Panasonic
INDUSTRY

Digital Fiber Sensor

FX-300 SERIES

* Cover opened state is shown

2022.5

* The contents of this catalog are as of October 2017.
For the latest information, please visit our company website.

Digital Fiber Sensor

FX-300 SERIES

* Cover opened state is shown.

CE

Recognition (Excluding cable type)

Certified (NPN output type of connector type only)

PNP output type available

Timer

Interference prevention

Light intensity monitor

Automatic sensitivity setting

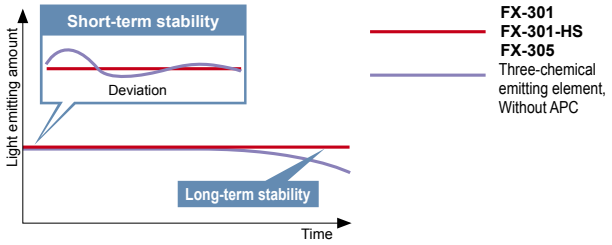
Constant advances achieving significant improvement of sensing performance

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.

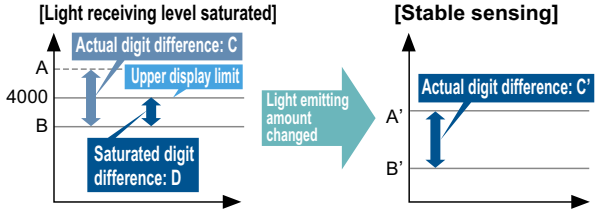
■Stable sensing comparison



Light-emitting amount selection

FX-301 FX-301-HS FX-305

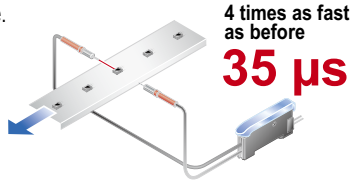
If the light receiving level becomes saturated during close-range sensing or when sensing transparent or minute objects, you can adjust the light emitting amount of the sensor to stabilize sensing without needing to change the response time. Sensing that previously required the response time or fibers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



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.

(During STDF, LONG and U-LG modes)

2.5 times previous models!

Even beginners can quickly learn how to use the MODE NAVI

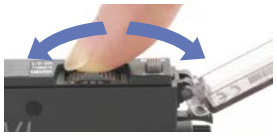
All models

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.



Jog switch is turned
Left: **FX-301(-HS)** Output 1 for **FX-305**
Right: Output 2 for **FX-305**

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		**FX-301**	Red LED	NPN open-collector transistor
		FX-301P		PNP open-collector transistor
		FX-301B	Blue LED	NPN open-collector transistor
		FX-301BP		PNP open-collector transistor
		FX-301G	Green LED	NPN open-collector transistor
		FX-301GP		PNP open-collector transistor
		FX-301H	Infrared LED	NPN open-collector transistor
		FX-301HP		PNP open-collector transistor
High-speed type		**FX-301-HS**	Red LED	NPN open-collector transistor
		FX-301P-HS		PNP open-collector transistor
High-function type		**FX-305**	Red LED	NPN open-collector transistor
		FX-305P		PNP open-collector transistor

ORDER GUIDE

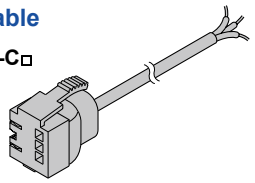
Quick-connection cables

For FX-301□ 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 mm² 3-core cabtyre cable, with connector on one end Cable outer diameter: ø3.3 mm ø0.130 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 mm² 1-core cabtyre cable, with connector on one end Cable outer diameter: ø3.3 mm ø0.130 in
	CN-71-C2	Length: 2 m 6.562 ft	
	CN-71-C5	Length: 5 m 16.404 ft	

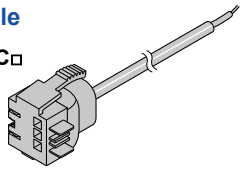
Main cable

• **CN-73-C□**



Sub cable

• **CN-71-C□**

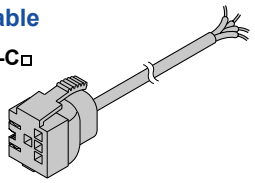


For FX-305(P) Quick-connection cable is not supplied with the amplifier. Please order it separately.

Type	Model No.	Description	
Main cable (4-core)	**CN-74-C1**	Length: 1 m 3.281 ft	0.2 mm² 4-core cabtyre cable, with connector on one end Cable outer diameter: ø3.3 mm ø0.130 in
	CN-74-C2	Length: 2 m 6.562 ft	
	CN-74-C5	Length: 5 m 16.404 ft	
Sub cable (2-core)	**CN-72-C1**	Length: 1 m 3.281 ft	0.2 mm² 2-core cabtyre cable, with connector on one end Cable outer diameter: ø3.3 mm ø0.130 in
	CN-72-C2	Length: 2 m 6.562 ft	
	CN-72-C5	Length: 5 m 16.404 ft	

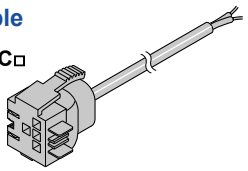
Main cable

• **CN-74-C□**



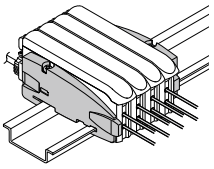
Sub cable

• **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
	**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

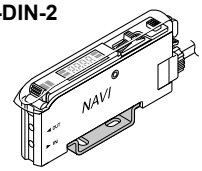
OPTIONS

Designation	Model No.	Description
Amplifier mounting bracket	**MS-DIN-2**	Mounting bracket for amplifier
Fiber amplifier protection seal (Note)	**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.

