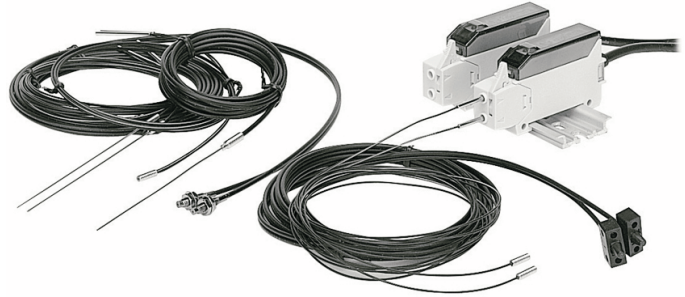


Twin volume built in, high accuracy type

■ Features

- Convenient DIN rail type
- High speed response : Max. 1ms
- Able to adjust high accuracy by Coarse and Fine sensitivity
- Selectable Light ON/Dark ON mode by control wire
- Over current protection and Reverse power polarity protection.
- Able to detect small targets
- Free cut type fiber optic cable



⚠ Please read "Caution for your safety" in operation manual before using.

■ Specifications

Model	BF3RX	BF3RX-P
Response time	Max. 1ms	
Power supply	12-24VDC ±10% (Ripple P-P:Max. 10%)	
Current consumption	Max. 40mA	
Light source	Red LED (Modulated)	
Sensitivity adjustment	Adjustable VR (Double adjustment : Coarse adjustment, Fine adjustment)	
Operation mode	Selectable Light ON/Dark ON by control wire	
Control output	<ul style="list-style-type: none"> ● NPN open collector output E Load voltage : Max. 30VDC, Load current : Max. 200mADC, Residual voltage : Max. 1VDC 	<ul style="list-style-type: none"> ● PNP open collector output E Output voltage : Min. (Power supply-2.5)VDC Load current : Max. 200mADC
Protection circuit	Reverse polarity protection, Output short-circuit protection	
Indication	Operation indicator : Red LED	
Connection	Outgoing cable	
Insulation resistance	Min. 20M Ω (at 500VDC)	
Noise strength	±240V the square wave noise (pulse width:1 μ s) by the noise simulator	
Dielectric strength	1,000VAC 50/60Hz for 1minute	
Vibration	1.5mm amplitude at frequency of 10 ~ 55Hz in each of X, Y, Z directions for 2 hours	
Shock	500m/s ² (50G) in X, Y, Z directions for 3 times	
Ambient illumination	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx	
Ambient temperature	-10 ~ +50°C (at non-freezing status), Storage : -25 ~ +70°C	
Ambient humidity	35 ~ 85%RH, Storage : 35 ~ 85%RH	
Material	Case : ABS	
Accessory	4P, ϕ 5mm, Length : 2m	
Cable	Adjustment driver, Mounting bracket, Bolts/Nuts	
Weight	Approx. 90g	

(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) Proximity sensor

(J) Photo electric sensor

(K) Pressure sensor

(L) Rotary encoder

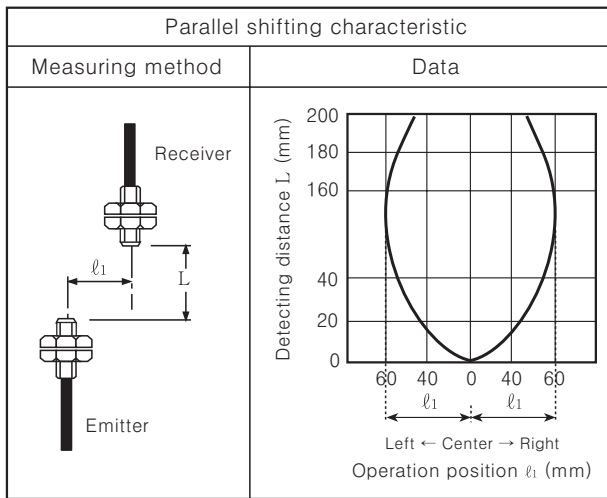
(M) 5-Phase stepping motor & Driver & Controller

