

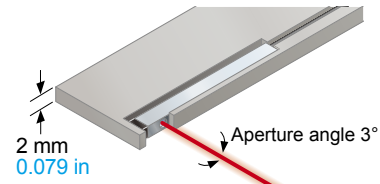
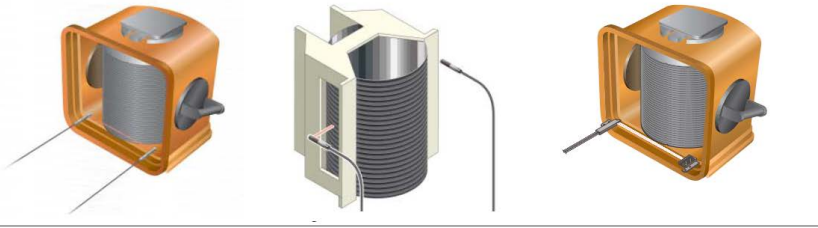
Narrow Beam Fiber Optic Cables

Since the beam is narrow, it has a feature by which it is not easily affected by surrounding obstacles even in long distances.

Applications

Mapping fiber

This ultra-narrow optical beam fiber is ideal for mapping waters.



Detection of a wafer



Thru-beam type (one pair set)

Type	Shape of fiber head (mm)	Model No.	Bending radius (mm)	Fiber cable length Free-cut	Sensing range (mm in) (Note 1)						Beam axis dia. (mm)	Inclination of beam axis	Protection	Ambient temp.	Dimensions
					FX-500 series		FX-550 series		FX-101 (Upper value) FX-102 (Lower value)						
Narrow beam Side-view	Aperture angle 2° ø3.5 ø3.7 20	Tough (Bending durability) FT-KS40	R2	2 m	STD (Note 2) 3,600 141.732	U-LG LONG FAST H-SP 3,600 141.732 (Note 2)	STD (Note 2) 3,600 141.732	U-LG LONG FAST 3,600 141.732 (Note 2)	FX-101 (Upper value) FX-102 (Lower value) 2,200 86.614 3,600 141.732 (Note 2)	ø2.2	—	IP40	-40 to +80 °C	P.66	
	Aperture angle 2° ø4 25	Tough (Bending durability) FT-KV40			HYPR (Note 2) 3,600 141.732	3,600 141.732 (Note 2)	HYPR (Note 2) 3,600 141.732	3,600 141.732 (Note 2)							
	Aperture angle 2° ø4 25	FT-KV40W	STD (Note 2) 3,600 141.732		3,600 141.732 (Note 2)	STD (Note 2) 3,600 141.732	3,600 141.732 (Note 2)								
	Aperture angle 3° 1.5 × 2 20	Tough (Bending durability) FT-KV26	HYPR (Note 2) 3,600 141.732		3,600 141.732 (Note 2)	HYPR (Note 2) 3,600 141.732	3,600 141.732 (Note 2)								
	Aperture angle 3° 1.5 × 2 20	FT-KV26H1	STD (Note 2) 3,600 141.732		3,600 141.732 (Note 2)	STD (Note 2) 3,600 141.732	3,600 141.732 (Note 2)								

