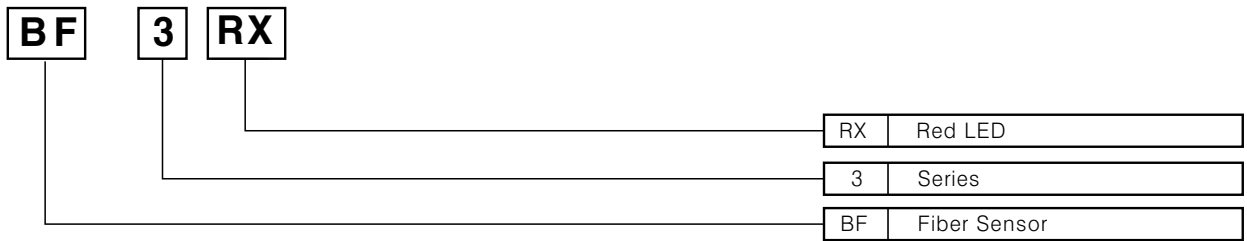
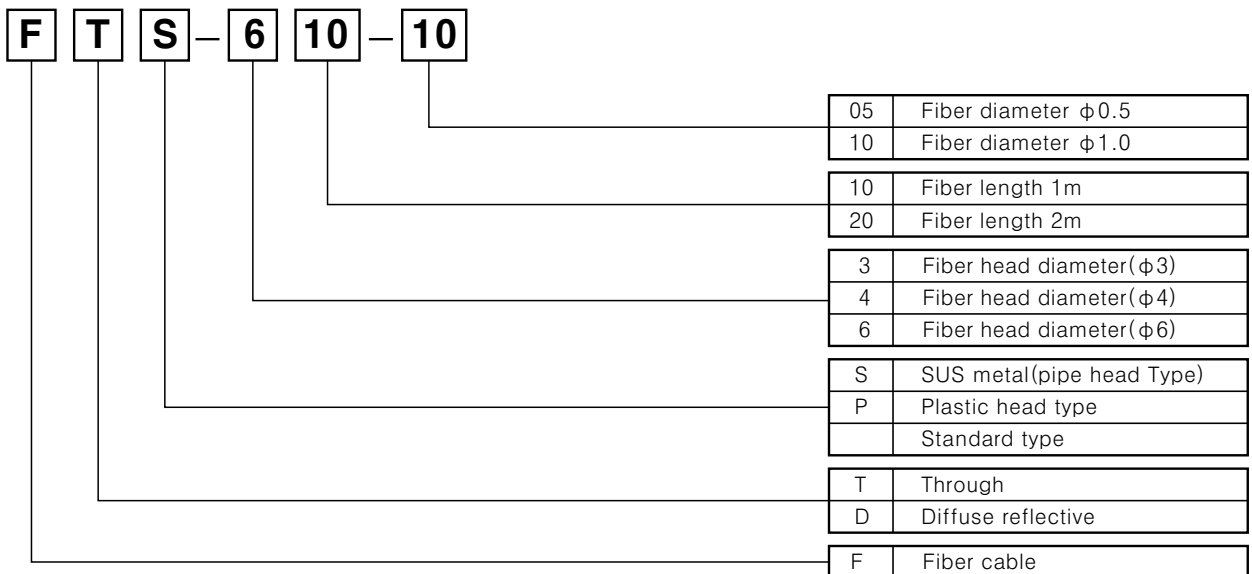


# OPTICAL FIBER SENSOR

## ■ Optical fiber amplifier



## ■ Optical fiber cable



## Optical fiber sensor of constructure easy-to mount, high responsibility

### ■ Features

- UMountable on DIN rail.
- UHigh speed response of 1mS.
- UAdjustable the sensitivity by the coarse and the fine adjuster.
- USelectable Light ON/ Dark ON by the cables.
- UShort circuit protection and protection of reverse connection.
- USuitable for detecting small target.
- UThe perfect application for narrow spaces.



### ■ Ordering information

Type	Model	Operating voltage	Operating mode	Output
Red LED	<b>BF3RX</b>	DC	Selectable Light ON or Dark ON by control wire	NPN open collector output

\*BF3R and BF3 were not produced, please replace above models.

