

Photoelectric Sensor

C2 series

Plastic housing



Metal housing



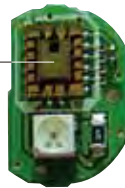
Well known for its conventional shape but not conventional in quality. An ultimate cylindrical sensor designed in Japan.

Custom ASIC with Power Circuit

The electronic circuit consists mainly of Optex FA's custom ASIC with only 27 electronic components.

The ASIC contains power circuit and this helps to avoid defects by electric damage from the power line.

Custom ASIC



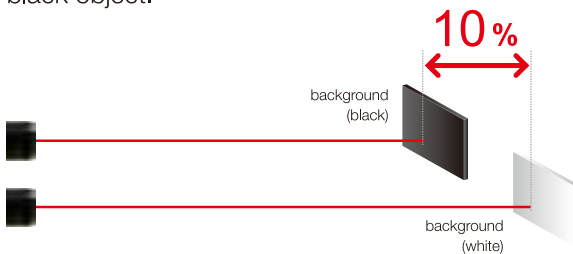
RoHS products

Both plastic housing and metal housing are RoHS compliant. With an Eco-minded electric design, the current consumption is only 18mA (Diffuse type)



Hysteresis of Max 10%. Between black/white colors.

Between black/white colors, hysteresis is Max at 10% (Diffuse type). C2DM-11 gives a sensing distance of 110mm for white object and 90mm for black object.



Trimmer of Silicon plastic for high durability against chemical impact.

The trimmer is tightly sealed against water with IP67 rating. Silicon plastic trimmer is the best solution against water, oil, chemical and environmental heat.



Silicon plastic

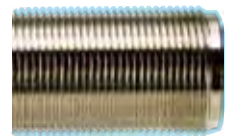
Easy Alignment and installation

Ample sensing area provides easy alignment when installing the thru-beam sensor. For instance, there is an allowance of 70cm to align the sensor at 10M distance. The highly bright LED is visible at long distance as well.



Nickel coating of 20μ thickness for anti-rust solution.

Metal type consists of brass-nickel housing with extra nickel coating of 20u thickness. This coating is done for the external and internal of the housing. It helps protect the metal housing against rust and toughen it.



Nickel coating

BGS type sensors

BGS type sensors are designed to detect any target regardless of the color and/or background.



Durable to 70N (7kg) of tension

The cable is firmly fixed to the internal circuit board so that it can withstand pulling tension of up to 70N (7kg).



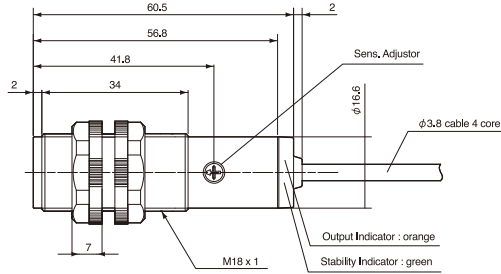
- C
- C2**
- E
- J
- J2
- J3
- V
- V2
- V3
- V4
- SR-Q
- S
- Z
- BGS-Z
- Z2
- ZM
- K
- BGS-2S
- Y
- DM-18T
- Accessory

DIMENSIONS

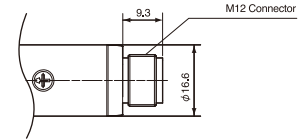
Plastic housing

Standard

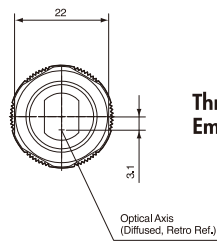
Cable type



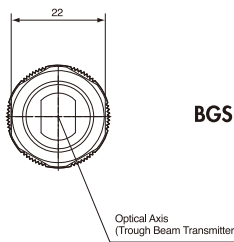
M12 Connector type



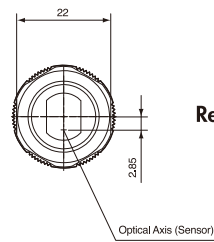
Diffuse-reflective
(110,400,800mm Type)
Thru-beam receiver



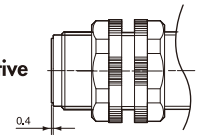
Thru-beam Emitter



BGS

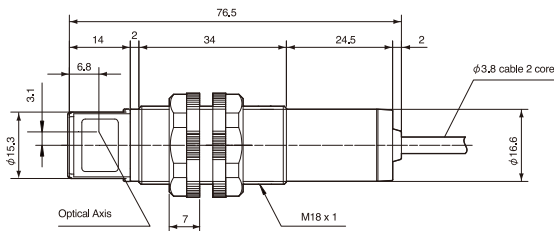


Retro reflective

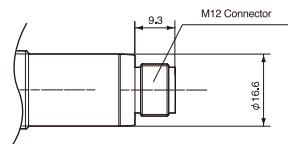


Angle (90 degree)

