


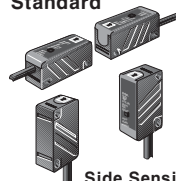

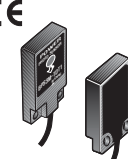

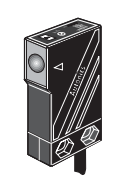




# Product Overview





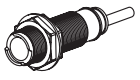

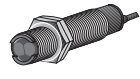



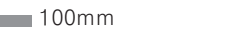
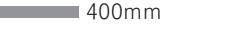

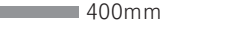

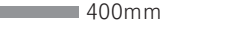

Appearances	Sensing type	Sensing distance	Model	Power supply	Response speed	Control output	Reference
<b>BJ Series</b> <b>CE</b> 	Transmitted beam type	15m	BJ15M-TDT	12-24VDC	Max. 1ms	NPN open collector output	K-9~12
			BJ15M-TDT-P			PNP open collector output	
		10m	BJ10M-TDT			NPN open collector output	
			BJ10M-TDT-P			PNP open collector output	
	Diffuse reflective type	1m	BJ1M-DDT			NPN open collector output	
			BJ1M-DDT-P			PNP open collector output	
		300mm	BJ300-DDT			NPN open collector output	
			BJ300-DDT-P			PNP open collector output	
		30mm	BJG30-DDT			NPN open collector output	
<b>BS5 Series</b> <b>CE</b> 	Transmitted beam type (Not modulated)	5mm	BS5-L2M	5-24VDC	Received light : Max. 20 $\mu$ s  Interrupted light : Max. 100 $\mu$ s	NPN open collector output	K-13~14
			BS5-K2M				
			BS5-T2M				
<b>BA Series</b> <b>CE</b> 	Diffuse reflective type	2m	BA2M-DDT	12-24VDC	Max. 1ms	NPN open collector output	K-15~16
			BA2M-DDT-P			PNP open collector output	
<b>BY Series</b> <b>Standard</b>  Side Sensing type	Transmitted beam type	500mm	BY500-TDT	12-24VDC	Max. 1ms	NPN open collector output	K-17~19
			BYS500-TDT				
<b>BYD Series</b> <b>CE</b>  Operation indicator <b>BYD30-DDT-U</b> <b>BYD50-DDT-U</b>	Transmitted beam type	3m	BYD3M-TDT	12-24VDC	Max. 1ms	NPN open collector output	K-20~24
			BYD3M-TDT-P			PNP open collector output	
	Background suppression type	30mm	BYD30-DDT		Max. 3ms	NPN open collector output	
			BYD30-DDT-U				
		50mm	BYD30-DDT-T <small>Timer built-in</small>				
			BYD50-DDT				
	Diffuse reflective type	100mm	BYD50-DDT-U				
			BYD50-DDT-T <small>Timer built-in</small>				
BYD100-DDT							

