



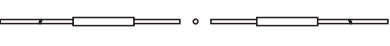









Fiber Optic Cable

■ Specifications(Transmitted beam)

Dimension	Model	(Note1) Cable length(L)	(Note2) Sensing distance (mm)	(Note3) Min. sensing target	Allowable bend radius	Temperature	
Free cut 	FT-320-05	2m	150	φ 0.5	15R	-40~+70℃ (Humidity:35~85%RH)	
Free cut 	FT-420-10	2m	500	φ 1	30R		
Free cut Cylinder type 	FTC-220-05	2m	150	φ 0.5	15R		
Free cut Cylinder type 	FTC-320-10	2m	500	φ 1	30R		
Free cut SUS Cylinder type 	FTCS-220-05	2m	150	φ 0.5	15R		
Free cut Plastic type 	FTP-320-10	2m	500	φ 1	30R		
Free cut High-flex type 	FT-420-13	2m	400	φ 1	4R		
Free cut SUS type 	FTS-320-05 FTS1-320-05 FTS2-320-05	2m	150	φ 0.5	15R (SUS part 10R)		
Free cut SUS type 	FTS-420-10 FTS2-420-10	2m	500	φ 1.0	30R (SUS part 10R)		
Free cut Heat-resistant type 	FT-420-10H	2m	300	φ 1.0	30R		-40~+105℃
Free cut Heat-resistant type 	FT-420-15H1	2m	500	φ 1.0	50R		-40~+150℃
Glass type Heat-resistant type For BF4R 	GT-420-13H2	2m	400	φ 1.0	25R		-40~+250℃

※ (Note1)Fiber optic cable out of the rated length can be customizable.

※ (Note2)The sensing distance is a standard for Red LED of BF4 Series and 10% of Red LED is applied when it is Green LED.
It is applied to 40% of sensing distance for BF3RX.

※ (Note3)Min. sensing target is a value measured opaque material in accurate output status and the sensing distance is different with the rated sensing distance(Note2).

※ Free cut The sensing distance can be shortened about 20% than the normal according to condition of the cable.
[(FC-2) should be used for cutting fiber cable.]

※ Glass type is for BF4R Series.

Fiber Optic Cable

■ Specifications(Diffuse reflective)

Dimension	Model	(Note1) Cable length(L)	(Note2) Sensing distance (mm)	(Note3) Min. sensing target	Allowable bend radius	Temperature
Free cut 	FD-320-05	2m	40	φ 0.03	15R	-40~+70℃ (Humidity:35~85%RH)
Free cut 	FD-420-05	2m	40	φ 0.03	15R	
Free cut 	FD-620-10	2m	120	φ 0.03	30R	
Free cut Cylinder type 	FDC-320-05	2m	40	φ 0.03	15R	
Free cut SUS Cylinder type 	FDCS-320-05	2m	40	φ 0.03	15R	
Free cut Plastic type 	FDP-320-10	2m	120	φ 0.03	30R	
Free cut SUS type 	FDS-320-05	2m	40	φ 0.03	15R (SUS part 10R)	
	FDS2-320-05					
Free cut SUS type 	FDS-420-05	2m	40	φ 0.03	15R (SUS part 10R)	
	FDS2-420-05					
Free cut SUS type 	FDS-620-10	2m	120	φ 0.03	30R (SUS part 10R)	
	FDS2-620-10					
Free cut Coaxial type 	FD-320-F	2m	40	φ 0.03	15R	
Free cut Coaxial type 	FD-320-F1	2m	60	φ 0.03	15R	
Free cut Coaxial type 	FD-620-F2	2m	120	φ 0.03	30R	
Free cut Heat-resistant type 	FD-620-10H	2m	120	φ 0.03	30R	-40~+105℃
Free cut Heat-resistant type 	FD-620-15H1	2m	160	φ 0.03	50R	-40~+150℃
Glass type Heat-resistant type For BF4R 	GD-420-20H2	2m	100	φ 0.03	50R	-40~+250℃
Glass type Heat-resistant type For BF4R 	GD-620-20H2	2m	100	φ 0.03	50R	-40~+250℃

※ (Note1) Fiber optic cable out of the rated length can be customizable.

※ (Note2) The sensing distance is a standard for Red LED of BF4 Series and the sensing target is □ 50mm of non-glossy white paper and 10% of Red LED is applied when it is Green LED.
(FD-620 Type is the value measured at the max. sensitivity using □ 100mm of non-glossy white paper.)

※ (Note3) Min. sensing target is a value measured opaque material in accurate output status and the sensing distance is different with the rated sensing distance(Note2).

※ Free cut The sensing distance can be shortened about 20% than the normal according to condition of the cable.
[(FC-2) should be used for cutting fiber cable.]

※ Glass type is for BF4R Series.