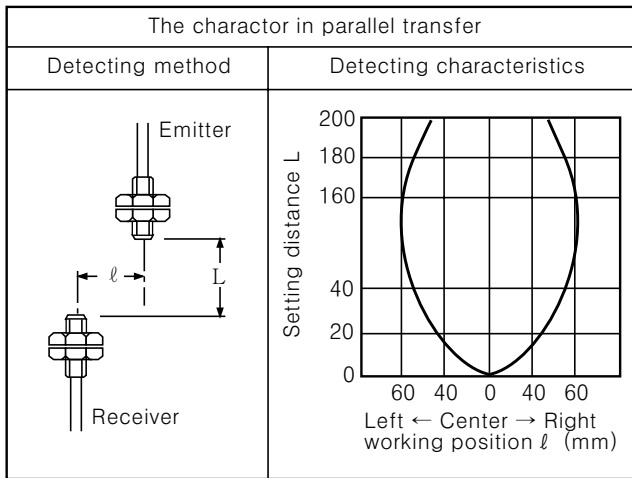
### ■ Specification

Model	Red LED <b>BF3RX</b>
Response time	Max. 1mS
Power supply	12 to 24VDC $\pm 10\%$ (ripple P-P:Max. 10%)
Power consumption	Max. 40mA
Source of light	Red LED
Adjusting	2 kinds of the adjustment(course, fine)
Operating mode	Selectable Light ON or Dark ON by control wire
Control output	NPN open collector output  load voltage Max.30V, load current Max.200mA, residual voltage Max.1V
Protection circuit	Short-circuit protection, Reverse polarity protection
Indicator	Operating indicator : red LED
Connection	Cable connection
Insulation resistance	Min. 20M $\Omega$ (500VDC)
Noise strength	Power line $\pm 240V$ at pulse band 1 $\mu$ s of noise simulation
Dielectric strength	1000VAC 50/60Hz for 1minute
Vibration	1.5mm amplitude at frequency of 10 to 55Hz in each of X,Y,Z directions for 2 hours
Shock	500m/s <sup>2</sup> (50G) in X,Y,Z directions for 3 times
Ambient operating illumination	Sunlight:11,000 Lux. Max., Incandescent lamp:3,000 Lux. Max.
Ambient temperature	Operating: -10 to 60 $^{\circ}$ C (non-freezing condition), Storage: -25 to 70 $^{\circ}$ C
Humidity	35 to 85% RH, Storage:35 to 85% RH
Protection	Case : ABS
Cable	3P, $\phi$ 5mm, length:2m
Weight	About 90g

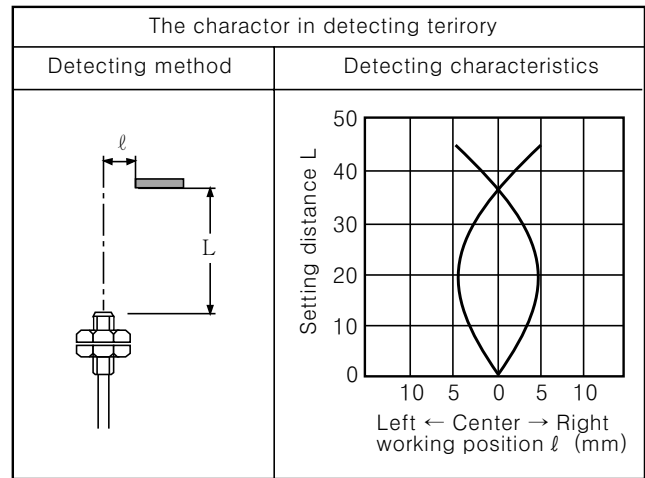
\*The weight of above chart is net weight.