# Product Overview


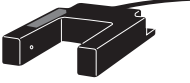
Appearances	Sensing type	Sensing distance	Model	Power supply	Response speed	Control output	Reference	
<b>BPS Series</b> 	Transmitted beam type	3m	<b>BPS3M-TDT</b>	12-24VDC	Max. 1ms	NPN open collector output	<b>K-25~26</b>	
			<b>BPS3M-TDTL</b>					
			<b>BPS3M-TDT-P</b>			PNP open collector output		
			<b>BPS3M-TDTL-P</b>					
<b>BM Series</b> 	Transmitted beam type	3m	<b>BM3M-TDT</b>	12-24VDC	Max. 3ms	NPN open collector output	<b>K-27~30</b>	
	Retro-reflective type	0.1~1m	<b>BM1M-MDT</b>					
	Diffuse reflective type	200mm	<b>BM200-DDT</b>					
<b>BMS Series</b> 	Transmitted beam type	5m	<b>BMS5M-TDT</b>	12-24VDC	Max. 1ms	NPN open collector output	<b>K-31~34</b>	
			<b>BMS5M-TDT-P</b>			PNP open collector output		
	Retro-reflective type	0.1~2m	<b>BMS2M-MDT</b>			NPN open collector output		
			<b>BMS2M-MDT-P</b>			PNP open collector output		
	Diffuse reflective type	300mm	<b>BMS300-DDT</b>			NPN open collector output		
			<b>BMS300-DDT-P</b>			PNP open collector output		
<b>BEN Series</b> CE (DC only) 	Transmitted beam type	10m	<b>BEN10M-TFR</b>	24-240VAC/ 24-240VDC	Max. 20ms	Relay output	<b>K-35~40</b>	
			<b>BEN10M-TDT</b>	12-24VDC	Max. 1ms	NPN/PNP open collector output		
	Retro-reflective type	Standard type 0.1~5m	<b>BEN5M-MFR</b>	24-240VAC/ 24-240VDC	Max. 20ms	Relay output		
			<b>BEN5M-MDT</b>	12-24VDC	Max. 1ms	NPN/PNP open collector output		
			Polarizing filter built-in 0.1~3m	<b>BEN3M-PFR</b>	24-240VAC/ 24-240VDC	Max. 20ms		Relay output
				<b>BEN3M-PDT</b>	12-24VDC	Max. 1ms		NPN/PNP open collector output
	Diffuse reflective type	300mm	<b>BEN300-DFR</b>	24-240VAC/ 24-240VDC	Max. 20ms	Relay output		
			<b>BEN300-DDT</b>	12-24VDC	Max. 1ms	NPN/PNP open collector output		
<b>BX Series</b> 	Transmitted beam type	15m	<b>BX15M-TFR</b>	24-240VAC/ 24-240VDC	Max. 20ms	Relay output	<b>K-41~47</b>	
			<b>BX15M-TFR-T</b>					
			<b>BX15M-TDT</b>	12-24VDC	Max. 1ms	NPN/PNP open collector output		
			<b>BX15M-TDT-T</b>					

- (A) Counter
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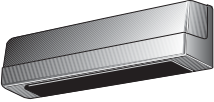
# Product Overview

Appearances	Sensing type	Sensing distance	Model	Power supply	Response speed	Control output	Reference				
<b>BX Series</b> <b>CE</b> 	Retro-reflective type	<b>Standard type</b>  0.1~5m	<b>BX5M-MFR</b> <small>Timer built-in</small> <b>BX5M-MFR-T</b>	24-240VAC/ 24-240VDC	Max. 20ms	Relay output	<b>K-41~47</b>				
			<b>BX5M-MDT</b> <small>Timer built-in</small> <b>BX5M-MDT-T</b>					12-24VDC	Max. 1ms	NPN/PNP open collector output	
			Retro-reflective type	<b>Polarizing filter built-in</b>  0.1~3m	<b>BX3M-PFR</b> <small>Timer built-in</small> <b>BX3M-PFR-T</b>	24-240VAC/ 24-240VDC					Max. 20ms
					<b>BX3M-PDT</b> <small>Timer built-in</small> <b>BX3M-PDT-T</b>			12-24VDC	Max. 1ms	NPN/PNP open collector output	
					Diffuse reflective type	 700mm					<b>BX700-DFR</b> <small>Timer built-in</small> <b>BX700-DFR-T</b>
								<b>BX700-DDT</b> <small>Timer built-in</small> <b>BX700-DDT-T</b>	12-24VDC	Max. 1ms	NPN/PNP open collector output
	<b>BR Series</b> <b>CE</b>  <b>BR4M (Metal case)</b>  <b>BR20M (Metal case)</b>  <b>BR (Metal case)</b>  <b>BRP (Plastic case)</b>	Transmitted beam type	 4m  20m	<b>BR4M-TDTL</b> <b>BR4M-TDTD</b> <b>BR4M-TDTL-P</b> <b>BR4M-TDTD-P</b>				12-24VDC			
				NPN open collector output							
				PNP open collector output							
				PNP open collector output							
				NPN open collector output							
				NPN open collector output							
PNP open collector output											
PNP open collector output											
Diffuse reflective type		<b>Diffusion type</b>  100mm <b>Diffusion type</b>  400mm <b>Narrow beam type</b>  200mm	<b>BR100-DDT</b> <b>BR100-DDT-P</b> <b>BRP100-DDT</b> <b>BRP100-DDT-P</b>	12-24VDC	Max. 1ms	NPN open collector output					
			NPN open collector output								
			PNP open collector output								
			PNP open collector output								
Diffuse reflective type	<b>Diffusion type</b>  400mm <b>Narrow beam type</b>  200mm	<b>BR400-DDT</b> <b>BR400-DDT-P</b> <b>BRP400-DDT</b> <b>BRP400-DDT-P</b>	12-24VDC	Max. 1ms	NPN open collector output						
		NPN open collector output									
		PNP open collector output									
		PNP open collector output									
Diffuse reflective type	<b>Diffusion type</b>  400mm <b>Narrow beam type</b>  200mm	<b>BR200-DDTN</b> <b>BR200-DDTN-P</b> <b>BRP200-DDTN</b> <b>BRP200-DDTN-P</b>	12-24VDC	Max. 1ms	NPN open collector output						
		NPN open collector output									
		PNP open collector output									
		PNP open collector output									