- (A) Counter
- (B) Timer
- (C) Temp. controller
- (D) Power controller
- (E) Panel meter
- (F) Tacho/Speed/Pulse meter
- (G) Display unit
- (H) Sensor controller
- (I) Switching power supply
- (J) Proximity sensor
- (K) Photo electric sensor
- (L) Pressure sensor
- (M) Rotary encoder
- (N) Stepping motor & Driver & Controller
- (O) Graphic panel
- (P) Production stoppage models & replacement

Fiber Optic Cable

Dimensions

Model	Diffuse reflective	Model	Transmitted beam
FD-320-05 M3-D0.5 Free cut Adapter 2- ϕ 0.5 M3X0.5 2- ϕ 1		FT-320-05 M3-D0.5 Free cut Adapter ϕ 0.5 M3X0.5 ϕ 1	
FD-420-05 M4-D0.5 Free cut Adapter 2- ϕ 0.5 ϕ 2.6 M4X0.7 2- ϕ 1		FT-420-10 M4-D1.0 Free cut ϕ 1 M4X0.7 M2.6X0.45 ϕ 2.2	
FD-620-10 M6-D1.0 Free cut 2- ϕ 1 ϕ 4 M6X0.75 2- ϕ 2.2		FTC-220-05 ϕ 2-D0.5 Free cut Adapter ϕ 0.5 15mm connector length ϕ 2 ϕ 1.0	
FDC-320-05 M3-D0.5 Free cut Adapter 2- ϕ 0.5 ϕ 3 2- ϕ 1		FTC-320-10 ϕ 3-D1.0 Free cut ϕ 1 20mm connector length ϕ 3 ϕ 2.2	
FDCS-320-05 ϕ 3-D0.5 SUS ϕ 1.5x15mm Free cut Adapter 2- ϕ 0.5 ϕ 1.5 ϕ 3 2- ϕ 1		FTCS-220-05 ϕ 1.0-D0.5 SUS ϕ 1x15mm Free cut Adapter ϕ 0.5 ϕ 1 ϕ 2 ϕ 1	
FDP-320-10 D1.0x2 Plastic Free cut 2- ϕ 1 7.5mm diameter 19mm connector length 13mm diameter 10mm diameter 4- ϕ 3.1 2- ϕ 2.2		FTP-320-10 D1.0 Plastic Free cut ϕ 1 7.5mm diameter 19mm connector length 13mm diameter 10mm diameter 4- ϕ 3.1 ϕ 2.2	
FDS-320-05 M3-D0.5 SUS ϕ 1.5x90mm Free cut Adapter 2- ϕ 0.5 ϕ 1.5 M3X0.5 2- ϕ 1		FT-420-13 M4-D0.265x16 Free cut ϕ 1.3 M4X0.7 M2.6X0.45 ϕ 2.2	
FDS2-320-05 M3-D0.5 SUS ϕ 1.5x45mm Free cut Adapter 2- ϕ 0.5 ϕ 1.5 M3X0.5 2- ϕ 1		FTS-320-05 M3-D0.5 SUS ϕ 1.0x90mm Free cut Adapter ϕ 0.5 90mm connector length ϕ 1.0 M3X0.5 ϕ 1	
FDS-420-05 M4-D0.5 SUS ϕ 1.5x90mm Free cut Adapter 2- ϕ 0.5 ϕ 1.5 M4X0.7 2- ϕ 1		FTS1-320-05 M3-D0.5 SUS ϕ 1.0x35mm Free cut Adapter ϕ 0.5 35mm connector length ϕ 1 M3x0.5 ϕ 1	
FDS2-420-05 M4-D0.5 SUS ϕ 1.5x45mm Free cut Adapter 2- ϕ 0.5 ϕ 1.5 M4X0.7 2- ϕ 1		FTS2-320-05 M3-D0.5 SUS ϕ 1.0x45mm Free cut Adapter ϕ 0.5 45mm connector length ϕ 1.0 M3X0.5 ϕ 1	
FDS-620-10 M6-D1.0 SUS ϕ 2.5x90mm Free cut 2- ϕ 1 ϕ 2.5 M6X0.75 2- ϕ 2.2		FTS-420-10 M4-D1.0 SUS ϕ 1.5x90mm Free cut ϕ 1 90mm connector length ϕ 1.5 M4X0.7 ϕ 2.2	
FDS2-620-10 M6-D1.0 SUS ϕ 2.5x45mm Free cut 2- ϕ 1 ϕ 2.5 M6X0.75 2- ϕ 2.2		FTS2-420-10 M4-D1.0 SUS ϕ 1.5x45mm Free cut ϕ 1 45mm connector length ϕ 1.5 M4X0.7 ϕ 2.2	
FD-320-F Co-axial M3 ϕ 0.5, ϕ 0.25x4 Free cut Adapter Emitter ϕ 0.5 Receiver 4- ϕ 0.25 18mm connector length M3X0.5 2- ϕ 1		FT-420-15H M4-D1.0 Heat Resistant 105°C Free cut ϕ 1 7mm diameter 15mm connector length 3mm diameter 12mm diameter M2.6X0.45 M4X0.7 ϕ 2.2	

