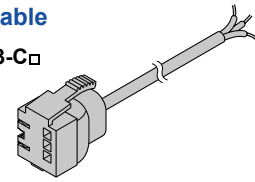
### Quick-connection cables

**For FX-301** □ Quick-connection cable is not supplied with the amplifier. Please order it separately.

Type	Model No.	Length	Description
Main cable (3-core)	<b>CN-73-C1</b>	Length: 1 m <b>3.281 ft</b>	0.2 mm <sup>2</sup> 3-core cabtyre cable, with connector on one end Cable outer diameter: ø3.3 mm ø0.130 in
	<b>CN-73-C2</b>	Length: 2 m <b>6.562 ft</b>	
	<b>CN-73-C5</b>	Length: 5 m <b>16.404 ft</b>	
Sub cable (1-core)	<b>CN-71-C1</b>	Length: 1 m <b>3.281 ft</b>	0.2 mm <sup>2</sup> 1-core cabtyre cable, with connector on one end Cable outer diameter: ø3.3 mm ø0.130 in
	<b>CN-71-C2</b>	Length: 2 m <b>6.562 ft</b>	
	<b>CN-71-C5</b>	Length: 5 m <b>16.404 ft</b>	

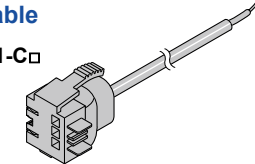
#### Main cable

- **CN-73-C** □



#### Sub cable

- **CN-71-C** □

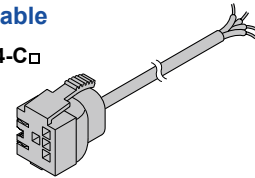


**For FX-305(P)** □ Quick-connection cable is not supplied with the amplifier. Please order it separately.

Type	Model No.	Length	Description
Main cable (4-core)	<b>CN-74-C1</b>	Length: 1 m <b>3.281 ft</b>	0.2 mm <sup>2</sup> 4-core cabtyre cable, with connector on one end Cable outer diameter: ø3.3 mm ø0.130 in
	<b>CN-74-C2</b>	Length: 2 m <b>6.562 ft</b>	
	<b>CN-74-C5</b>	Length: 5 m <b>16.404 ft</b>	
Sub cable (2-core)	<b>CN-72-C1</b>	Length: 1 m <b>3.281 ft</b>	0.2 mm <sup>2</sup> 2-core cabtyre cable, with connector on one end Cable outer diameter: ø3.3 mm ø0.130 in
	<b>CN-72-C2</b>	Length: 2 m <b>6.562 ft</b>	
	<b>CN-72-C5</b>	Length: 5 m <b>16.404 ft</b>	

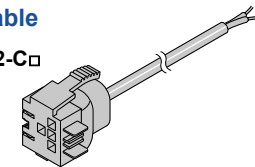
#### Main cable

- **CN-74-C** □

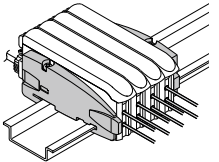


#### Sub cable

- **CN-72-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
	<b>MS-DIN-E</b>	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. <b>2 pcs. per set</b>

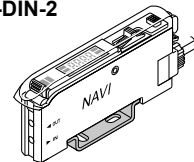
## OPTIONS

Designation	Model No.	Description
Amplifier mounting bracket	<b>MS-DIN-2</b>	Mounting bracket for amplifier
Fiber amplifier protection seal (Note)	<b>FX-MB1</b>	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.

Note: Fiber amplifier protection seals are supplied with the **FX-301(P)** and **FX-305(P)**.

