

# INSTRUCTION MANUAL

## Glass Substrate Alignment & Seating Confirmation Fiber FD-L43

Thank you very much for using SUNX products. Please read this Instruction Manual carefully and thoroughly for the correct and optimum use of this product. Kindly keep this manual in a convenient place for quick reference.



**This product is not a safety sensor. Its use is not intended or designed to protect life and prevent body injury or property damage from dangerous parts of machinery. It is a normal object detection sensor.**

- For the mounting method of the fiber attachment (FT-AT13), refer to the Instruction Manual attached to the amplifier [FX-301(P), FX-311(P)].
- For the mounting method of the fiber attachment (FT-AT5), refer to the Instruction Manual attached to the fiber attachment (FX-AT□).

## 1 SPECIFICATIONS

Designation	Glass substrate alignment & seating confirmation fiber
Item	Model No.
	<b>FD-L43</b>
Applicable amplifier	<b>FX-301(P), FX-311(P)</b>
Sensing range (Note 1)	0 to 20mm
Sensing object	LCD glass
Angular deviation (Note 1)	Right and left side inclination of the sensing object: $\pm 6^\circ$ (at sensing range 5 to 17mm)
Position sensing accuracy (Note 1)	0.2mm less (at sensing range 5 to 17mm)
Fiber cable length	2m free-cut
Allowable bending radius	R4mm or more
Bending durability	100,000 times or more (at R4mm)
Ambient temperature	0 to +70°C (No dew condensation) Storage: 0 to +70°C
Ambient humidity	35 to 85% RH, Storage: 35 to 85% RH
Material	Fiber cable
	Fiber head
Accessories	Fiber core: Acrylic, Sheath: Polyethylene Enclosure: Heat-resistant ABS, Lens: Acrylic <b>FX-CT2</b> (Fiber Cutter): 1 No. <b>FX-AT5/AT13</b> ( 1.3mm fiber attachment): 1 set

Notes: 1) The sensing range, the angular deviation and the position sensing accuracy are specified for the standard sensing object (transparent glass t=1.1mm, edge-ground)

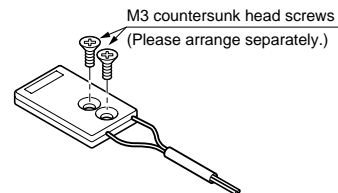
2) Note that the sensing range may be reduced up to 20% depending on the cut condition. Hence, decide the setting distance by taking sufficient margin.

## 2 CAUTIONS

- There is a white stripe on the beam-emitting cable. When setting the amplifier, put the fiber cable with white stripe into the beam-emitting side.
- Keep the fiber head surface intact. If it is scratched, the detectability will deteriorate.
- If the fiber head surface is dirty, wipe the dirt away with a moist soft cloth. However, do not use any organic solvents.
- Do not use this product in an environment containing organic solvents.
- Since a water drop on the sensing surface can affect the sensing performance, avoid using this fiber head at places where water splashes.  
Further, take sufficient care against dew condensation etc. on the sensing object and the sensing surface.
- Do not apply excessive tensile force to the fiber cable.
- Bending radius of the fiber cable must be R4mm or more. If the bending radius is smaller than the specified value, the sensing performance will deteriorate.
- Ensure that any strong extraneous light is not incident on the sensing surface of the fiber head.
- The fiber cable can be cut for adjustment using the attached fiber cutter (FX-CT2), however, the sensing performance may decrease depending on the cut condition of the fiber cable and the connection to the amplifier.
- Take care that shortening the fiber cable excessively may result in loss of reliable detection due to an insufficient light intensity difference.
- If the surface of the sensing object is specially processed in order not to reflect the light specularly, take care that sensing may not be stable.

## 3 MOUNTING

- Mount using M3 countersunk head screws. The tightening torque should be 0.3N·m or less.



## SUNX Limited

<http://www.sunx.co.jp/>

### Head Office

2431-1 Ushiyama-cho, Kasugai-shi, Aichi, 486-0901, Japan  
Phone: +81-(0)568-33-7211 FAX: +81-(0)568-33-2631

### Overseas Sales Dept.

Phone: +81-(0)568-33-7861 FAX: +81-(0)568-33-8591

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