Information of Discontinued Models

SUNX

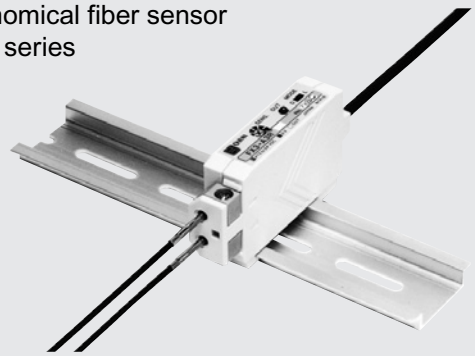
Created November 2007

Economical Fiber Sensor
FX3 series

Order cut-off date	: 30 Sep 2008
Date of product discontinuance	: 31 Dec 2008

Discontinued models

Economical fiber sensor
FX3 series



Recommended replacements

Digital fiber sensor
FX-100 series

∗ Check in the tables in
Main points of difference between recommended replacements and discontinued models
for details on model numbers for each type.

Refer to '**FX-100** series catalog' or SUNX website (sunx.com) for details.

Advantages of switching to recommended replacements

Simple set up using a dual digital display

The dual digital display with its high operability allows users to check both the threshold value and incident light intensity simultaneously. The threshold value can be directly adjusted by pressing the UP/DOWN keys. This usage is similar to a rotational adjuster type sensor. A key-lock function is also equipped.

Long life with low maintenance

Different from the previous fiber sensors which had used emitting element that required re-adjustment of the sensitivity levels due to changes in light emitting amount caused by temperature factors over long periods, the **FX-100** series has adopted " four-chemical emitting element " which suppresses deviations in light emitting amount over time maintaining stable sensing performance in long run.

Space saving with a width of 9 mm 0.354 in

With a slimness of just 9 mm 0.354 in equipped with a dual digital display, the sensors offer space saving with ease of use.

Commercially available connectors used to reduce lead time and spare part numbers

Commercially available connectors are used so that processing costs and lead time required to carry out processing after purchase of the sensors can be greatly reduced. The same connection parts in the **DP-100** series of digital pressure sensors and the **PM-64** series of micro photoelectric sensors can also be used.

Comprehensive functions

Whether for beginners or experienced users, extensive supporting functions are equipped to guide on-site tasks providing satisfaction for both beginners and experienced users.

- 2-point ON/OFF teaching
- Limit teaching
- Full auto-teaching
- Threshold value adjustment
- Emission frequency setting (Interference prevention)
- Timer
- Light emitting amount selection
- Threshold tracking
- ECO setting
- Quick setting
- Code setting

Notes on using recommended replacements

Recommended replacements	Sensing performance	Specifications	Output circuit	Mounting dimensions	Dimensions	Case color
FX-100 series	◎	◎	○	※	※	○

◎ : Highly interchangeable
○ : Almost no difference
※ : Large differences
– : No corresponding item or model

- Differences in sensing characteristics, shapes and dimensions.
- Press-key operation by dual digital display.
- Please purchase connector attached cable for other uses separately.
- Connector attached cable (length 2 m 6.562 ft) is included as a cable-set in **FX-10□-CC2**.
- Optional protective cover and amplifier mounting bracket are for sale separately.

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Main points of difference between recommended replacements and discontinued models

Discontinued models			Recommended replacements		Main points of difference from discontinued models
●Amplifiers (Red LED type)			●Amplifiers (Red LED type)		
Model No.	Output		Model No.	Output	
FX3-A3R	NPN output	→	**FX-101** (Note1)	NPN output	● Usage of the same fiber results in a longer sensing range with the recommended replacements.
		→	**FX-101-CC2** (Note2)	NPN output	
		→	**FX-102** (Note1)	NPN output	
		→	**FX-102-CC2** (Note2)	NPN output	
FX3-A3R-C5	NPN output	→	**FX-101** (Note3)	NPN output	
		→	**FX-102** (Note3)	NPN output	
FX-A3R-P	PNP output	→	**FX-101P** (Note1)	PNP output	
		→	**FX-101P-CC2** (Note2)	PNP output	
		→	**FX-102P** (Note1)	PNP output	
		→	**FX-102P-CC2** (Note2)	PNP output	

Notes: 1) Separate connectors attached cables are needed.
CN-14A-C1 (length 1m 3.280 ft),
CN-14A-C2 (length 2m 6.562 ft),
CN-14A-C3 (length 3m 9.843 ft),
CN-14A-C5 (length 5m 16.404 ft)
available for sale separately.
2) The connector attached cable **CN-14-C2** is supplied with the amplifier.
3) Separately connectors attached cable 5 m 16.404 ft long (**CN-14A-C5**) is needed.

