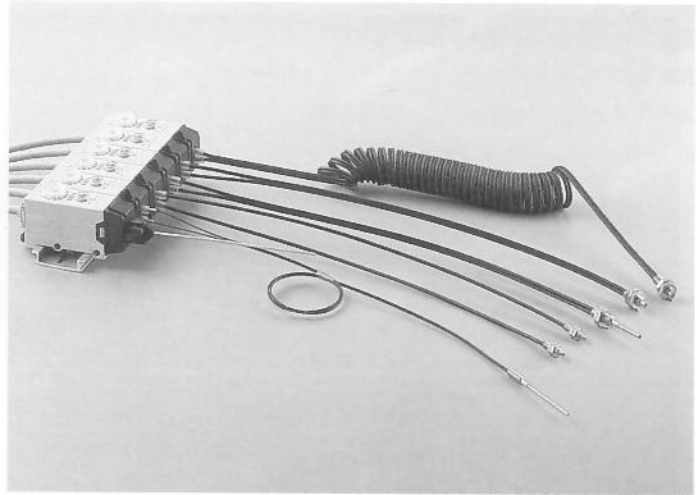


High speed response time 0.1 ms/ON.
 Free cut fiber cable.
 DIN rail fixer.
 Thermal drift less than $1 \mu\text{m}/^\circ\text{C}$
 Illumination over 10,000 Lux of lamp light.
 Fiber sensor with high repetitive $5 \mu\text{m}$.



Specification < Amplifier Unit >

Output Method	Standard Type			Long Distance Type	
Model	FF-01G	FF-03R	FF-03X	FF-06R	FF-06X
Emitter	Green LED	Red LED	Infrared LED	Red LED	Infrared LED
Response Time	ON : 0.1ms , OFF : 0.15ms				
Hysteresis	< 5% of Sensing Distance				
Operating Voltage	11~30 VDC ; Ripple < 20% of Peak to Peak				
Current Consumption	30 mA max.			40 mA max.	
Residual Voltage	< 0.8V				
Leakage Current	< 0.8mA				
Output Method	NPN & PNP Two Way Output				
Output Status	NO/NC Changeable				
Output Current	150mA max.				
Protection Method	Short Circuit & Polarity Reversed Protection				
Connection Method	4 Cores / 5.0 φ X 2m				
Protect Class	IP-65				
Illumination	Lamplight < 5,000 Lux ; Sunlight < 10,000 Lux.				
Operating Temp./Hum.	-20 C ~ +70 C ; 35%~85% RH				
Housing Material	PBT				
Weight	Appr. 105g				

FIBER CABLE UNIT

FF Series

Type	Mode	Model	Fiber shape	Amplifier	Min. detectable object	Sensing distance	Operating temperature	Fiber material
Reflex Type	M6 1.0 φ X 2	FPR-51		FF-01G	0.1 φ	12mm	-40°C +70°C	Poly-plastic
				FF-03R (X)	0.03 φ	35mm		
				FF-06R (X)	0.03 φ	65mm		
	M6 1.0 φ X 2 0.25 φ X 15	FPR-52		FF-01G	0.5 φ	12mm		
				FF-03R (X)	0.03 φ	35mm		
				FF-06R (X)	0.03 φ	65mm		
	M6 1.0 φ X 2	FPR-53		FF-01G	0.2 φ	6mm		
				FF-03R (X)	0.03 φ	15mm		
				FF-06R (X)	0.03 φ	30mm		
	M6 0.5 φ X 2	FPR-54		FF-01G	0.1 φ	8mm		
				FF-03R (X)	0.03 φ	20mm		
				FF-06R (X)	0.03 φ	45mm		
	M6 1.0 φ X 2	FPR-55		FF-01G	0.1 φ	12mm		
				FF-03R (X)	0.03 φ	35mm		
				FF-06R (X)	0.03 φ	65mm		
	M4 0.5 φ X 2	FPR-56		FF-01G	0.1 φ	8mm		
				FF-03R (X)	0.03 φ	20mm		
				FF-06R (X)	0.03 φ	45mm		
	M5 0.5 φ X 2	FPR-57		FF-01G	0.1 φ	8mm		
				FF-03R (X)	0.03 φ	20mm		
				FF-06R (X)	0.03 φ	45mm		
	M4 0.5 φ X 2	FPR-58		FF-01G	0.1 φ	8mm		
				FF-03R (X)	0.03 φ	20mm		
				FF-06R (X)	0.03 φ	45mm		
Thru Beam Type	M4 0.5 φ X 1	FPT-01		FF-01G	0.1 φ	30mm	-40°C +70°C	Poly-plastic
				FF-03R (X)	0.3 φ	50mm		
				FF-06R (X)	0.5 φ	100mm		
	M4 1.0 φ X 2	FPT-02		FF-01G	0.1 φ	45mm		
				FF-03R (X)	0.3 φ	80mm		
				FF-06R (X)	0.5 φ	300mm		
	M4 1.0 φ X 2	FPT-03		FF-01G	0.1 φ	30mm		
				FF-03R (X)	0.3 φ	50mm		
				FF-06R (X)	0.5 φ	100mm		
	M4 1.0 φ X 2	FPT-04		FF-01G	0.1 φ	45mm		
				FF-03R (X)	0.3 φ	80mm		
				FF-06R (X)	0.5 φ	250mm		
	M4 1.0 φ X 2	FPT-05		FF-01G	0.1 φ	45mm		
				FF-03R (X)	0.3 φ	80mm		
				FF-06R (X)	0.5 φ	250mm		
	M3 1.0 φ X 2	FPT-06		FF-01G	0.1 φ	30mm		
				FF-03R (X)	0.3 φ	50mm		
				FF-06R (X)	0.5 φ	150mm		

