



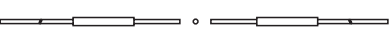









Fiber Optic Cable

■ 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	2m	150	φ 0.5	15R (SUS part 10R)	
	FTS1-320-05					
	FTS2-320-05					
Free cut SUS type 	FTS-420-10	2m	500	φ 1.0	30R (SUS part 10R)	
	FTS2-420-10					
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 	FD-CS-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)	
Free cut SUS type 	FDS2-320-05					
Free cut SUS type 	FDS-420-05	2m	40	φ 0.03	15R (SUS part 10R)	
Free cut SUS type 	FDS2-420-05					
Free cut SUS type 	FDS-620-10	2m	120	φ 0.03	30R (SUS part 10R)	
Free cut SUS type 	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℃

- (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

- ※ **(Note1)** Fiber optic cable out of the rated length can be customizable.
- ※ **(Note2)** The sensing distance above is set based on BF4 series, Red LED and non-glossy white paper(50×50mm). As for Green LED, 10% of Red LED is applied.
The sensing distance for FD-620 Type is set based on non-glossy white paper(100×100mm), at max. sensitivity.
- ※ **(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

Dimensions

Model	Diffuse reflective	Model	Transmitted beam
FD-320-05 M3-D0.5 Free cut Adapter		FT-320-05 M3-D0.5 Free cut Adapter	
FD-420-05 M4-D0.5 Free cut Adapter		FT-420-10 M4-D1.0 Free cut	
FD-620-10 M6-D1.0 Free cut		FTC-220-05 φ2-D0.5 Free cut Adapter	
FDC-320-05 M3-D0.5 Free cut Adapter		FTC-320-10 φ3-D1.0 Free cut	
FDCS-320-05 φ3-D0.5 SUS φ1.5×15mm Free cut Adapter		FTCS-220-05 φ1.0-D0.5 SUS φ1×15mm Free cut Adapter	
FDP-320-10 D1.0×2 Plastic Free cut		FTP-320-10 D1.0 Plastic Free cut	
FDS-320-05 M3-D0.5 SUS φ1.5×90mm Free cut Adapter		FT-420-13 M4-D0.265×16 Free cut	
FDS2-320-05 M3-D0.5 SUS φ1.5×45mm Free cut Adapter		FTS-320-05 M3-D0.5 SUS φ1.0×90mm Free cut Adapter	
FDS-420-05 M4-D0.5 SUS φ1.5×90mm Free cut Adapter		FTS1-320-05 M3-D0.5 SUS φ1.0×35mm Free cut Adapter	
FDS2-420-05 M4-D0.5 SUS φ1.5×45mm Free cut Adapter		FTS2-320-05 M3-D0.5 SUS φ1.0×45mm Free cut Adapter	
FDS-620-10 M6-D1.0 SUS φ2.5×90mm Free cut		FTS-420-10 M4-D1.0 SUS φ1.5×90mm Free cut	
FDS2-620-10 M6-D1.0 SUS φ2.5×45mm Free cut		FTS2-420-10 M4-D1.0 SUS φ1.5×45mm Free cut	
FD-320-F Co-axial M3 φ0.5, φ0.25×4 Free cut Adapter		FT-420-15H M4-D1.0 Heat Resistant 105°C Free cut	

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 .)

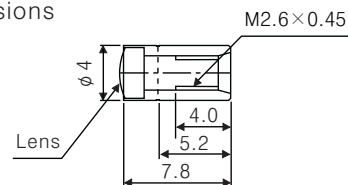
Applicable fiber optic cable and max. mounting distance

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**

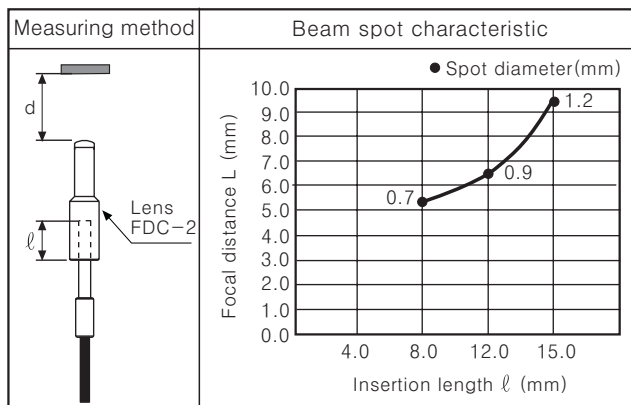
Micro spot lens : **FDC-2**

Ambient temperature range of lens unit

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

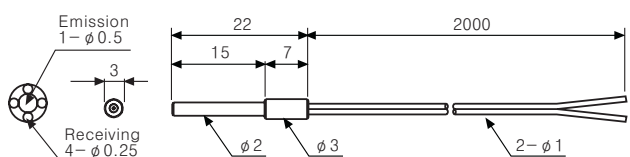
(It cannot be used over 100°C .)

Feature data

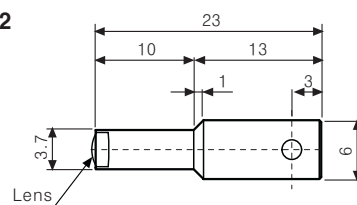


Dimensions

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

(P) Production stoppage models & replacement

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	

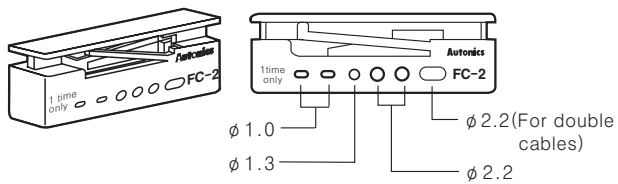
※Note1)
500mm tube can be customized.
※Note2)
Additional 8mm is for tube coupling.

Accessory

Fiber cutter

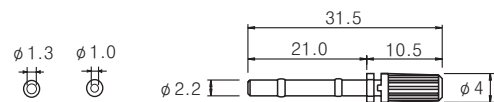
Usage : Free cut type, fiber optic cable cutting

●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)