# Product Overview

Appearances	Sensing type	Sensing distance	Model	Power supply	Response speed	Control output	Reference
<b>BUP Series</b> 	Transmitted beam type	30mm	<b>BUP-30</b>	12-24VDC	Max. 1ms	NPN open collector output	<b>K-52~53</b>
			Adjuster built-in				
<b>BUP-30S</b>							
Adjuster built-in							
<b>BUP Series</b> 	Transmitted beam type	50mm	<b>BUP-50</b>				
			Adjuster built-in				
			<b>BUP-50S</b>				
			Adjuster built-in				
			<b>BUP-50-P</b>				
			<b>BUP-50-P</b>				




## Auto Door sensor

Appearances	Sensing type	Mounting height	Model	Power supply	Cover color	Control output	Reference
	Diffuse reflective type	2.0m ~2.7m	<b>ADS-AF</b>	24-240VAC/ 24-240VDC	Silver	Relay output	<b>K-54~60</b>
			<b>ADS-AE</b>	12-24VAC/ 12-24VDC			

## Door side sensor

Appearances	Sensing type	Sensing distance	Model	Power supply	Response speed	Control output	Reference
	Transmitted beam type	10m	<b>ADS-SE</b>	12-24VAC/ 12-24VDC	Max. 50ms	Relay output	<b>K-61~66</b>

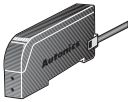
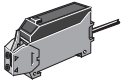
## Area sensor

Appearances	Sensing type	Sensing distance	Model	Power supply	Response speed	Control output	Reference
 (Aluminum case)	Transmitted beam type	0.1~7m	<b>BW20-□□</b>	12-24VDC	Max. 12ms	NPN open collector output	<b>K-67~72</b>
			<b>BW40-□□</b>				
			<b>BW20-□□P</b>			PNP open collector output	
			<b>BW40-□□P</b>				
 (Plastic case)	Transmitted beam type	0.1~5m	<b>BWP20-□□</b>	12-24VDC	Max. 6ms	NPN open collector output	<b>K-73~77</b>
			<b>BWP20-□□P</b>			PNP open collector output	
Picking sensor  (Plastic case)	Transmitted beam type	0.1~3m	<b>BWPK25-05</b>	12-24VDC	Max. 30ms	NPN open collector output	<b>K-78~82</b>
			<b>BWPK25-05P</b>			PNP open collector output	

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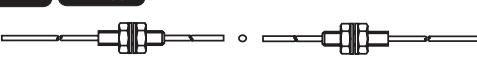




