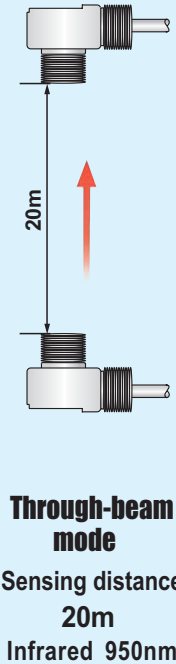


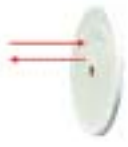



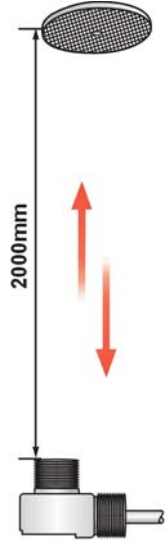


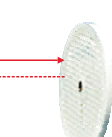
Through-beam mode

Sensing mode	Appearance	Supply voltage	OUTPUT MODE	Part Number	
 <p>Through-beam mode Sensing distance 20m Infrared 950nm</p>	Cable	10-30V DC	Emitter	T18-T020MD-EY9C2L2	
			NPN	T18-T020MN-CY9C4U2	
			PNP	T18-T020MP-CY9C4U2	
		20-250V AC	Emitter (2-wire)	T18-T020MA-EY9C2L2	
			Light-ON (3-wire)	T18-T020MA-LY9C3U2	
			Dark-ON (3-wire)	T18-T020MA-DY9C3U2	
		20-250V AC/DC	Emitter (2-wire)	T18-T020MC-EY9C2L2	
			Light-ON (2-wire)	T18-T020MC-LY9C2U2	
			Dark-ON (2-wire)	T18-T020MC-DY9C2U2	
		Quick Disconnect	10-30V DC (Euro)	Emitter	T18-T020MD-EY9Q4LE
				NPN	T18-T020MN-CY9Q4UE
				PNP	T18-T020MP-CY9Q4UE
	20-250V AC (Micro)		Emitter (2-wire)	T18-T020MA-EY9Q4LM	
			Light-ON (3-wire)	T18-T020MA-LY9Q4UM	
			Dark-ON (3-wire)	T18-T020MA-DY9Q4UM	
	20-250V AC/DC (Micro)		Emitter (2-wire)	T18-T020MC-EY9Q4LM	
			Light-ON (2-wire)	T18-T020MC-LY9Q4UM	
			Dark-ON (2-wire)	T18-T020MC-DY9Q4UM	
	6" Pig tail	10-30V DC (Euro)	Emitter	T18-T020MD-EY9P4LE	
			NPN	T18-T020MN-CY9P4UE	
			PNP	T18-T020MP-CY9P4UE	
		20-250V AC (Micro)	Emitter (2-wire)	T18-T020MA-EY9P4LM	
			Light-ON (3-wire)	T18-T020MA-LY9P4UM	
			Dark-ON (3-wire)	T18-T020MA-DY9P4UM	
20-250V AC/DC (Micro)		Emitter (2-wire)	T18-T020MC-EY9P4LM		
		Light-ON (2-wire)	T18-T020MC-LY9P4UM		
		Dark-ON (2-wire)	T18-T020MC-DY9P4UM		

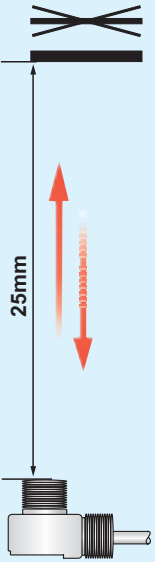
Retro-reflective mode with polarizing filter

Sensing mode	Appearance	Supply voltage	OUTPUT MODE	Part Number
 <p>Retro-reflective mode With polarizing filter</p> <p>Sensing distance 2000mm LED red 680nm</p>	<p>Cable</p> 	10-30V DC	NPN	T18-L2000N-CY6C4U2-PF
			PNP	T18-L2000P-CY6C4U2-PF
		20-250V AC	Light-ON (3-wire)	T18-L2000A-LY6C3U2-PF
			Dark-ON (3-wire)	T18-L2000A-DY6C3U2-PF
		20-250V AC/DC	Light-ON (2-wire)	T18-L2000C-LY6C2U2-PF
			Dark-ON (2-wire)	T18-L2000C-DY6C2U2-PF
	<p>Quick Disconnect</p> 	10-30V DC (Euro)	NPN	T18-L2000N-CY6Q4UE-PF
			PNP	T18-L2000P-CY6Q4UE-PF
		20-250V AC (Micro)	Light-ON (3-wire)	T18-L2000A-LY6Q4UM-PF
			Dark-ON (3-wire)	T18-L2000A-DY6Q4UM-PF
		20-250V AC/DC (Micro)	Light-ON (2-wire)	T18-L2000C-LY6Q4UM-PF
			Dark-ON (2-wire)	T18-L2000C-DY6Q4UM-PF
	<p>6" Pig tail</p> 	10-30V DC (Euro)	NPN	T18-L2000N-CY6P4UE-PF
			PNP	T18-L2000P-CY6P4UE-PF
		20-250V AC (Micro)	Light-ON (3-wire)	T18-L2000A-LY6P4UM-PF
Dark-ON (3-wire)			T18-L2000A-DY6P4UM-PF	
20-250V AC/DC (Micro)		Light-ON (2-wire)	T18-L2000C-LY6P4UM-PF	
		Dark-ON (2-wire)	T18-L2000C-DY6P4UM-PF	