## ■ Detecting characteristics

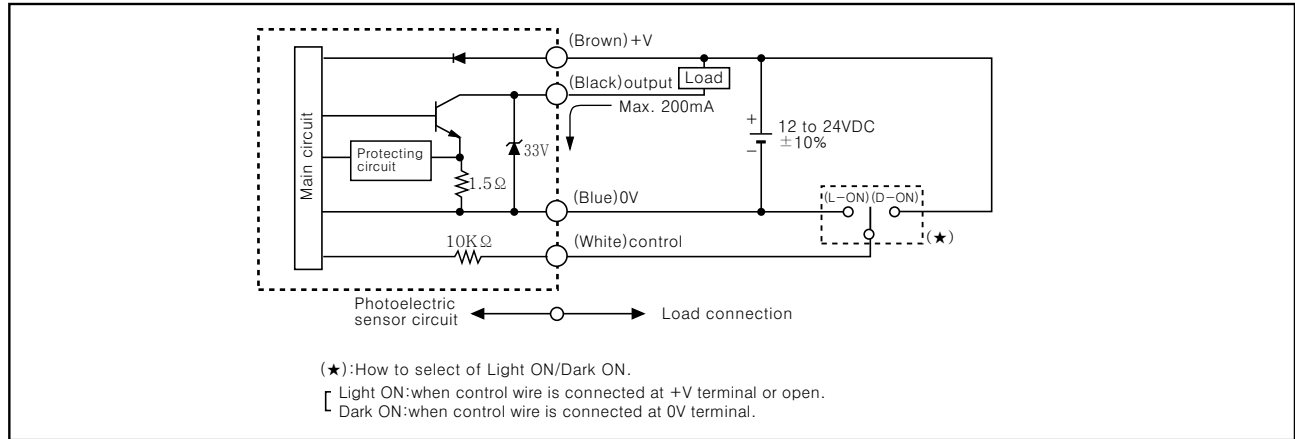
- ◎ Through type
- BF3RX(FT-420-10)



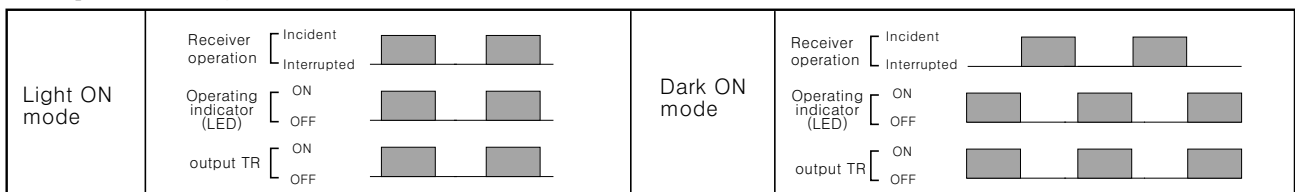
- ◎ Diffuse reflective type
- F3RX(FD-620-10)