FF Series

FIBER CABLE UNIT

Dimension

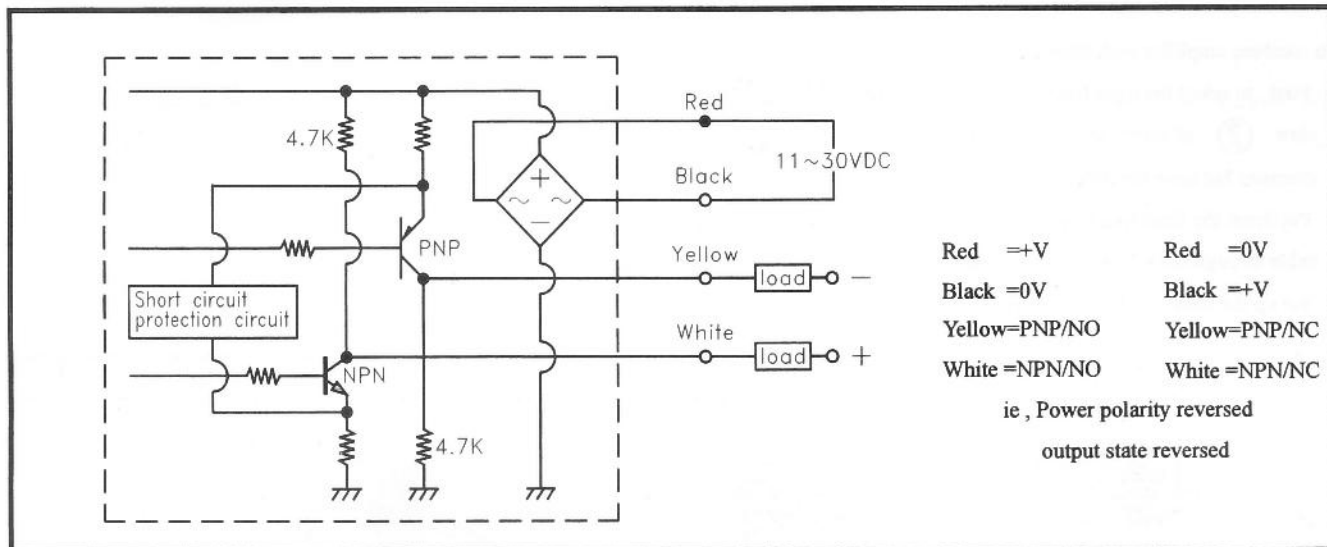
Reflex Type

FPR-51	FPR-52	FPR-53
FPR-54	FPR-55	FPR-56
FPR-57	FPR-58	

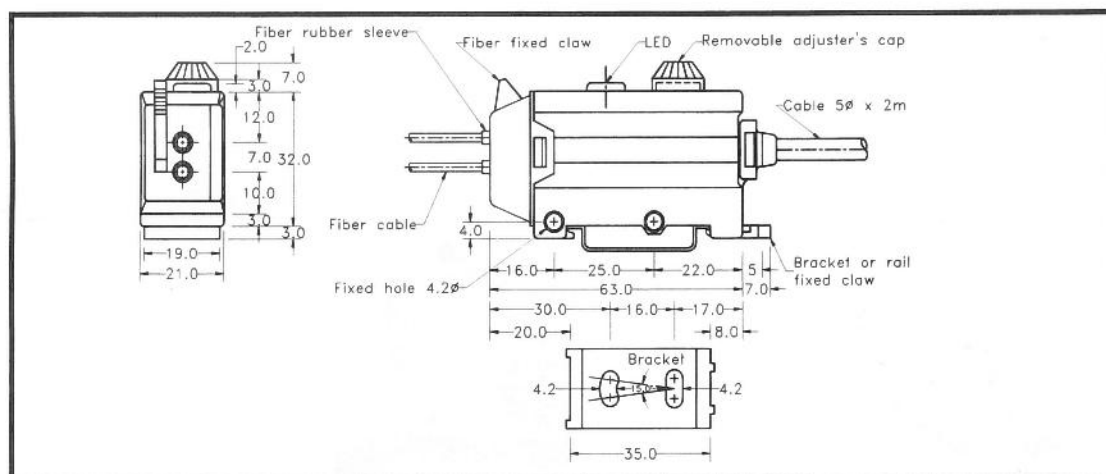
Thru Beam Type

FPT-01	FPT-02	FPT-03
FPT-04	FPT-05	FPT-06

Output Circuit & Connection Diagram



Dimension < Amplifier Unit >



Attachment < Lens >

Type	Right View Lens		Aside View Lens	
Model	FL-1		FL-2	
Shape				
Suitable fiber unit	FPT-02			
Amplifier	FF-03R (X)	FF-06R (X)	FF-03R (X)	FF-06R (X)
Sensing distance	1200mm	2000mm	400mm	600mm
Min. sensible object	1 φ			

FF Series

FIBER CABLE UNIT

How to use correctly

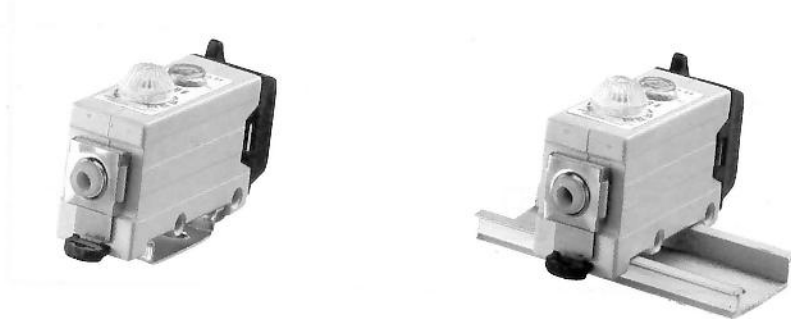
To combine amplifier with fiber cable