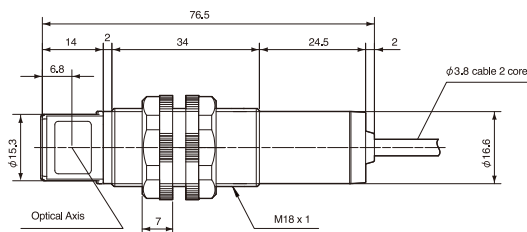
Cable type



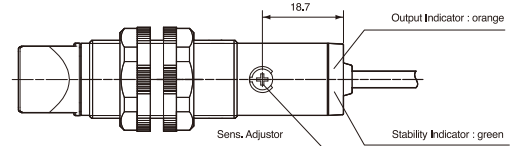
M12 Connector type



Diffuse-reflective
Thru-beam receiver

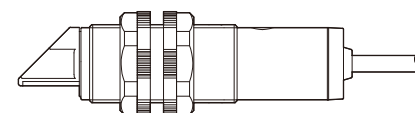
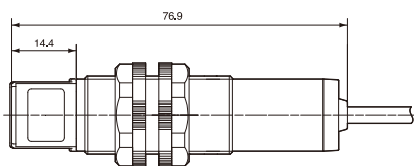


Thru-beam Emitter



Top view

Retro reflective



Side view

Product family

C

C2

E

J

J2

J3

V

V2

V3

V4

SR-Q

S

Z
BGS-Z

Z2

ZM

K

BGS-2S

Y

DM-18T

Accessory



Plastic housing



Metal housing

Plastic housing	Retro-reflective Without Polarizing filter	2m cable	NPN
			PNP
	M12 connector	NPN	
		PNP	
	Retro-reflective With Polarizing filter	2m cable	NPN
			PNP
	M12 connector	NPN	
PNP			
Diffuse-reflective Focused 110mm type	2m cable	NPN	
		PNP	
M12 connector	NPN		
	PNP		
Diffuse-reflective Energetic 400mm type	2m cable	NPN	
		PNP	
M12 connector	NPN		
	PNP		
Diffuse-reflective Energetic 800mm type	2m cable	NPN	
		PNP	
M12 connector	NPN		
	PNP		
Thru-beam	2m cable	NPN	
		PNP	
M12 connector	NPN		
	PNP		
BGS	2m cable	NPN	
		PNP	
M12 connector	NPN		
	PNP		

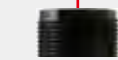
Metal housing	Retro-reflective Without Polarizing filter	2m cable	NPN
			PNP
	M12 connector	NPN	
		PNP	
	Retro-reflective With Polarizing filter	2m cable	NPN
			PNP
	M12 connector	NPN	
PNP			
Diffuse-reflective Focused 110mm type	2m cable	NPN	
		PNP	
M12 connector	NPN		
	PNP		
Diffuse-reflective Energetic 400mm type	2m cable	NPN	
		PNP	
M12 connector	NPN		
	PNP		
Diffuse-reflective Energetic 800mm type	2m cable	NPN	
		PNP	
M12 connector	NPN		
	PNP		
Thru-beam	2m cable	NPN	
		PNP	
M12 connector	NPN		
	PNP		
BGS	2m cable	NPN	
		PNP	
M12 connector	NPN		
	PNP		

Standard

C2RP-350N
C2RP-350P
C2RP-350CN
C2RP-350CP
C2RP-F400N
C2RP-F400P
C2RP-F400CN
C2RP-F400CP
C2DP-11N
C2DP-11P
C2DP-11CN
C2DP-11CP
C2DP-40N
C2DP-40P
C2DP-40CN
C2DP-40CP
C2DP-80N
C2DP-80P
C2DP-80CN
C2DP-80CP
C2TP-2000N
C2TP-2000P
C2TP-2000CN
C2TP-2000CP
BGS-CP30N
BGS-CP30P
BGS-CP30CN
BGS-CP30CP

Angle 90°

C2RP-S350N
C2RP-S350P
C2RP-S350CN
C2RP-S350CP
C2RP-SF400N
C2RP-SF400P
C2RP-SF400CN
C2RP-SF400CP
C2DP-S11N
C2DP-S11P
C2DP-S11CN
C2DP-S11CP
C2DP-S40N
C2DP-S40P
C2DP-S40CN
C2DP-S40CP
C2DP-S80N
C2DP-S80P
C2DP-S80CN
C2DP-S80CP
C2TP-S2000N
C2TP-S2000P
C2TP-S2000CN
C2TP-S2000CP
-
-
-
-