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

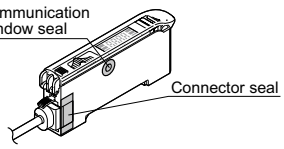
Amplifier mounting bracket

• **MS-DIN-2**



Fiber amplifier protection seal

• **FX-MB1**



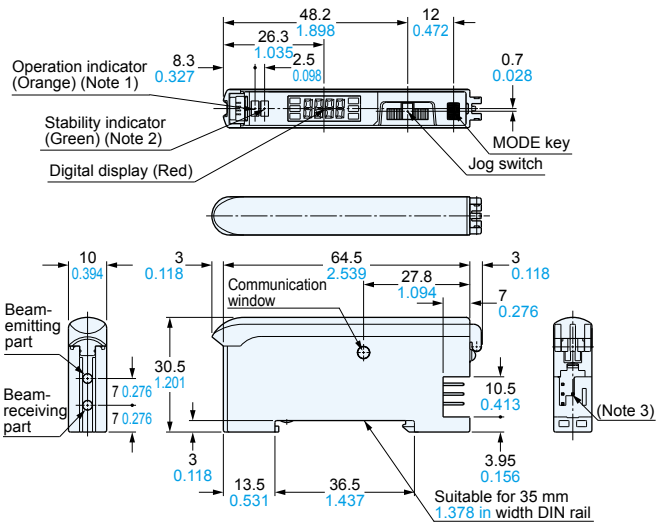
LIST OF FIBERS

Refer to our website for details of each fiber.

DIMENSIONS (Unit: mm in)

The CAD data can be downloaded from our website.

FX-301□ FX-305(P) — Amplifier

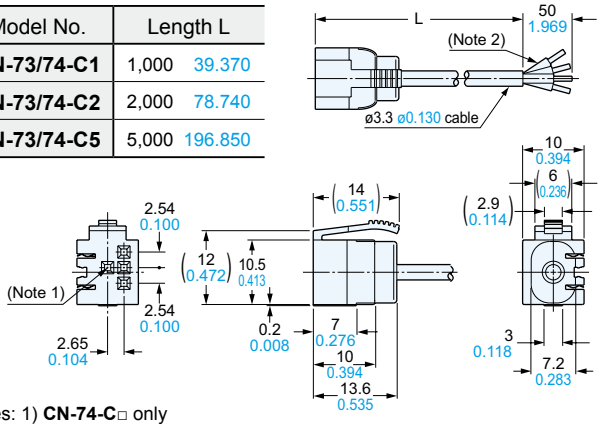


Notes: 1) **FX-305**□: Output 1 operation indicator (Orange)
2) **FX-305**□: Output 2 operation indicator (Orange)
3) **FX-301**□: 3-pin, **FX-305**□: 4-pin

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

• Length L

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

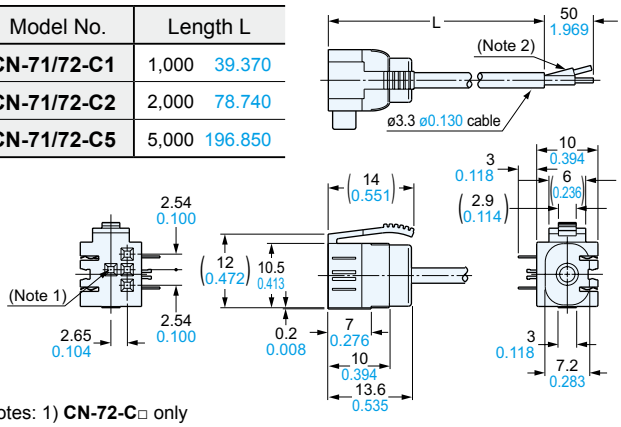


Notes: 1) **CN-74-C**□ only
2) **CN-73-C**□: 3-core

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

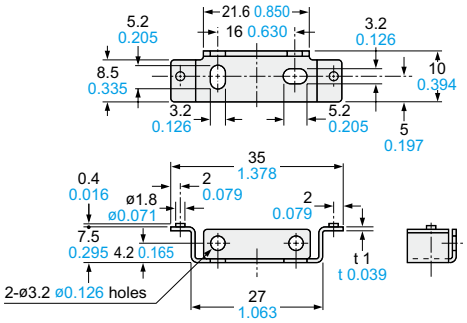
• Length L

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



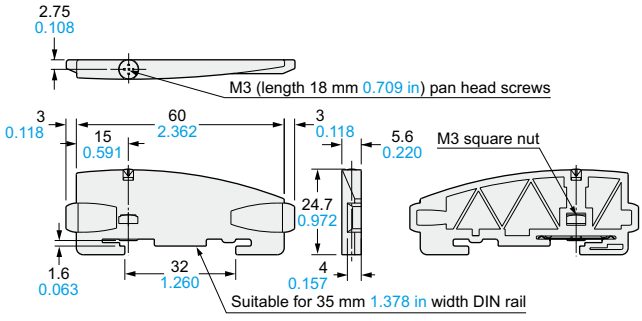
Notes: 1) **CN-72-C**□ only
2) **CN-71-C**□: 1-core

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



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

MS-DIN-E — End plate (Optional)



Material: Polycarbonate

Disclaimer

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