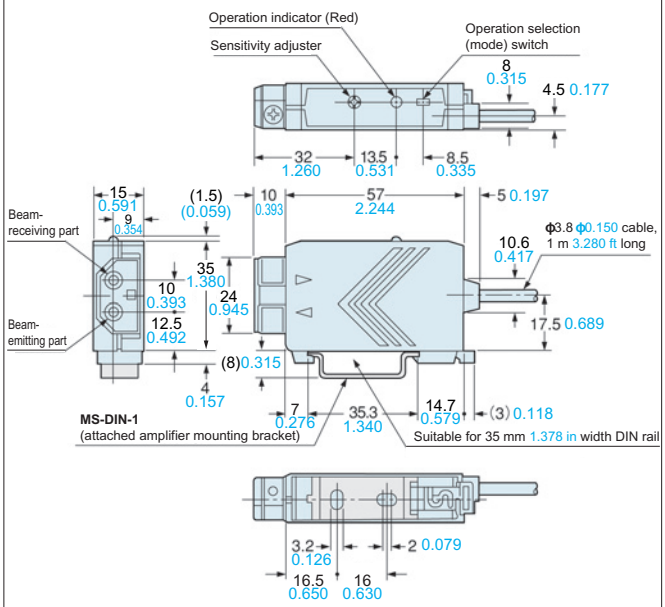
Dimensions (Unit: mm in)