Fiber Optic Cable

■ Dimensions

Model	Transmitted beam	Model	Transmitted beam
FT-420-15H1 M4-D1.0 Heat Resistant 150°C Free cut		GT-420-13H2 M4-D1.4 Heat Resistant Max. 250°C Glass Free cut	
Model	Diffuse reflective	Model	Diffuse reflective
FD-320-F1 Co-axial M3 φ0.5, φ0.25×9 Free cut Adapter		FD-620-15H1 M6-D1.5 Heat Resistant 150°C Free cut	
FD-620-F2 Co-axial M6 φ1.0 φ0.25×16 Free cut		GD-420-20H2 M4-D0.05×1000 Heat Resistant 250°C Free cut	
FD-620-10H M6-D1.0 Heat Resistant 105°C Free cut		GD-620-20H2 M6-D0.05×1000 Heat Resistant 250°C Free cut	

■ Lens unit for long distance detection (Sold separately)

○Model : **FTL-M26**



<Lens unit>

<Mounting at cable>

○Mounting of lens

Mount the lens unit on the 3 mm projecting point of the front hood

○Ambient temperature range of lens unit

Able to use within $-40^{\circ}\text{C} \sim 100^{\circ}\text{C}$.
(Disable to use over 100°C .)

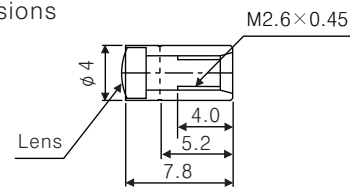
○Applicable fiber optic cable and max. mounting distance

FT-420-10 : 2500mm

FT-420-13 : 2000mm

FT-420-10H : 1500mm

○Dimensions



(Unit:mm)

■ Micro spot fiber optic cable and lens unit (Sold separately)

○Model

Fiber optic cable : **FDC-320-F**

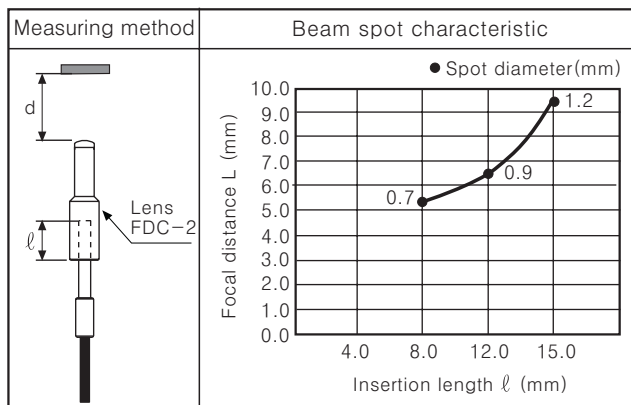
Micro spot lens : **FDC-2**

○Ambient temperature range of lens unit

It is used within $-40^{\circ}\text{C} \sim +100^{\circ}\text{C}$.

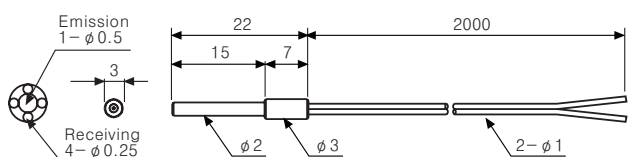
(It cannot be used over 100°C .)

○Feature data

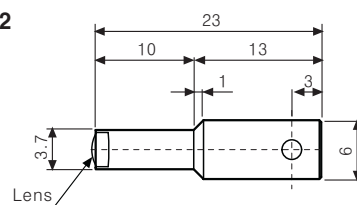


○Dimensions

●**FDC-320-F**



●**FDC-2**



(Unit:mm)

- (A) Counter
- (B) Timer
- (C) Temp. controller
- (D) Power controller
- (E) Panel meter
- (F) Tacho/Speed/Pulse meter
- (G) Display unit
- (H) Sensor controller
- (I) Switching power supply
- (J) Proximity sensor
- (K) Photo electric sensor
- (L) Pressure sensor
- (M) Rotary encoder
- (N) Stepping motor & Driver & Controller
- (O) Graphic panel
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Fiber Optic Cable

■ Protection tube for fiber optic cable (Sold separately)

○ Usage : Protect cable from impact or cutting

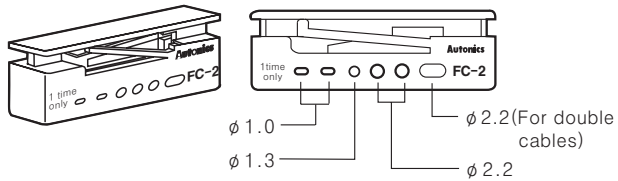
Model	Dimension
FTH-310	
FTH-410	
FDH-610	

■ Accessory

○ Fiber cutter

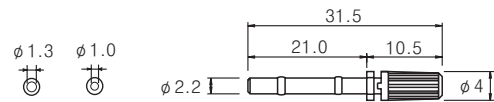
Usage : Free cut type, fiber optic cable cutting

- FC-2



○ Adapter

Adapter : should be used.



※ Note1)

The inside diameter $\phi 1.0$ (Standard and black)
 The inside diameter $\phi 1.3$ (Only applied to the receiver of FD-320-F1 and dark gray.)

(Unit: mm)