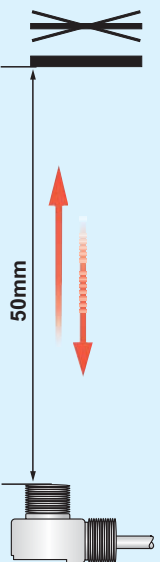
Retro-reflective mode

Sensing mode	Appearance	Supply voltage	OUTPUT MODE	Part Number
 <p>Retro-reflective mode Sensing distance 2000mm Infrared 950nm</p>	Cable 	10-30V DC	NPN	T18-L2000N-CY9C4U2
			PNP	T18-L2000P-CY9C4U2
		20-250V AC	Light-ON (3-wire)	T18-L2000A-LY9C3U2
			Dark-ON (3-wire)	T18-L2000A-DY9C3U2
		20-250V AC/DC	Light-ON (2-wire)	T18-L2000C-LY9C2U2
			Dark-ON (2-wire)	T18-L2000C-DY9C2U2
	Quick Disconnect 	10-30V DC (Euro)	NPN	T18-L2000N-CY9Q4UE
			PNP	T18-L2000P-CY9Q4UE
		20-250V AC (Micro)	Light-ON (3-wire)	T18-L2000A-LY9Q4UM
			Dark-ON (3-wire)	T18-L2000A-DY9Q4UM
		20-250V AC/DC (Micro)	Light-ON (2-wire)	T18-L2000C-LY9Q4UM
			Dark-ON (2-wire)	T18-L2000C-DY9Q4UM
	6" Pig tail 	10-30V DC (Euro)	NPN	T18-L2000N-CY9P4UE
			PNP	T18-L2000P-CY9P4UE
		20-250V AC (Micro)	Light-ON (3-wire)	T18-L2000A-LY9P4UM
			Dark-ON (3-wire)	T18-L2000A-DY9P4UM
		20-250V AC/DC (Micro)	Light-ON (2-wire)	T18-L2000C-LY9P4UM
			Dark-ON (2-wire)	T18-L2000C-DY9P4UM

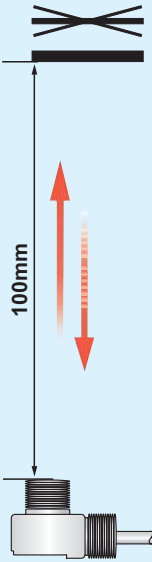
Diffuse sensor (Fixed-field)

Sensing mode	Appearance	Supply voltage	OUTPUT MODE	Part Number
 <p>Diffuse mode (Fixed-field) with background suppression</p> <p>Sensing distance 25mm Infrared 880nm</p>	Cable	10-30V DC	NPN	T18-D0025N-CY9C4U2-BS
			PNP	T18-D0025P-CY9C4U2-BS
		20-250V AC	Light-ON (3-wire)	T18-D0025A-LY9C3U2-BS
			Dark-ON (3-wire)	T18-D0025A-DY9C3U2-BS
		20-250V AC/DC	Light-ON (2-wire)	T18-D0025C-LY9C2U2-BS
			Dark-ON (2-wire)	T18-D0025C-DY9C2U2-BS
	Quick Disconnect	10-30V DC (Euro)	NPN	T18-D0025N-CY9Q4UE-BS
			PNP	T18-D0025P-CY9Q4UE-BS
		20-250V AC (Micro)	Light-ON (3-wire)	T18-D0025A-LY9Q4UM-BS
			Dark-ON (3-wire)	T18-D0025A-DY9Q4UM-BS
		20-250V AC/DC (Micro)	Light-ON (2-wire)	T18-D0025C-LY9Q4UM-BS
			Dark-ON (2-wire)	T18-D0025C-DY9Q4UM-BS
	6" Pig tail	10-30V DC (Euro)	NPN	T18-D0025N-CY9P4UE-BS
			PNP	T18-D0025P-CY9P4UE-BS
		20-250V AC (Micro)	Light-ON (3-wire)	T18-D0025A-LY9P4UM-BS
			Dark-ON (3-wire)	T18-D0025A-DY9P4UM-BS
		20-250V AC/DC (Micro)	Light-ON (2-wire)	T18-D0025C-LY9P4UM-BS
			Dark-ON (2-wire)	T18-D0025C-DY9P4UM-BS

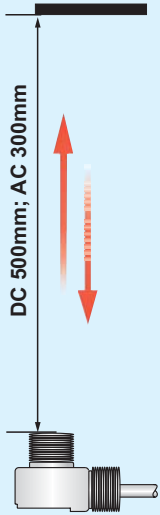
Diffuse sensor (Fixed-field)