Discontinued models

FX3 series

FX3-A3R□

Assembly dimensions with attached amplifier mounting bracket

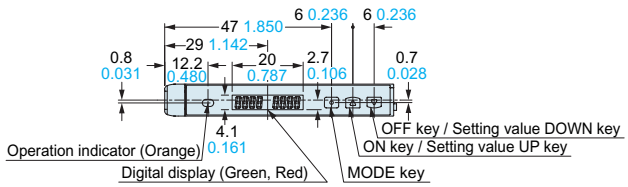


Note: **FX3-A3R-C5** has a ϕ3.8 ϕ0.150 cable, 5 m 16.404 ft long

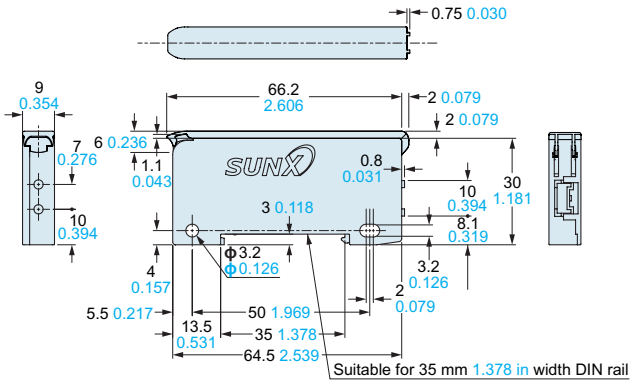
Recommended replacements

FX-100 series

FX-101□,FX-102□



Assembly dimensions with optional protective cover



Information of Discontinued Models

Economical Fiber Sensor FX3 series

Main rated specifications

Item \ Type	Discontinued models	Recommended replacements			
	Economical type	Standard type		Long sensing range type	
			Cable set		Cable set
Model No. NPN output	FX3-A3R	FX-101	FX-101-CC2	FX-102	FX-102-CC2
Model No. PNP output	FX3-A3R-P	FX-101P	FX-101P-CC2	FX-102P	FX-102P-CC2
Supply voltage	12 to 24 V DC±10 % Ripple P-P 10 % or less	12 to 24 V DC±10 % Ripple P-P 10 % or less			
Power consumption	30 mA or less	Normal operation: 720 mW or less (Current consumption 30 mA or less at 24 V supply voltage) ECO mode: 600 mW or less (Current consumption 25 mA or less at 24 V supply voltage)			
Output	<NPN output type> NPN open-collector transistor • Maximum sink current: 100 mA • Applied voltage: 30 V DC or less (between output and 0 V) • Residual voltage: 1.5 V or less (at 100 mA sink current) 0.4 V or less (at 16 mA sink current) <PNP output type> PNP open-collector transistor • Maximum source current: 100 mA • Applied voltage: 30 V DC or less (between output and + V) • Residual voltage: 1 V or less (at 100 mA source current) 0.4 V or less (at 16 mA source current)	<NPN output type> NPN open-collector transistor • Maximum sink current:100 mA • Applied voltage: 30 V DC or less (between output and 0 V) • Residual voltage: 1.5 V or less (at 100 mA sink current) <PNP output type> PNP open-collector transistor • Maximum source current: 100 mA • Applied voltage: 30 V DC or less (between output and +V) • Residual voltage: 1.5 V or less (at 100 mA source current)			
Output operation	Selectable either Light-ON or Dark-ON with selection switch	Selectable either Light-ON or Dark-ON, at SET mode			
External input	———	<NPN output type> NPN non-contact input • Signal condition High: +8 V to +V DC or Open Low: 0 to +2 V DC (Source current 0.5 mA or less) • Input impedance: 10 kΩ approx. <PNP output type> PNP non-contact input • Signal condition High: +4 V to +V DC (Sink current 0.5 to 3 mA) Low: 0 to +0.6 V DC or Open • Input impedance: 10 kΩ approx.			
Response time	1 ms or less	Emission frequency 0: 250 µs or less (factory default setting) Emission frequency 1: 450 µs or less Emission frequency 2: 500 µs or less Emission frequency 3: 600 µs or less		Emission frequency 1: 2.5 ms or less (factory default setting) Emission frequency 2: 2.8 ms or less Emission frequency 3: 3.2 ms or less Emission frequency 4: 5.0 ms or less	
Sensitivity setting	Continuously variable adjustment	2-point teaching / Limit teaching / Full-auto teaching			
Digital display	———	4 digits (green)+4 digits (red) LCD display			
Fine sensitivity adjustment function	———	Incorporated			
Timer function	———	ON-delay / OFF-delay timer, switchable either effective or ineffective. [Timer period:1 ms, 5 ms, 10 ms, 20 ms, 40 ms, 50 ms, 100 ms, 500 ms, 1,000 ms]			
Light emitting amount selection function	———	Incorporated / Switchable either effective or ineffective			
Interference prevention function	———	Incorporated Emission frequency selection method (Functions at emission frequency 1, 2 or 3)		Incorporated Emission frequency selection method (Functions at emission frequency 1, 2 , 3 or 4)	
Ambient temperature	−10 to +50 °C +14 to +122 °F (No dew condensation or icing allowed), Storage: −20 to +60 °C +4 to +140 °F	−10 to +55 °C +14 to +131 °F (If 4 to 7 units are mounted close together: −10 to +50 7C +14 to +122 °F, if 8 to 16 units are mounted close together: −10 to +45 °C +14 to +113 °F) (No dew condensation or icing allowed), Storage: −20 to +70 °C +4 to +158 °F			
Emitting element (modulated)	Red LED (Peak emission wavelength: 660 nm 0.026 mil)	Red LED (Peak emission wavelength : 632 nm 0.025mil)			
Material	Enclosure: Heat-resistant ABS	Enclosure: Polycarbonate, Key switch: Polycarbonate, Fiber lock lever: PBT			
Cable	0.3 mm² 3-core cabtyre cable, 1 m 3.280 ft long	Connector (Note 1)			
Weight	Net weight: 48 g approx.	Net weight: 15 g approx. Gross weight: 35 g approx.	Net weight: 15 g approx. Gross weight: 75 g approx.	Net weight: 15 g approx. Gross weight: 35 g approx.	Net weight: 15 g approx. Gross weight: 75 g approx.
Accessory	**MS-DIN-1** (mounting bracket): 1 pc., Adjusting screwdriver: 1 pc.	———	**CN-14A-C2** (Connector attached cable, 2 m 6.562 ft long):1pc.	———	**CN-14A-C2** (Connector attached cable, 2 m 6.562 ft long):1pc.

Note: 1) Connector attached cable **CN-14A-C2** is not attached to the models that have no '**-CC2**' at the end of the model Nos.
Make sure to use the optional connector attached cable **CN-14A(-R)-C□** or the connector **CN-14A**,or a connector manufactured by J.S.T.Mfg.Co.,Ltd.
(contact: SPHD-001T-P0.5, housing: PAP-04V-S).

Refer to 'FX-100 series catalog' or SUNX website (sunx.com) for details.