- First , to select the right fiber cable rubber sleeve ① fixed by fiber fixed claw ② of amplifier . (Two kinds of rubber sleeve have the same outer diameter but have the different inner diameter - 1φ or 2φ)
- Put down the fiber fixed claw to horizontal direction , then inserting the fiber cable through the rubber sleeve to emitter and receiver .
- Put up the fiber fixed claw to vertical direction .

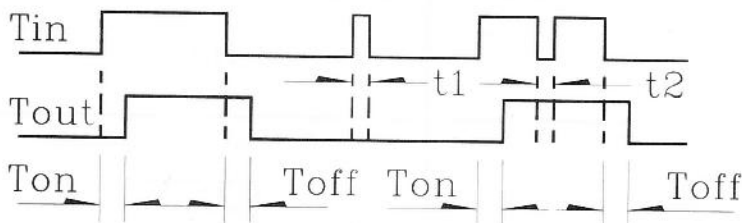


To mount or detach the amplifier unit

All F series can be mounted to DIN rail or fixed bracket .



Response Time



T_{in} : Object Passing Time

T_{out} : Sensor Output Time

T_{on} : Delay Time of Sensor ON

T_{off} : Delay Time of Sensor OFF

If $t_1 < T_{on}$, Sensor Can't Detect Object .

If $t_1 > T_{on}$, Sensor Can't Distinguish Object .

FOOTEK BRAND