Sensing mode	Appearance	Supply voltage	OUTPUT MODE	Part Number
 <p>Diffuse mode (Fixed-field) with background suppression Sensing distance 50mm Infrared 880nm</p>	Cable	10-30V DC	NPN	T18-D0050N-CY9C4U2-BS
			PNP	T18-D0050P-CY9C4U2-BS
		20-250V AC	Light-ON (3-wire)	T18-D0050A-LY9C3U2-BS
			Dark-ON (3-wire)	T18-D0050A-DY9C3U2-BS
		20-250V AC/DC	Light-ON (2-wire)	T18-D0050C-LY9C2U2-BS
			Dark-ON (2-wire)	T18-D0050C-DY9C2U2-BS
	Quick Disconnect	10-30V DC (Euro)	NPN	T18-D0050N-CY9Q4UE-BS
			PNP	T18-D0050P-CY9Q4UE-BS
		20-250V AC (Micro)	Light-ON (3-wire)	T18-D0050A-LY9Q4UM-BS
			Dark-ON (3-wire)	T18-D0050A-DY9Q4UM-BS
		20-250V AC/DC (Micro)	Light-ON (2-wire)	T18-D0050C-LY9Q4UM-BS
			Dark-ON (2-wire)	T18-D0050C-DY9Q4UM-BS
	6" Pig tail	10-30V DC (Euro)	NPN	T18-D0050N-CY9P4UE-BS
			PNP	T18-D0050P-CY9P4UE-BS
		20-250V AC (Micro)	Light-ON (3-wire)	T18-D0050A-LY9P4UM-BS
Dark-ON (3-wire)			T18-D0050A-DY9P4UM-BS	
20-250V AC/DC (Micro)		Light-ON (2-wire)	T18-D0050C-LY9P4UM-BS	
		Dark-ON (2-wire)	T18-D0050C-DY9P4UM-BS	

Diffuse sensor (Fixed-field)

Sensing mode	Appearance	Supply voltage	OUTPUT MODE	Part Number
 <p>Diffuse mode (Fixed-field) with background suppression Sensing distance 100mm Infrared 880nm</p>	Cable	10-30V DC	NPN	T18-D0100N-CY9C4U2-BS
			PNP	T18-D0100P-CY9C4U2-BS
		20-250V AC	Light-ON (3-wire)	T18-D0100A-LY9C3U2-BS
			Dark-ON (3-wire)	T18-D0100A-DY9C3U2-BS
		20-250V AC/DC	Light-ON (2-wire)	T18-D0100C-LY9C2U2-BS
			Dark-ON (2-wire)	T18-D0100C-DY9C2U2-BS
	Quick Disconnect	10-30V DC (Euro)	NPN	T18-D0100N-CY9Q4UE-BS
			PNP	T18-D0100P-CY9Q4UE-BS
		20-250V AC (Micro)	Light-ON (3-wire)	T18-D0100A-LY9Q4UM-BS
			Dark-ON (3-wire)	T18-D0100A-DY9Q4UM-BS
		20-250V AC/DC (Micro)	Light-ON (2-wire)	T18-D0100C-LY9Q4UM-BS
			Dark-ON (2-wire)	T18-D0100C-DY9Q4UM-BS
	6" Pig tail	10-30V DC (Euro)	NPN	T18-D0100N-CY9P4UE-BS
			PNP	T18-D0100P-CY9P4UE-BS
		20-250V AC (Micro)	Light-ON (3-wire)	T18-D0100A-LY9P4UM-BS
			Dark-ON (3-wire)	T18-D0100A-DY9P4UM-BS
		20-250V AC/DC (Micro)	Light-ON (2-wire)	T18-D0100C-LY9P4UM-BS
			Dark-ON (2-wire)	T18-D0100C-DY9P4UM-BS

Diffuse sensor

Sensing mode	Appearance	Supply voltage	OUTPUT MODE	Part Number
 <p>Diffuse mode</p> <p>Sensing distance DC 500mm AC 300mm Infrared 880nm</p>	Cable	10-30V DC	NPN	T18-D0500N-CY9C4U2
			PNP	T18-D0500P-CY9C4U2
		20-250V AC	Light-ON (3-wire)	T18-D0300A-LY9C3U2
			Dark-ON (3-wire)	T18-D0300A-DY9C3U2
		20-250V AC/DC	Light-ON (2-wire)	T18-D0300C-LY9C2U2
			Dark-ON (2-wire)	T18-D0300C-DY9C2U2
	Quick Disconnect	10-30V DC (Euro)	NPN	T18-D0500N-CY9Q4UE
			PNP	T18-D0500P-CY9Q4UE
		20-250V AC (Micro)	Light-ON (3-wire)	T18-D0300A-LY9Q4UM
			Dark-ON (3-wire)	T18-D0300A-DY9Q4UM
		20-250V AC/DC (Micro)	Light-ON (2-wire)	T18-D0300C-LY9Q4UM
			Dark-ON (2-wire)	T18-D0300C-DY9Q4UM
	6" Pig tail	10-30V DC (Euro)	NPN	T18-D0500N-CY9P4UE
			PNP	T18-D0500P-CY9P4UE
		20-250V AC (Micro)	Light-ON (3-wire)	T18-D0300A-LY9P4UM
			Dark-ON (3-wire)	T18-D0300A-DY9P4UM
		20-250V AC/DC (Micro)	Light-ON (2-wire)	T18-D0300C-LY9P4UM
			Dark-ON (2-wire)	T18-D0300C-DY9P4UM

Specification (DC)