SPECIFICATIONS

Type	Thru-beam	Retro-reflective			Diffuse-reflective			BGS
		With polarizing filter	Without polarizing filter	110mm type	400mm type	800mm type		
Standard								
Plastic housing	2m Cable	C2TP-2000(N,P)	C2RP-F400(N,P)	C2RP-350(N,P)	C2DP-11(N,P)	C2DP-40(N,P)	C2DP-80(N,P)	BGS-CP30(N,P)
	M12	C2TP-2000C(N,P)	C2RP-F400C(N,P)	C2RP-350C(N,P)	C2DP-11C(N,P)	C2DP-40C(N,P)	C2DP-80C(N,P)	BGS-CP30C(N,P)
Metal housing	2m Cable	C2TM-2000(N,P)	C2RM-F400(N,P)	C2RM-350(N,P)	C2DM-11(N,P)	C2DM-40(N,P)	C2DM-80(N,P)	BGS-CM30(N,P)
	M12	C2TM-2000C(N,P)	C2RM-F400C(N,P)	C2RM-350C(N,P)	C2DM-11C(N,P)	C2DM-40C(N,P)	C2DM-80C(N,P)	BGS-CM30C(N,P)
Angle (90 degree)								
Plastic housing	2m Cable	C2TP-S2000(N,P)	C2RP-SF400(N,P)	C2RP-S350(N,P)	C2DP-S11(N,P)	C2DP-S40(N,P)	C2DP-S80(N,P)	-
	M12	C2TP-S2000C(N,P)	C2RP-SF400C(N,P)	C2RP-S350C(N,P)	C2DP-S11C(N,P)	C2DP-S40C(N,P)	C2DP-S80C(N,P)	-
Metal housing	2m Cable	C2TM-S2000(N,P)	C2RM-SF400(N,P)	C2RM-S350(N,P)	C2DM-S11(N,P)	C2DM-S40(N,P)	C2DM-S80(N,P)	-
	M12	C2TM-S2000C(N,P)	C2RM-SF400C(N,P)	C2RM-S350C(N,P)	C2DM-S11C(N,P)	C2DM-S40C(N,P)	C2DM-S80C(N,P)	-
Sensing distance		20m	0.01 ~ 4m (V-61)	0.01 ~ 3.5m (V-61)	11cm *1	40cm *1	80cm *1	300mm *1
Spot size		φ1100 mm / 20m	φ270 mm / 4m	φ240 mm / 3.5m	φ8 mm / 11cm	φ20 mm / 40cm	φ30 mm / 80cm	φ15 mm / 300mm
Light source		Red LED		IR LED	Red LED			
Supply voltage		DC10 ~ 30V including ripple (P-P) 10%						
Power consumption		Emitter : 20mA Max Receiver : 15mA Max	20mA Max					35mA Max
Hysteresis		-			10% Max			
Response time		0.5ms Max						1ms Max
Control output		NPN/PNP Open Collector 100mA Max / DC30V Max (Residual voltage Max 1.8V / 100mA Max)						
Operation mode		Light ON / Dark ON selectable by control wires						
Sensitivity adjustment		1 turn pot.						4 turn pot.
LED indicator		Output indicator (Orange LED) / Stability indicator (Green LED)						
Environmental illuminance		Sunlight : 10,000 lux, Incandescent lamp : 3,000 lux Max						
Vibration resistance		10 ~ 55Hz amplitude 1.5mm X-Y-Z each 2 hours						
Shock resistance		500m/S ² (50G) X-Y-Z each 3 times						
Operating / Storage temperature		Operating temperature : - 25 ~ +55 °C (no freezing) / Storage temperature : - 30 ~ +70 °C						
Operating / Storage humidity		Operating humidity : 35 ~ 85%RH / Storage humidity : 35 ~ 95%RH						
Protection / Material		IEC IP67(common to any type) Plastic housing : PBT (glass included) / Metal housing :BSBM, Front Cover , Lens : PMMA						