# Product Overview

## ■ Fiber optic amplifier

Appearances	Characteristic	LED	Model	Power supply	Response speed	Control output	Reference
	Standard type	Red	<b>BF4R</b>	12-24VDC	Max. 0.5ms (Frequency 1)	NPN open collector output	<b>K-83-88</b>
		Green	<b>BF4G</b>			PNP open collector output	
		Red	<b>BF4RP</b>			NPN open collector output	
		Green	<b>BF4GP</b>				
	External synchronization input type	Red	<b>BF4R-E</b>		Max. 0.7ms (Frequency 2)	NPN open collector output	
		Green	<b>BF4G-E</b>				
	Remote sensitivity setting type	Red	<b>BF4R-R</b>		Max. 1ms	NPN open collector output	
Green		<b>BF4G-R</b>					
	Twin adjuster built-in	Red	<b>BF3RX</b>	12-24VDC	Max. 1ms	NPN open collector output	<b>K-89-92</b>
			<b>BF3RX-P</b>			PNP open collector output	

※ Sensing type depends on the type of fiber cable.

## ■ Fiber optic cable (Transmitted beam type)

Appearances	Model	Mounting distance (Red LED)	Cable length	Reference
	<b>FT-320-05</b>	150mm	2m	<b>K-93-96</b>
	<b>FT-420-10</b>	500mm		
	<b>FTC-220-05</b>	150mm		
	<b>FTC-320-10</b>	500mm		
	<b>FTCS-220-05</b>	150mm		
	<b>FTP-320-10</b>	500mm		
	<b>FT-420-13</b>	400mm		
	<b>FTS-320-05</b>	150mm		
	<b>FTS2-320-05</b>			
	<b>FTS-420-10</b>	500mm		
	<b>FTS2-420-10</b>			
	<b>FTS1-320-05</b>	150mm		
	<b>FT-420-10H</b>	300mm		
	<b>FT-420-15H1</b>	500mm		
	<b>GT-420-13H2</b>	400mm		

※ The mounting distance is measured at max. sensitivity using a fiber amplifier of BF4R Series.  
(Applied 10% of Red LED for BF4G Series)

※ **Free cut** The material of Free cut type cable is plastic and please cut it using FC-2 cutter.

The mounting distance can be shortened about 20% than normal according to the cutting plane condition of cable.

※ **Glass** is for BF4R.

# Product Overview

## ■ Fiber optic cable(Diffuse reflective type)

Appearances	Model	Mounting distance(Red LED)	Cable length	Reference
<b>Free cut</b> 	FD-320-05	40mm	2m	K-93~96
<b>Free cut</b> 	FD-420-05	40mm		
<b>Free cut</b> 	FD-620-10	120mm		
<b>Free cut</b> <b>Cylinder type</b> 	FDC-320-05	40mm		
<b>Free cut</b> <b>SUS + Cylinder type</b> 	FDCS-320-05	40mm		
<b>Free cut</b> <b>Plastic type</b> 	FDP-320-10	120mm		
<b>Free cut</b> <b>SUS type</b> 	FDS-320-05	40mm		
<b>Free cut</b> <b>SUS type</b> 	FDS2-320-05			
<b>Free cut</b> <b>SUS type</b> 	FDS-420-05	40mm		
<b>Free cut</b> <b>SUS type</b> 	FDS2-420-05			
<b>Free cut</b> <b>SUS type</b> 	FDS-620-10	120mm		
<b>Free cut</b> <b>SUS type</b> 	FDS2-620-10			
<b>Free cut</b> <b>Coaxial type</b> 	FD-320-F	60mm		
<b>Free cut</b> <b>Coaxial type</b> 	FD-320-F1	40mm		
<b>Free cut</b> <b>Coaxial type</b> 	FD-620-F2	120mm		
<b>Free cut</b> <b>Heat resistance type</b> 	FD-620-10H	120mm		
<b>Free cut</b> <b>Heat resistance type</b> 	FD-620-15H1	160mm		
<b>Glass</b> <b>Heat resistance type</b> (For BF4R) 	GD-420-20H2	100mm		
<b>Glass</b> <b>Heat resistance type</b> (For BF4R) 	GD-620-20H2	100mm		

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(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