Item	Type Model No.	Through-beam	Diffuse reflective (with background suppression) Fixed-field mode			Retroreflective with polarizing filters		
			T18-T020Mx-xX9xxxx	T18-D0500x-xX9xxxx	T18-D0025x-xX9xxxx-BS	T18-D0050x-xX9xxxx-BS	T18-D0100x-xX9xxxx-BS	T18-L2000x-xX9xxxx
Sensing range		20m	500mm	25mm	50mm	100mm	2m	2m
Sensing object		Opaque object of ϕ 8mm or more	White paper			3-way mirror		
Hysteresis		—	20% or less of operation distance			—		
Supply Voltage		10 to 30V DC, Ripple P-P 10% or less						
Current consumption		30mA or less						
Output		<NPN> output type> NPN open-collector transistor <ul style="list-style-type: none"> • Applied voltage: 30V DC or less • Maximum sink current: 200mA • Voltage drop: 2.5V or less 			<PNP> output type> PNP open-collector transistor <ul style="list-style-type: none"> • Applied voltage: 30V DC or less • Maximum sink current: 200mA • Voltage drop: 2.5V or less 			
Output operation		Selectable either Light-ON Dark-ON by the control input wire						
Short-circuit protection		Yes						
Reverse polarity protection		Yes						
Overload current protection		Yes						
Response time		1.5ms						
Operation indicator		Red LED (light up when the output is activated), Thru-beam sensor is provided it on the receiver						
Pollution degree		3(Industrial environment)						
Protection		IP67(IEC)						
Ambient temperature		-25°C to +55°C						
Ambient humidity		35 to 85% RH, Storage: 35 to 85% RH						
EMC		IEC 60947-5-2, Parts 7.2.6.1.2.3 or RFI>3V/m (in 30-1000MHZ), EFT>1KV, ESD>4KV (contact)						
Voltage withstand ability		IEC 60947-5-2, Part 8.3.3.4 or 1500V AC for one min, between all supply terminals connected together and enclosure						
Insulation resistance		>20M Ω , with 1500V AC megger between all supply terminals connected together and enclosure						
Vibration resistance		IEC 60947-5-2, part 7.4.2 or 10-55HZ, 1.0mm amplitude in x,y and z directions for 30 min						
Shock resistance		IEC 60947-5-2, part 7.4.1 or 30g, 11ms in x, y and z directions for six time each						
Emitting element		Infrared LED (modulated)					Red LED (modulated)	
Housing material		Plastic housing: PBT						
Cable		Standard length 2m, other length based on request.						
Connector		EURO-style connector(M12x1 thread)						
Pigtail Tpye		Cable, Quick disconnecter, 6" Pigtail						

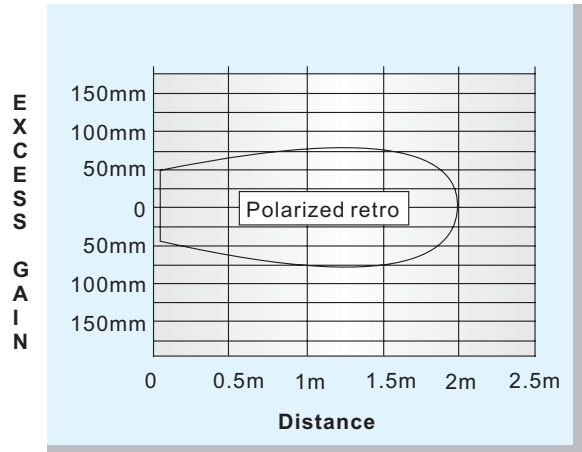
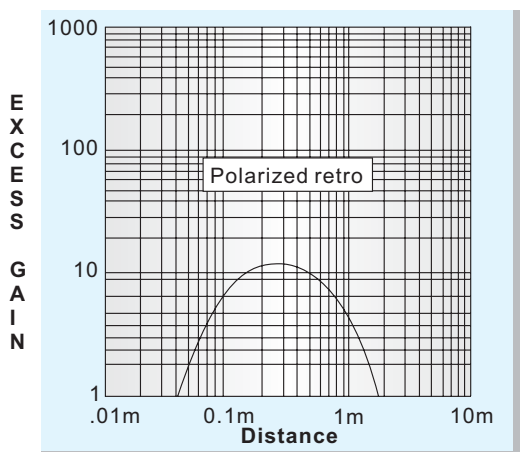
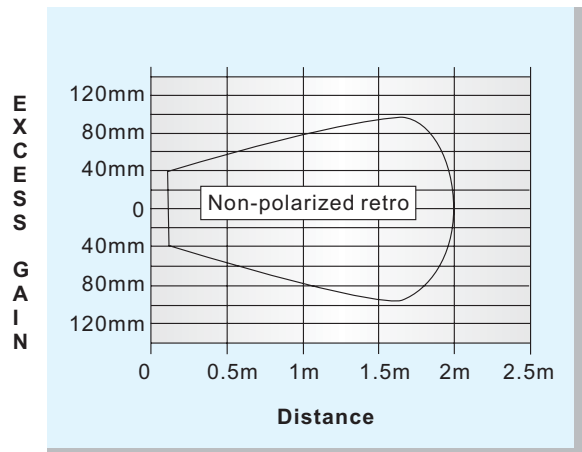
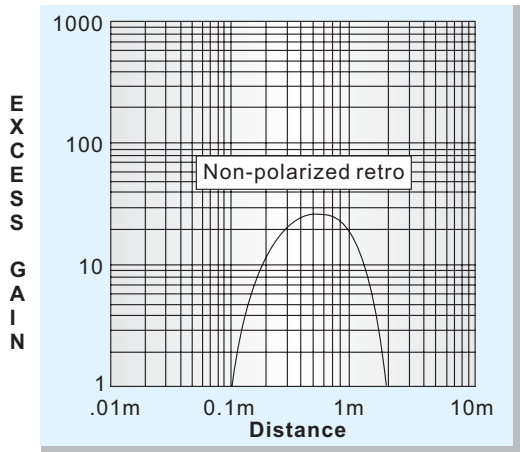
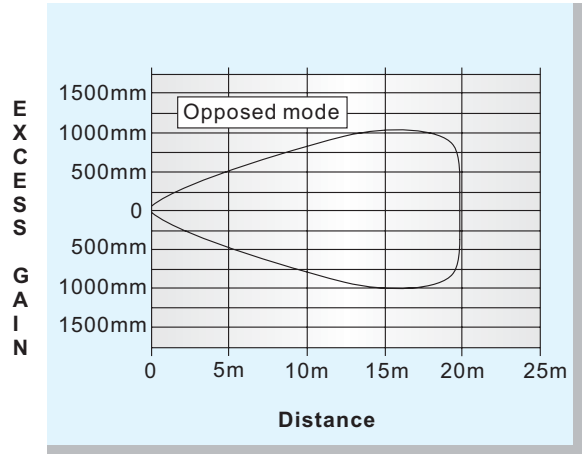
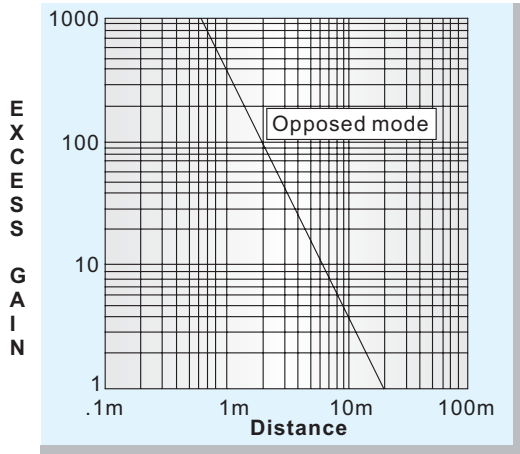
Specification (AC)