Retroreflective type

Type	Shape of fiber head (mm)	Model No.	Bending radius (mm)	Fiber cable length Free-cut	Sensing range (mm in) (Note 1, 3)						Protection	Ambient temp.	Dimensions
					FX-500 series		FX-550 series		FX-101 (Upper value) FX-102 (Lower value)				
With polarizing filter	W5.2 × H9.5 × D16 W30 × H30 × D0.5	FR-Z50HW	R1	2 m	STD 100 to 990 3.937 to 38.976	U-LG LONG FAST H-SP 100 to 1,200 3.937 to 47.244	STD 100 to 1,150 3.937 to 45.278	U-LG LONG FAST 100 to 1,800 3.937 to 70.866	FX-101 (Upper value) FX-102 (Lower value) 100 to 550 3.937 to 21.854 100 to 830 3.937 to 32.677	IP40	-25 to +55 °C	P.70	
Wafer mapping	W7.5 × H2.2 × D11.2 Aperture angle 3° (emitter) W4 × H2 × D21.5	Tough (Bending durability) FR-KZ22E	R2		STD 15 to 310 0.591 to 12.205	15 to 460 0.591 to 18.110 15 to 410 0.591 to 16.142 15 to 220 0.591 to 8.661 15 to 100 0.591 to 3.937	STD 15 to 540 0.591 to 21.260 HYPR 15 to 800 0.591 to 31.496	15 to 700 0.591 to 27.559 15 to 600 0.591 to 23.622 15 to 400 0.591 to 15.748	15 to 200 0.591 to 7.874 15 to 360 0.591 to 14.173				
Narrow beam Top sensing Side sensing	W5.2 × H9.5 × D21 W10.6 × H28 × D10.1	Tough (Bending durability) FR-KZ50H	R2		STD 20 to 300 0.787 to 11.811	20 to 800 0.787 to 31.496 20 to 400 0.787 to 15.748 20 to 200 0.787 to 7.874 20 to 200 0.787 to 7.874	STD 20 to 400 0.787 to 15.748 HYPR 20 to 1,600 0.787 to 62.992	20 to 1,300 0.787 to 51.161 20 to 500 0.787 to 19.685 20 to 350 0.787 to 13.780	20 to 200 0.787 to 7.874 20 to 350 0.787 to 13.780				
	W9.5 × H25 × D5.2	Tough (Bending durability) FR-KZ50E			STD 20 to 1,000 0.787 to 39.370								
	W28 × H10.6 × D10.1												

Reflective type

Type	Shape of fiber head (mm)	Model No.	Bending radius (mm)	Fiber cable length Free-cut	Sensing range (mm in) (Note 1, 4)						Protection	Ambient temp.	Dimensions
					FX-500 series		FX-550 series		FX-101 (Upper value) FX-102 (Lower value)				
Long range	W5.2 × H9.5 × D16	FD-Z50HW	R1	2 m	STD 10 to 660 0.394 to 25.991	U-LG LONG FAST H-SP 10 to 1,100 0.394 to 43.307	STD 10 to 950 0.394 to 37.402 HYPR 10 to 3,700 0.394 to 154.669	10 to 2,100 0.394 to 82.677 10 to 1,300 0.394 to 51.161 10 to 590 0.394 to 23.228	10 to 200 0.394 to 7.874 10 to 530 0.394 to 20.866	IP40	-40 to +60 °C	P.80	

- Notes: 1) Note that the sensing range of the free-cut type fiber may be reduced by 20 % max. depending upon how the fiber is cut.
 2) The fiber cable length practically limits the sensing range.
 3) The sensing range is the possible setting range for the attached reflector. The fiber can detect an object less than setting range for the reflector. Refer to p.32 or p.47 for the sensing range when FR-Z50HW is used in combination with a reflector (optional).
 4) The sensing range is specified for white non-glossy paper.

- PHOTO-ELECTRIC SENSORS
- MICRO PHOTO-ELECTRIC SENSORS
- AREA SENSORS
- SAFETY LIGHT CURTAINS / SAFETY COMPONENTS
- PRESSURE / FLOW SENSORS
- INDUCTIVE PROXIMITY SENSORS
- PARTICULAR USE SENSORS
- SENSOR OPTIONS
- WIRE-SAVING UNITS
- WIRE-SAVING SYSTEMS
- MEASUREMENT SENSORS
- STATIC CONTROL DEVICES
- LASER MARKERS
- PLC
- HUMAN MACHINE INTERFACES
- ENERGY MANAGEMENT SOLUTIONS
- FA COMPONENTS
- MACHINE VISION SYSTEMS
- UV CURING SYSTEMS
- Selection Guide
- Fibers
- Fiber Amplifiers
- Other Products
- FT/FD/FR