BF3RX

Characteristic

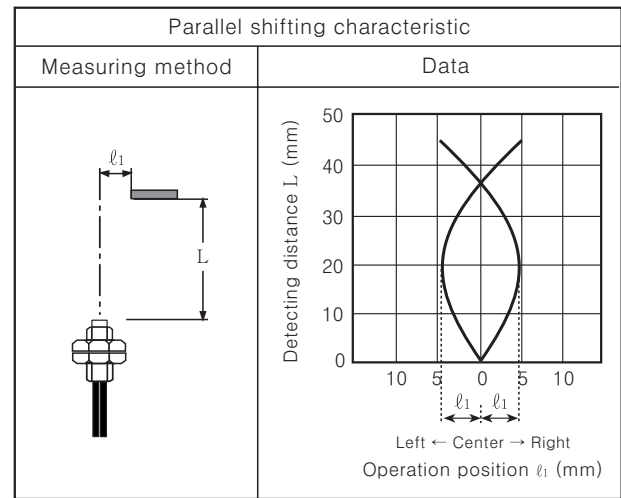
Through-beam

● Measurement : BF3RX + FT-420-10



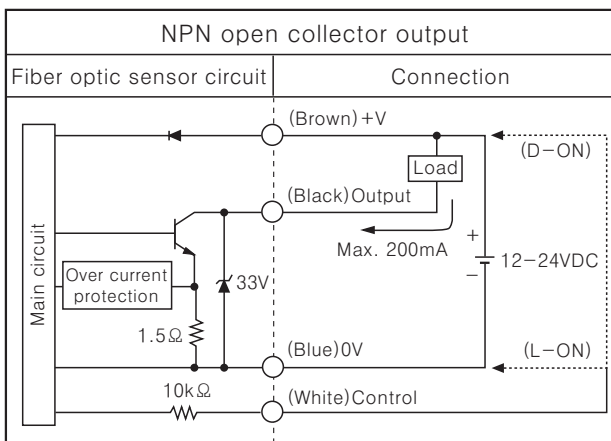
Diffuse reflective

● Measurement : BF3RX + FD-620-10

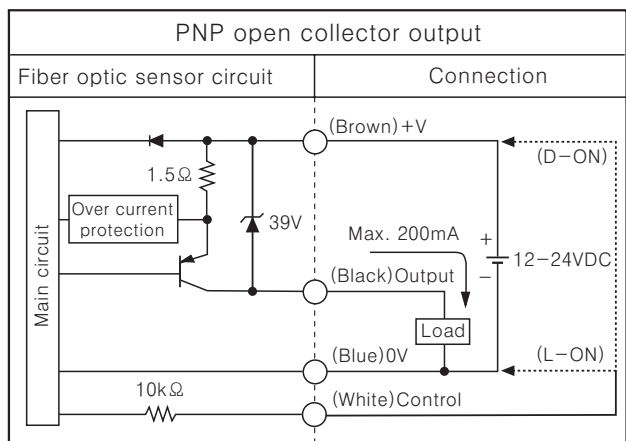


Control output diagram

● BF3RX

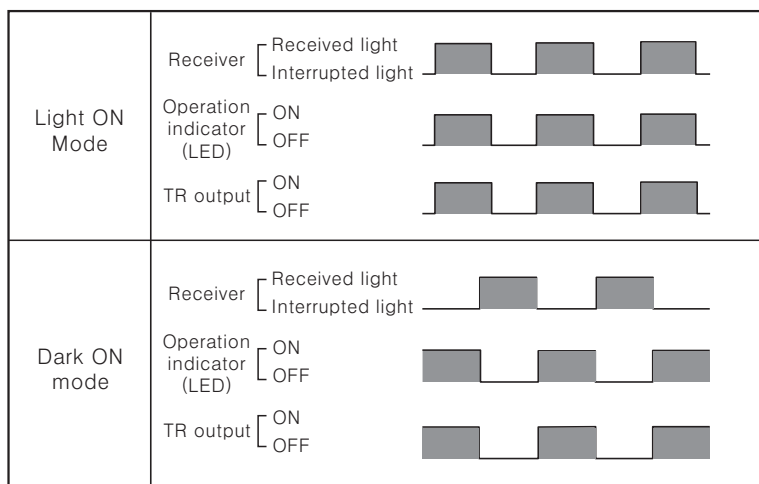


● BF3RX-P



※ When select Dark ON or Light ON, please use control wire(White) [Light ON : Connect control wire to 0V
Dark ON : Connect control wire to +V