Item	Type Model No.	Through-beam	Diffuse reflective (with background suppression) Fixed-field mode			Retroreflective with polarizing filters		
			T18-T020MA-xX9xxxx	T18-D0300A-xX9xxxx	T18-D0025A-xX9xxxx-BS	T18-D0050A-xX9xxxx-BS	T18-D0100A-xX9xxxx-BS	T18-L2000A-xX9xxxx
Sensing range		20m	300mm	25mm	50mm	100mm	2m	2m
Sensing object		Opaque object of ϕ 8mm or more	White paper			3-way mirror		
Hysteresis		—	20% or less of operation distance			—		
Supply Voltage	20 to 250V AC							
Current consumption	5mA or less							
Output	SPST solid-state AC switch; 3-wire hookup; <ul style="list-style-type: none"> ● Applied voltage: 20 to 250V AC ● Max. Load current: 300 mA ● Voltage drop: 3V at 300mA AC; 2V at 15mA AC 							
Output operation	Selectable either Light-ON Dark-ON by type number							
Short-circuit protection	Yes							
Overload current protection	Yes							
Response time	15ms							
Operation indicator	Red LED (light up when the output is activated), Thru-beam sensor is provided it on the receiver							
Pollution degree	3(Industrial environment)							
Protection	IP67(IEC)							
Ambient temperature	-25°C to +55°C							
Ambient humidity	35 to 85% RH, Storage: 35 to 85% RH							
EMC	IEC 60947-5-2, Parts 7.2.6.1.2.3 or RFI>3V/m(in 30-1000MHZ), EFT>1KV, ESD>4KV (contact)							
Voltage withstand ability	IEC 60947-5-2, Part 8.3.3.4 or 1500V AC for one min, between all supply terminals connected together and enclosure							
Insulation resistance	>20M Ω , with 1500V AC megger between all supply terminals connected together and enclosure							
Vibration resistance	IEC 60947-5-2, part 7.4.2 or 10-55HZ, 1.0mm amplitude in x,y and z directions for 30 min							
Shock resistance	IEC 60947-5-2, part 7.4.1 or 30g, 11ms in x, y and z directions for six time each							
Emitting element	Infrared LED (modulated)						Red LED (modulated)	
Housing material	Plastic housing: PBT							
Cable	Standard length 2m, other length based on request.							
Connector	Micro-style connector							
Pigtail Tpye	Cable , Quick Disconnect, 6" pig tail							