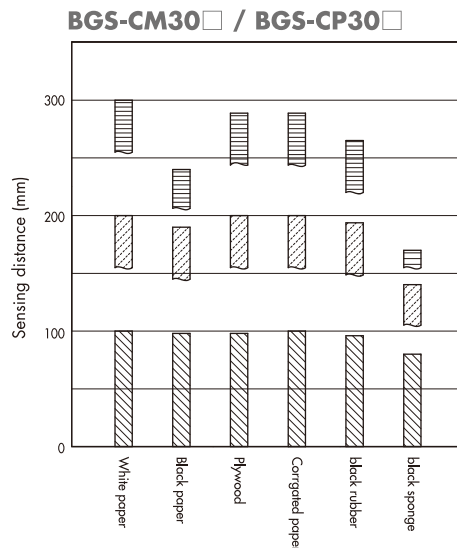
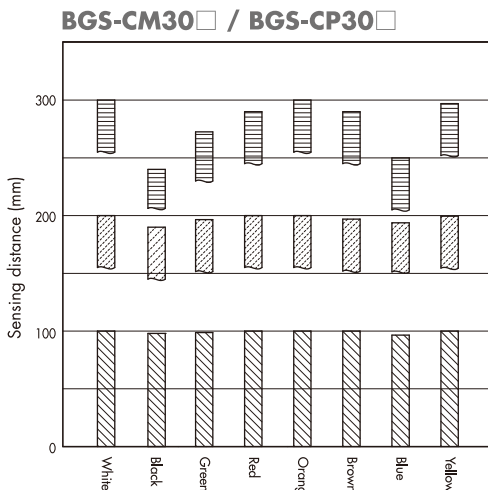
*1 White Paper 90%

BGS RESPONSE

*common among all the BGS types

Color response

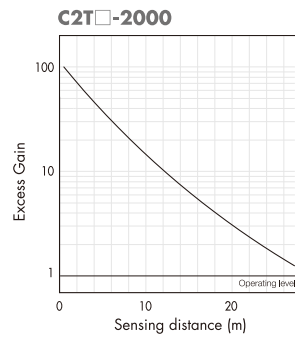
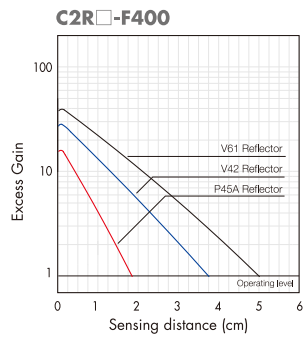
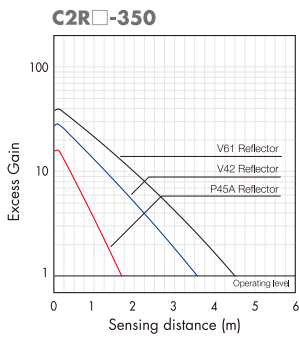
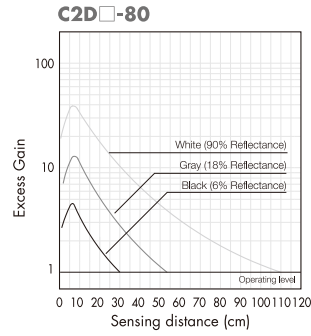
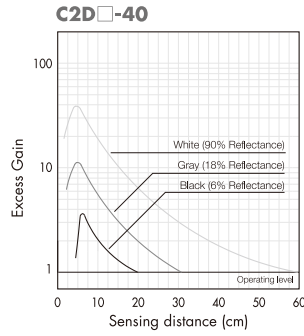
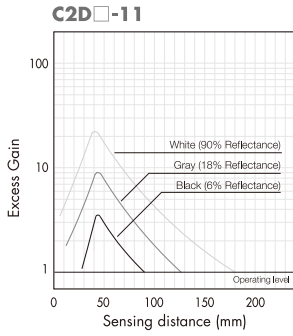
Material response



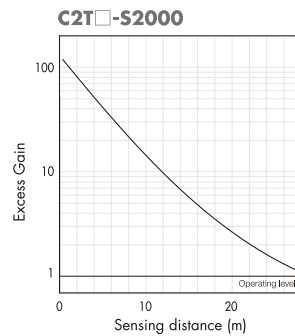
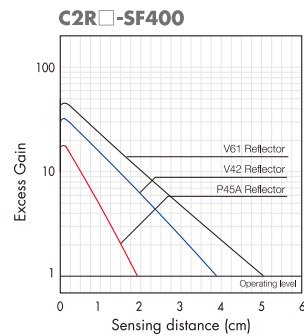
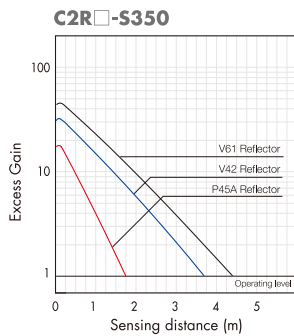
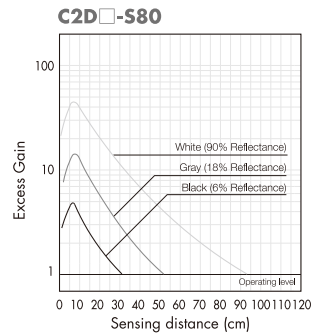
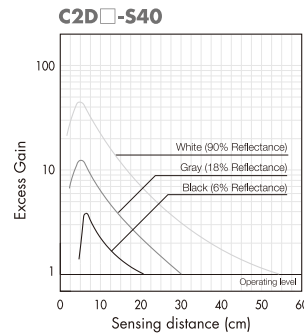
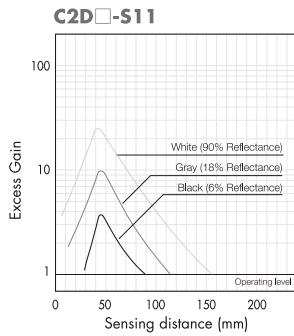
EXCESS GAIN