## ■ Detecting characteristics

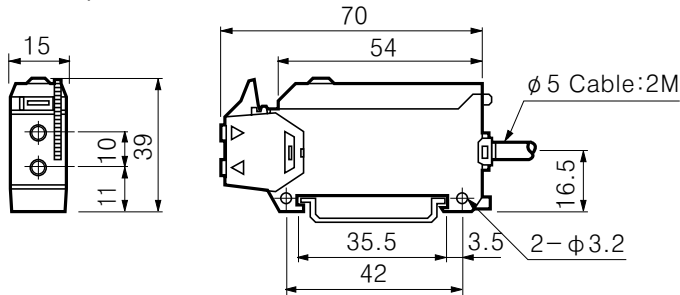


## ■ Operating mode and time chart

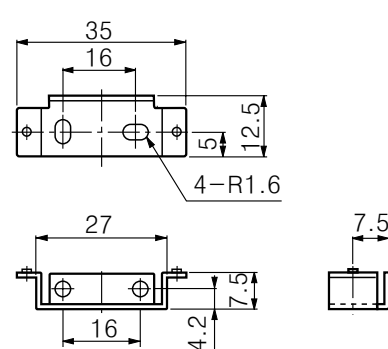


## ■ Dimension

◎ Amplifier



◎ Bracket



Unit:mm

# FIBER CABLE

## Optical fiber cables

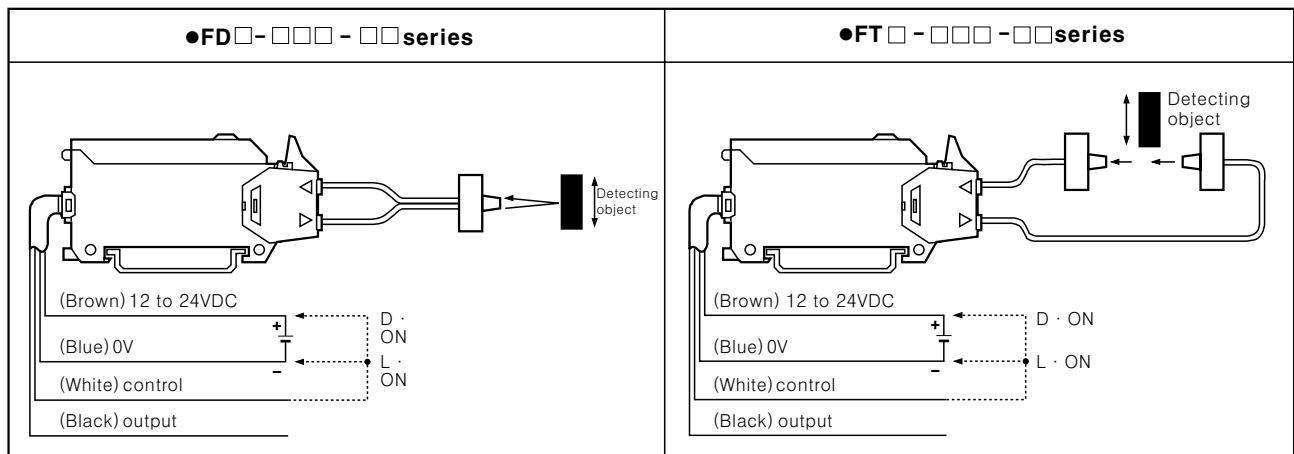
Appearances	Model	Cable length (L)	□ Detecting distance (mm)	Min. detecting object	Allowable radius	Screw torque	Cable elongation strength	Operating temperature
			BF3RX					
	<b>FT-310-05</b>	1m	70	φ 0.5	30R	Max. 3Kg·f·cm	Max. 1Kg.f	-30 to +60°C (Ambient humidity : 35 to 85RH)
	<b>FT-320-05</b>	2m						
<b>Free cut</b> 	<b>FT-420-10</b>	2m	200	φ 1	30R	Max. 8Kg·f·cm	Max. 3Kg.f	
	<b>FTS-310-05</b>	1m	70	φ 0.5	30R (SUS part 10R)	Max. 3Kg·f·cm	Max. 1Kg.f	
	<b>FTS-320-05</b>	2m						
<b>Free cut</b> 	<b>FTP-320-10</b>	2m	200	φ 1	30R	Max. 3Kg·f·cm	Max. 2Kg.f	
<b>Free cut</b> 	<b>FTS-420-10</b>	2m	200	φ 1	30R (SUS part 10R)	Max. 8Kg·f·cm	Max. 1Kg.f	
	<b>FD-310-05</b>	1m	20	φ 0.03	30R	Max. 3Kg·f·cm	Max. 3Kg.f	
	<b>FD-320-05</b>	2m						
<b>Free cut</b> 	<b>FD-620-10</b>	2m	50	φ 0.03	30R	Max. 10Kg·f·cm	Max. 1Kg.f	
	<b>FDS-310-05</b>	1m	20	φ 0.03	30R (SUS part 10R)	Max. 3Kg·f·cm	Max. 3Kg.f	
	<b>FDS-320-05</b>	2m						
<b>Free cut</b> 	<b>FDP-320-10</b>	2m	50	φ 0.03	30R	Max. 3Kg·f·cm	Max. 2Kg.f	
<b>Free cut</b> 	<b>FDS-620-10</b>	2m	50	φ 0.03	30R (SUS part 10R)	Max. 10Kg·f·cm	Max. 3Kg.f	

□ Standard target for diffuse reflective type is 50mm white tissue, standard target for through type is a opaque object.

## Optical fiber cable Protections

Model	Features	Application model	Dimensions
<b>FTH-410</b>	Protection pipe (Shock, vibration)	FT-420-10, FTS-420-10	
<b>FDH-610</b>	Protection pipe (Shock, vibration)	FD-620-10, FDS-620-10	

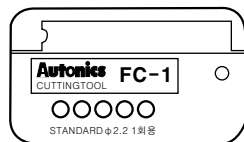
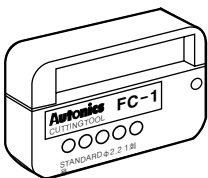
## ■ Optical fiber cables



※Non-using wires must be insulated.

## ◎Fiber cutter

### ●FC-1



### ●FC-2