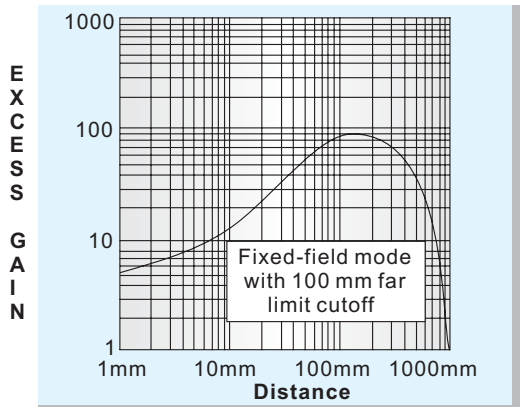
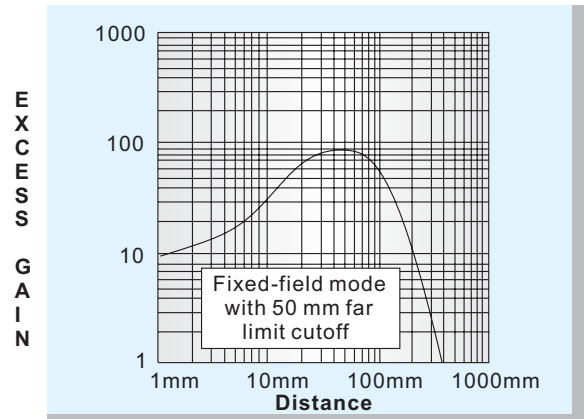
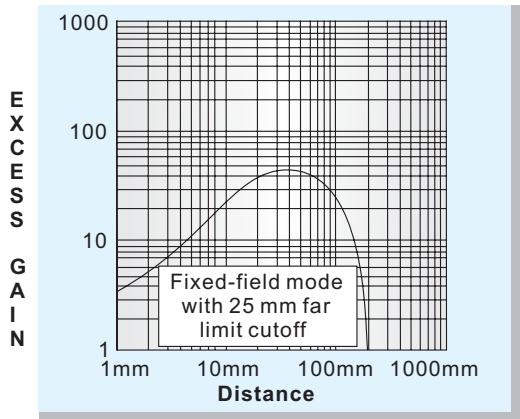
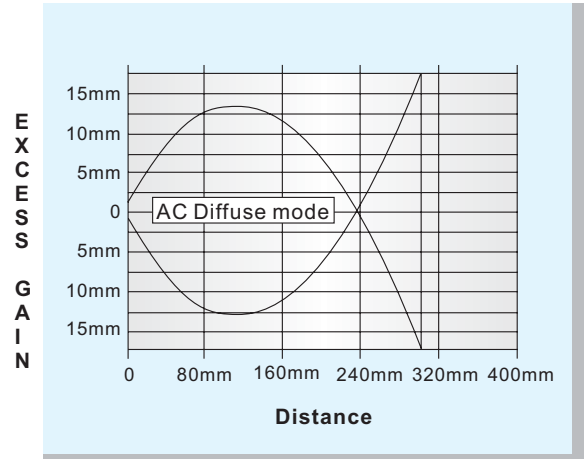
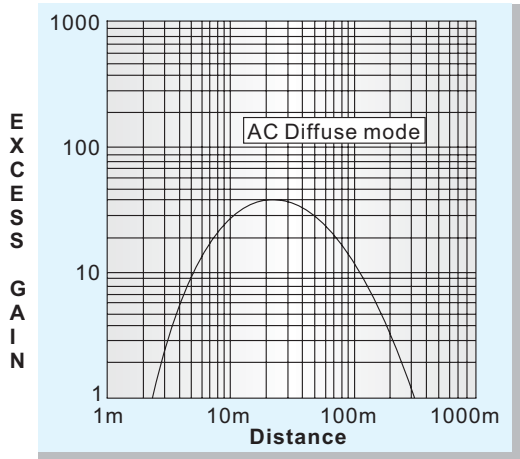
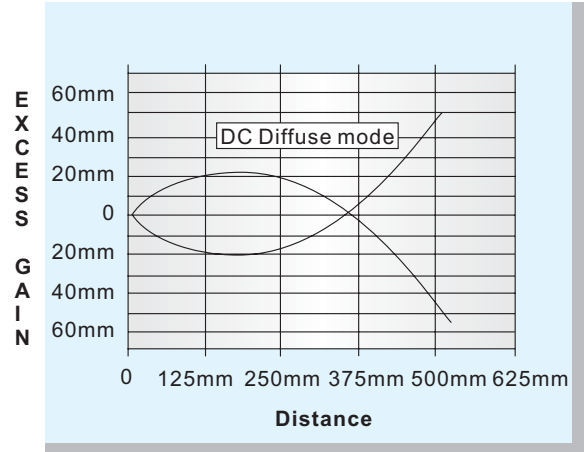
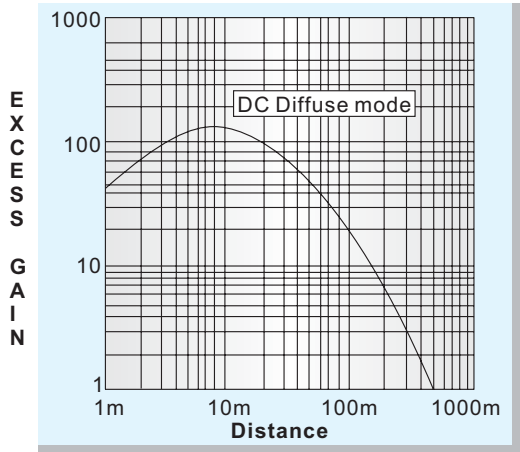
Specification (AC/DC)