*common between plastic / metal housing

Standard Types



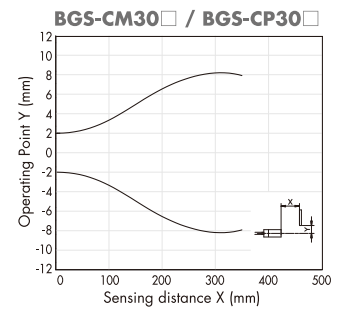
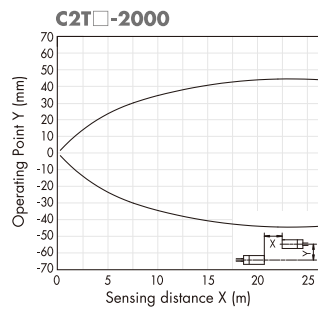
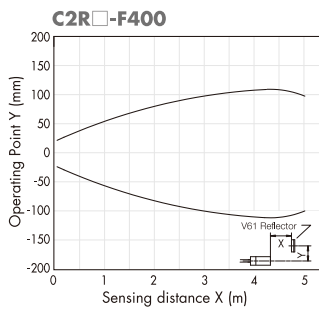
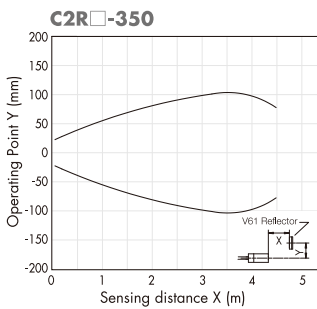
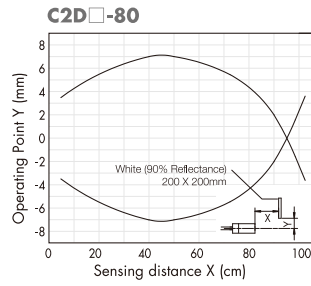
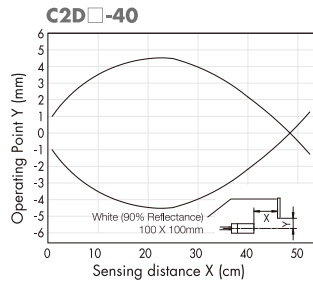
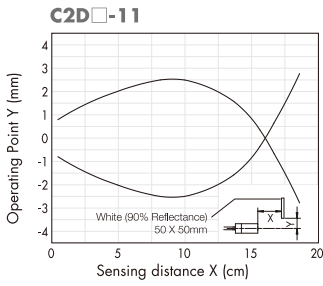
Angle (90 degree)