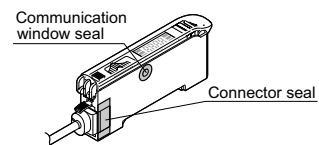
#### Amplifier mounting bracket

- **MS-DIN-2**



#### Fiber amplifier protection seal

- **FX-MB1**



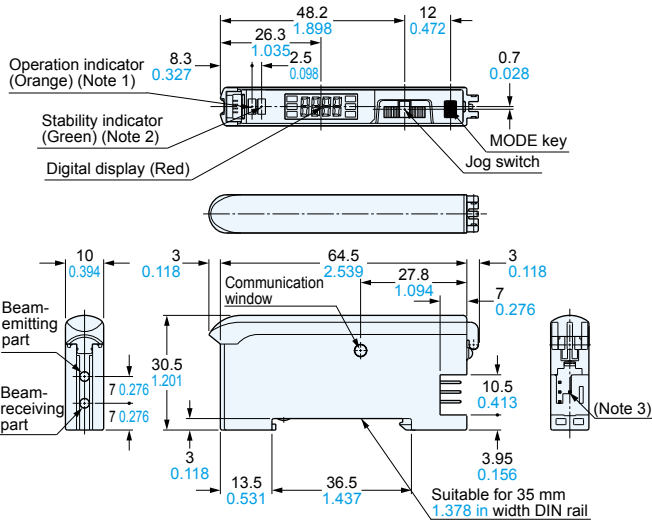
## LIST OF FIBERS

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-301□ FX-305(P)** Amplifier

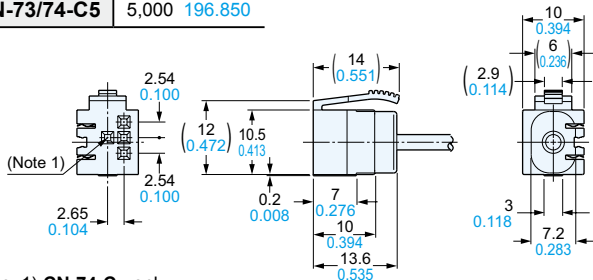
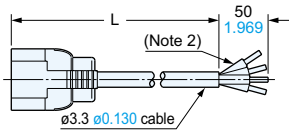


- Notes: 1) **FX-305□**: Output 1 operation indicator (Orange)
- 2) **FX-305□**: Output 2 operation indicator (Orange)
- 3) **FX-301□**: 3-pin, **FX-305□**: 4-pin

**CN-73-C□ CN-74-C□** Main cable (Optional)

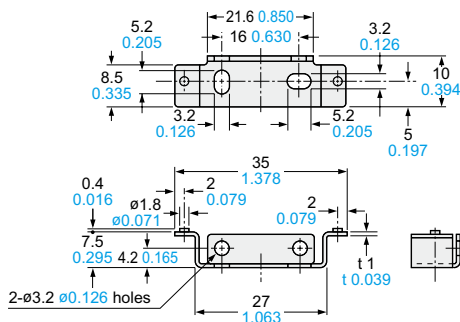
• Length L

Model No.	Length L
<b>CN-73/74-C1</b>	1,000 39.370
<b>CN-73/74-C2</b>	2,000 78.740
<b>CN-73/74-C5</b>	5,000 196.850



- Notes: 1) **CN-74-C□** only
- 2) **CN-73-C□**: 3-core

**MS-DIN-2** Amplifier mounting bracket (Optional)

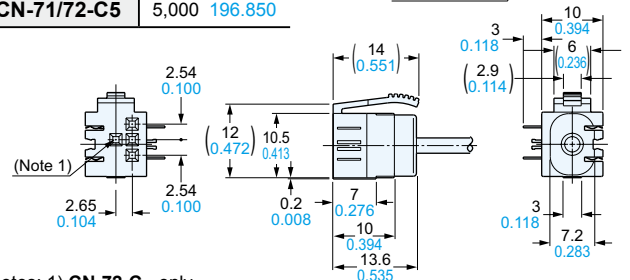
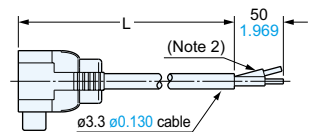


Material: Cold rolled carbon steel (SPCC)  
(Uni-chrome plated)

**CN-71-C□ CN-72-C□** Sub cable (Optional)

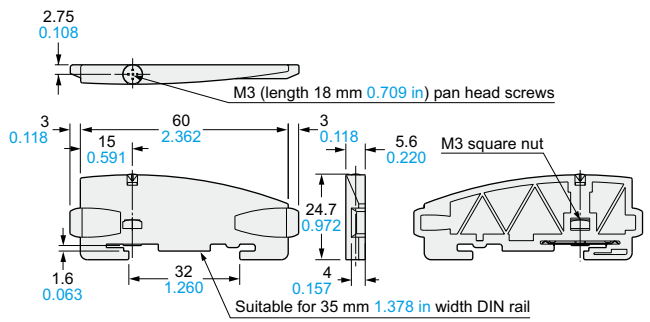
• Length L

Model No.	Length L
<b>CN-71/72-C1</b>	1,000 39.370
<b>CN-71/72-C2</b>	2,000 78.740
<b>CN-71/72-C5</b>	5,000 196.850



- Notes: 1) **CN-72-C□** only
- 2) **CN-71-C□**: 1-core

**MS-DIN-E** End plate (Optional)



Material: Polycarbonate

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