Item	Type Model No.	Through-beam	Diffuse reflective (with background suppression) Fixed-field mode			Retroreflective with polarizing filters		
			T18-T020MC-xX9xxxx	T18-D0300C-xX9xxxx	T18-D0025C-xX9xxxx-BS	T18-D0050C-xX9xxxx-BS	T18-D0100C-xX9xxxx-BS	T18-L2000C-xX9xxxx
Sensing range		20m	300mm	25mm	50mm	100mm	2m	2m
Sensing object	Opaque object of ϕ 8mm or more	White paper				3-way mirror		
Hysteresis	—	20% or less of operation distance				—		
Supply Voltage	20-250V DC or 20-250V AC							
Current consumption	30mA or less							
Output	SPST solid-state switch; 2-wire hookup; ● Applied voltage: 20-250V DC or 20-250V AC ● Max. Load current: 300 mA ● Voltage drop: 3V or less							
Output operation	Selectable either Light-ON Dark-ON by type number							
Short-circuit protection	Yes							
Overload current protection	Yes							
Response time	15ms							
Operation indicator	Red LED (light up when the output is activated), Thru-beam sensor is provided it on the receiver							
Pollution degree	3(Industrial environment)							
Protection	IP67(IEC)							
Ambient temperature	-25°C to +55°C							
Ambient humidity	35 to 85% RH, Storage: 35 to 85% RH							
EMC	IEC 60947-5-2, Parts 7.2.6.1.2.3 or RFI>3V/m(in 30-1000MHZ), EFT>1KV, ESD>4KV (contact)							
Voltage withstand ability	IEC 60947-5-2, Part 8.3.3.4 or 1500V AC for one min, between all supply terminals connected together and enclosure							
Insulation resistance	>20M Ω , with 1500V AC megger between all supply terminals connected together and enclosure							
Vibration resistance	IEC 60947-5-2, part 7.4.2 or 10-55HZ, 1.0mm amplitude in x,y and z directions for 30 min							
Shock resistance	IEC 60947-5-2, part 7.4.1 or 30g, 11ms in x, y and z directions for six time each							
Emitting element	Infrared LED (modulated)						Red LED (modulated)	
Housing material	Plastic housing: PBT							
Cable	Standard length 2m, other length based on request.							
Connector	Micro-style connector							
Pigtail Tpye	Cable, Quick disconnecter, 6" Pigtail							

Sensing fields

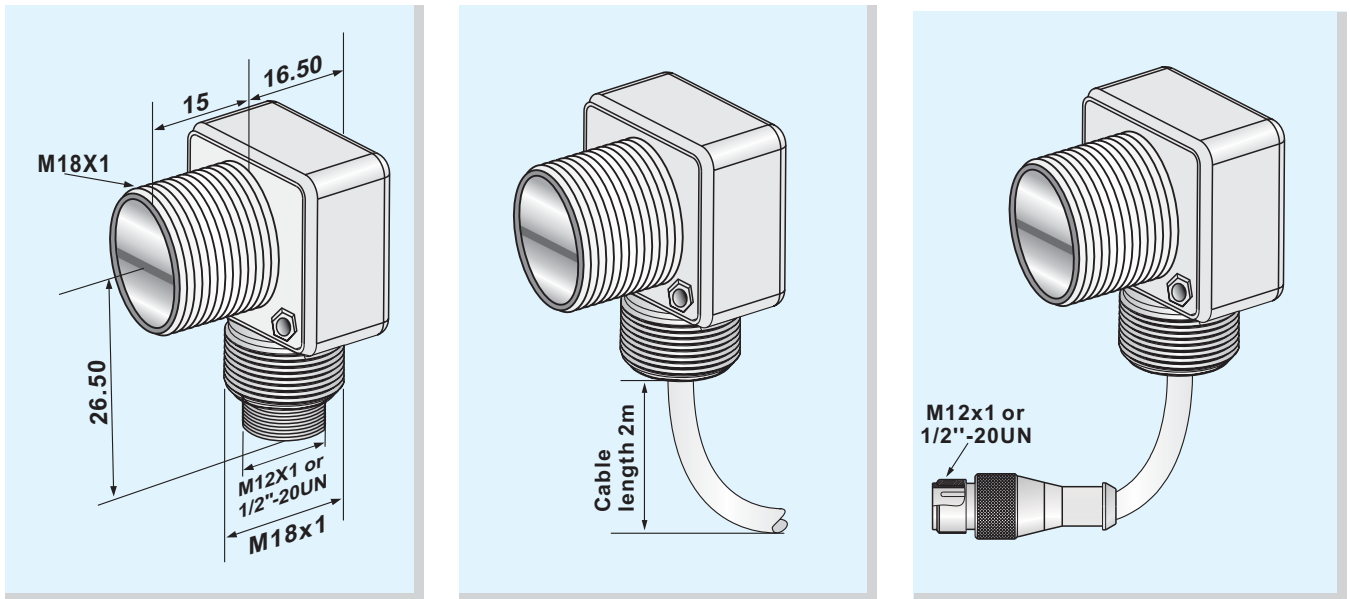


Sensing fields



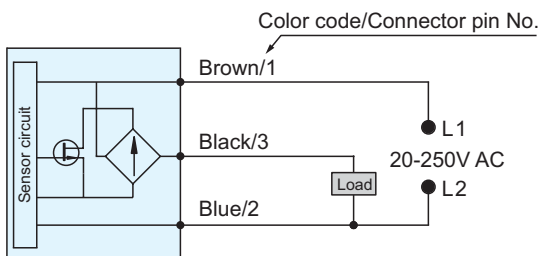
Dimension and I/O circuit diagram and Wiring diagram(AC)