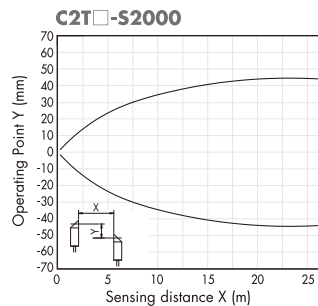
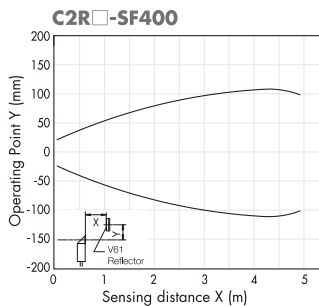
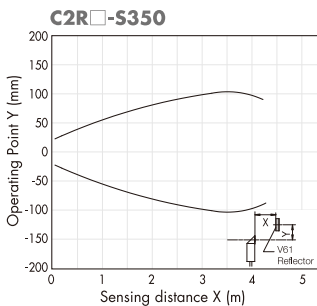
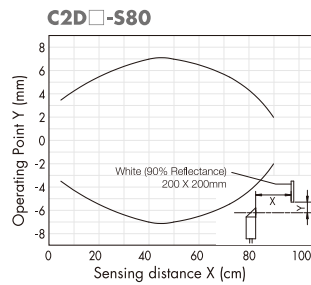
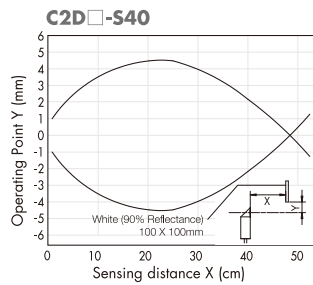
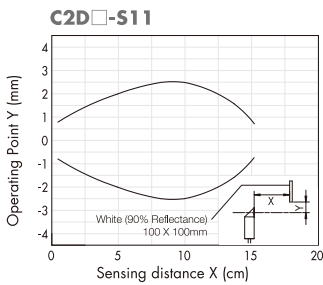
SENSING AREA

*common between plastic / metal housing

Standard Types



Angle (90 degree)



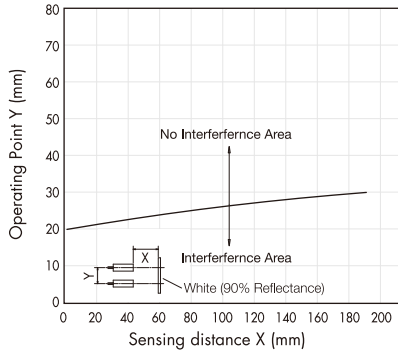
- C
- C2
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- J3
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- V3
- V4
- SR-Q
- S
- Z
- BGS-Z
- Z2
- ZM
- K
- BGS-2S
- Y
- DM-18T
- Accessory