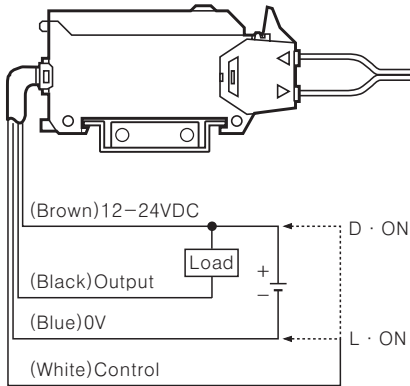
Operation mode



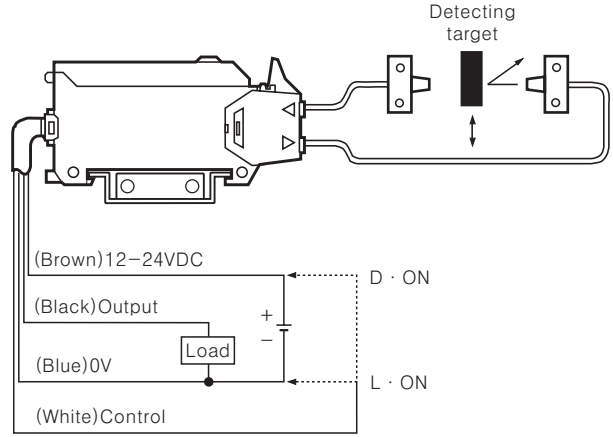
Manual Setting Type

Connections

BF3RX



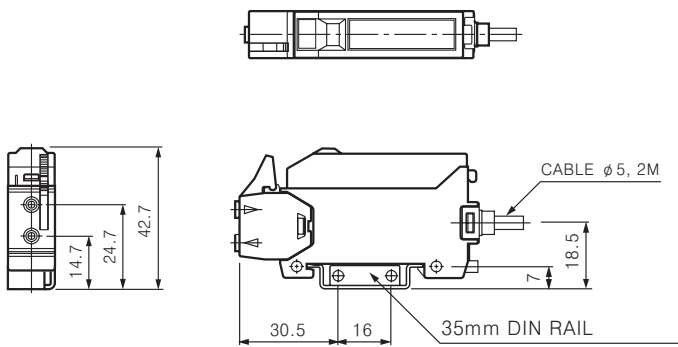
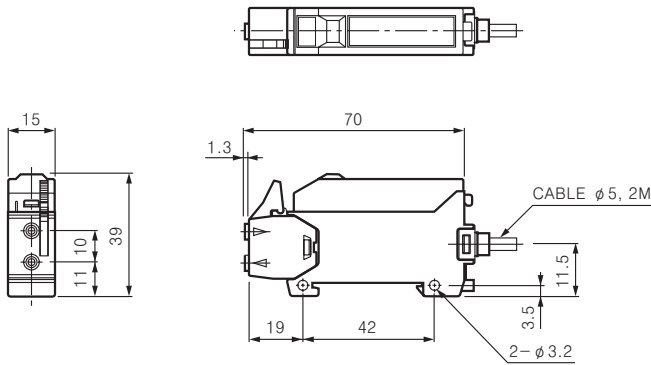
BF3RX-P



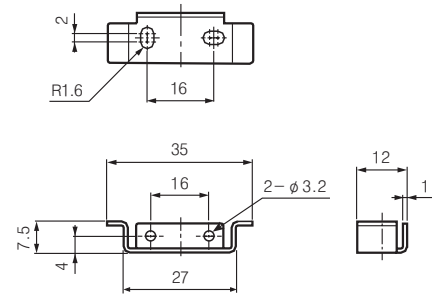
- ※ Able to use as Diffuse type or Through beam type according to the fiber Optic Cable.
- ※ **Adapter** marked Fiber Optic Cable should be used with Adapter ().
- ※ GT-420-14H2 can not be used because the length inserted into Amp is too short.

Dimensions

Unit:mm



Bracket



(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)
Proximity
sensor

(J)
Photo
electric
sensor
















(K)
Pressure
sensor

(L)
Rotary
encoder

(M)
5-Phase
stepping
motor &
Driver &
Controller

■ Sensitivity

- Use by adjusting the optimal sensitivity according to the order written on the below table.
- Please adjusting by observing operation lamp. Please observe below chart because operation lamp will be changed by detecting method.

Order	Detection type		Adjusting	VR	
	Diffuse reflective	Through -beam		COARSE	FINE
1	Initial setting		VR(Coarse) should be fixed at min. and VR(Fine) should be fixed at center(▼).		
2	Received light 	Received light 	Adjust VR(Coarse) to ON position by turning clockwise slowly when light is being received.		
3	Received light 	Received light 	Turn VR(Fine) until it is OFF toward(-), and turn until it is ON toward(+) again, then confirm that this will be A position.	Coarse VR is not required to adjust afterwards	
4	Interrupted light 	Interrupted light 	And then turn VR(Fine) until it is ON toward(+), and turning until it is OFF toward(-) again when light is not received. Then confirm that this position will be B position. (When it will not be ON, max. position will be B.)		
5	—	—	Fix it at middle of A and B position. This will be the best position to set.		
6	Received light 	Received light 	If you cannot adjust as above method, set VR(Fine) at max. position toward(+), then execute again.	