Dimension

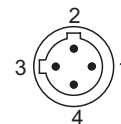


Receiver(AC)

I/O circuit diagram



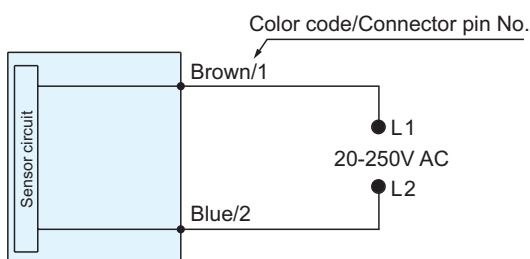
Connector pin position(Micro-style)



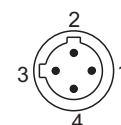
- 1: Red/black(L1)
- 2: Red/white(L2)
- 3: Red
- 4: Not used

Emitter(AC)

I/O circuit diagram



Connector pin position(Micro-style)

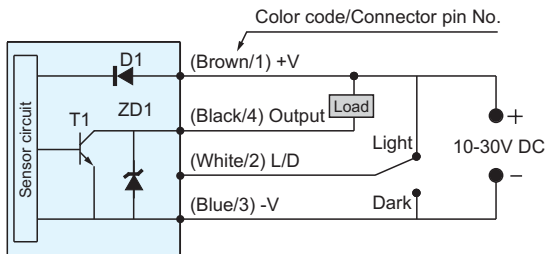


- 1: Red/black(+)
- 2: Red/white(-)
- 3: Not used
- 4: Not used

I/O circuit diagram and Wiring diagram (DC)

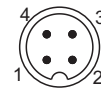
NPN output type

I/O circuit diagram



Symbol D1:Reverse polarity protection diode
 ZD1:Surge absorption zener diode
 T1:NPN output transistor

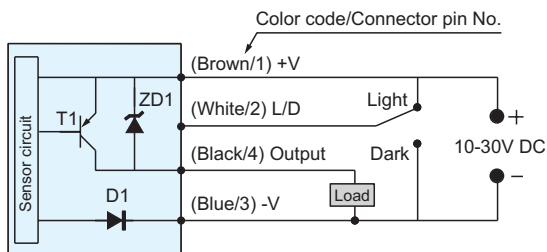
Connector pin position(Euro-style)



1.+V
 2.Light/Dark control
 3.0V
 4.Sensing output

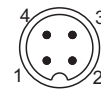
PNP output type

I/O circuit diagram



Symbol D1:Reverse polarity protection diode
 ZD1:Surge absorption zener diode
 T1:PNP output transistor

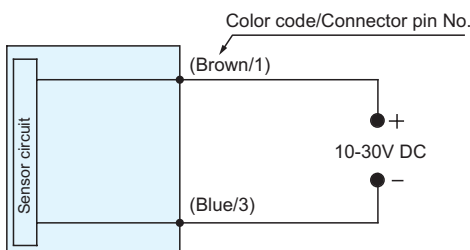
Connector pin position(Euro-style)



1.+V
 2.Light/Dark control
 3.0V
 4.Sensing output

Emitter(DC)

I/O circuit diagram



Connector pin position(Euro-style)

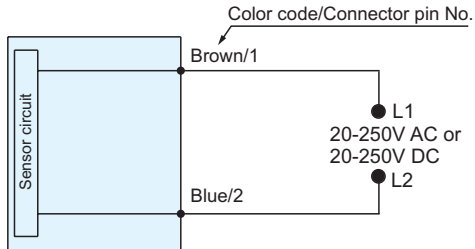


1.+V
 2.not used
 3.0V
 4.not used

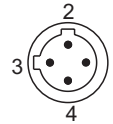
I/O circuit diagram and Wiring diagram (AC/DC)

Emitter(AC/DC)

I/O circuit diagram



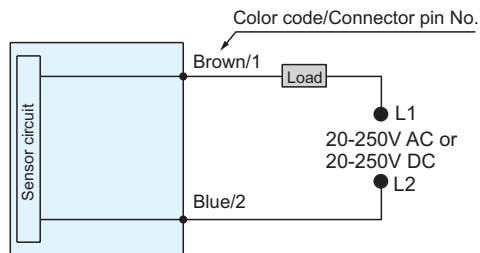
Connector pin position(Micro-style)



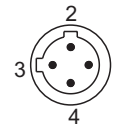
- 1: Red/black(L1)
- 2: Red/white(L2)
- 3: Not used
- 4: Not used

Receiver(AC/DC)

I/O circuit diagram



Connector pin position(Micro-style)



- 1: Red/black(L1)
- 2: Red/white(L2)
- 3: Not used
- 4: Not used