INTERFERENCE AREA

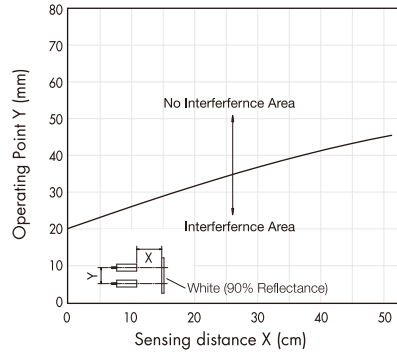
Standard Types

*common between plastic / metal housing

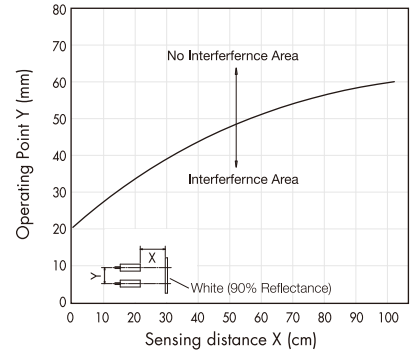
C2D□-11



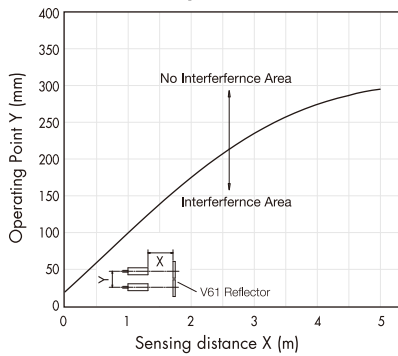
C2D□-40



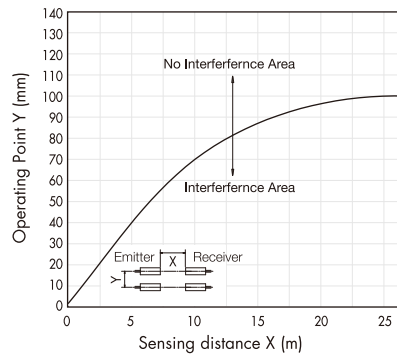
C2D□-80



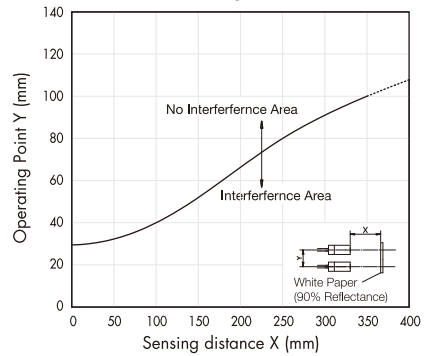
C2R□-350 / C2R□-F400 common



C2T□-2000

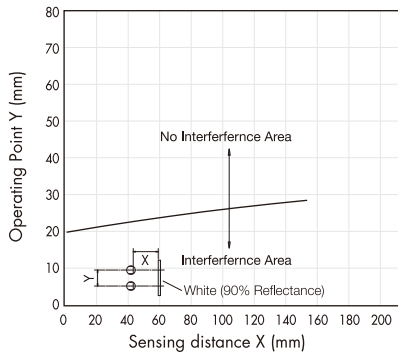


BGS-CM30□ / BGS-CP30□

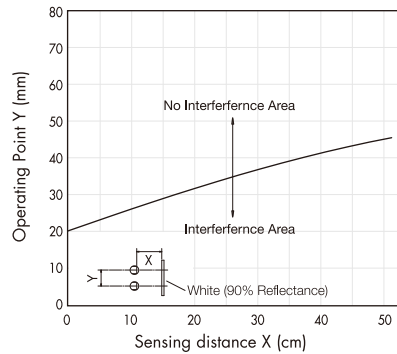


Angle (90 degree)

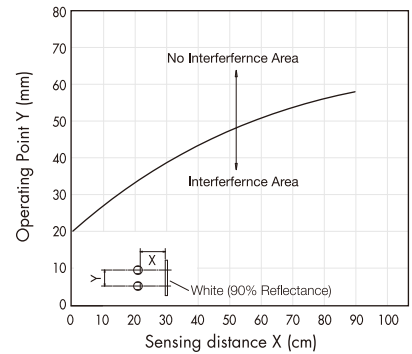
C2D□-S11



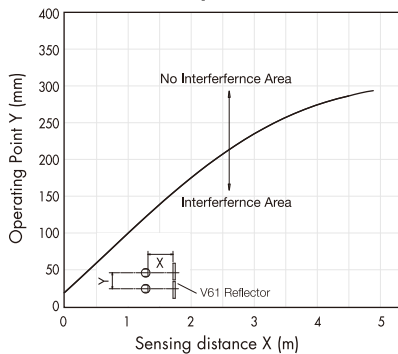
C2D□-S40



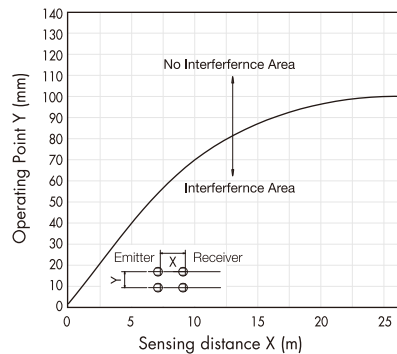
C2D□-S80



C2R□-S350 / C2R□-SF400 common

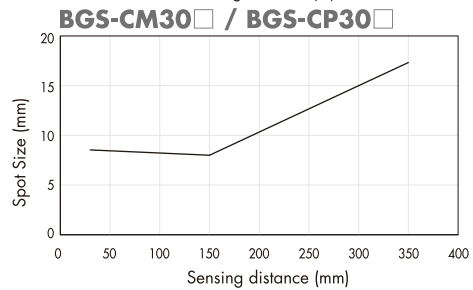
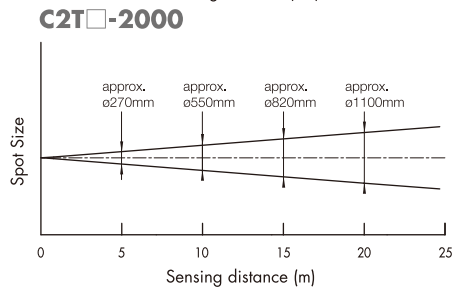
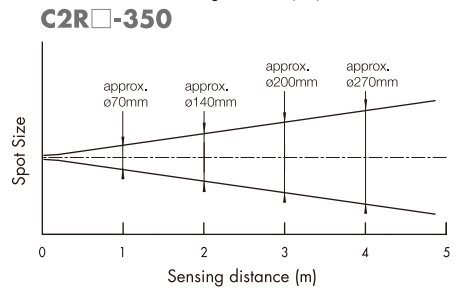
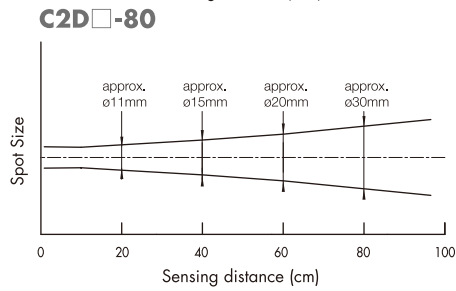
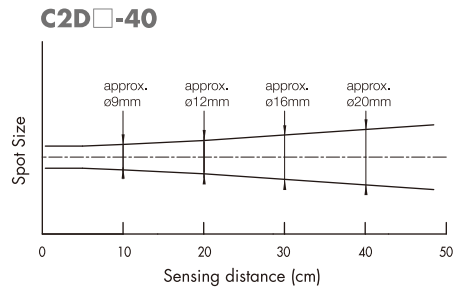
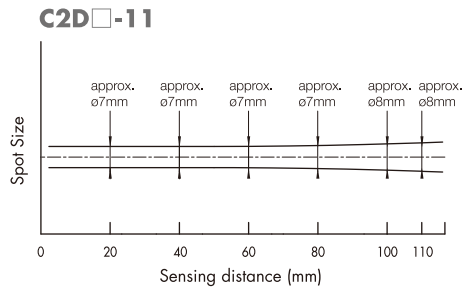


C2T□-S2000

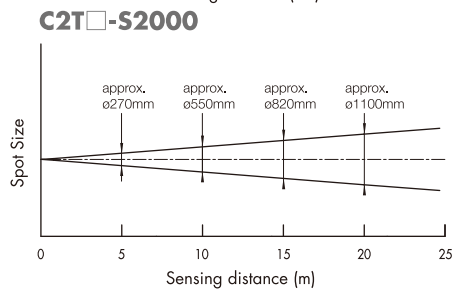
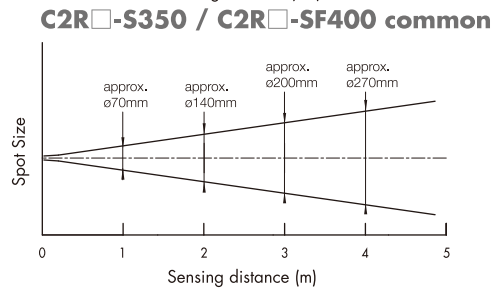
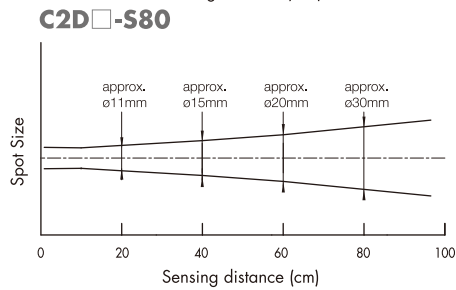
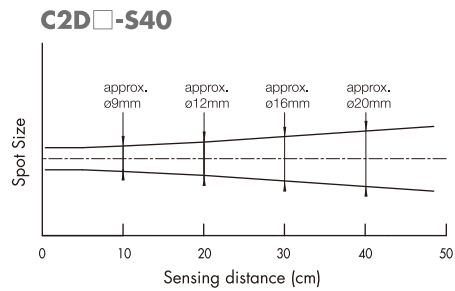
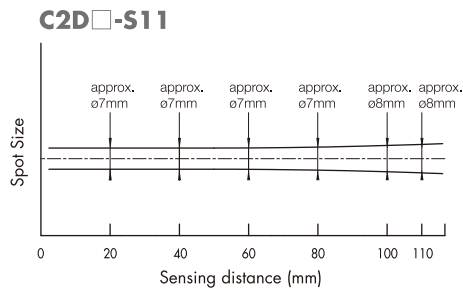


SPOT SIZE *common between plastic / metal housing

Standard Types



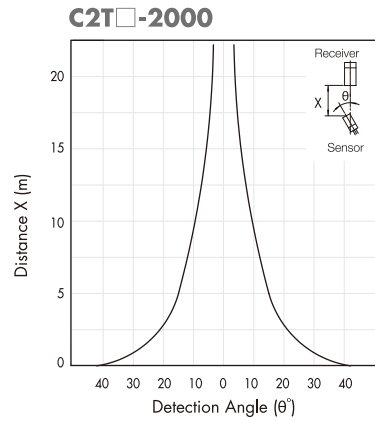
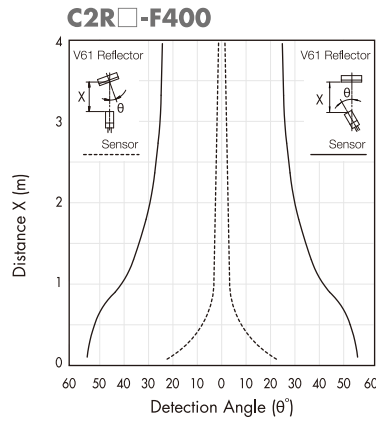
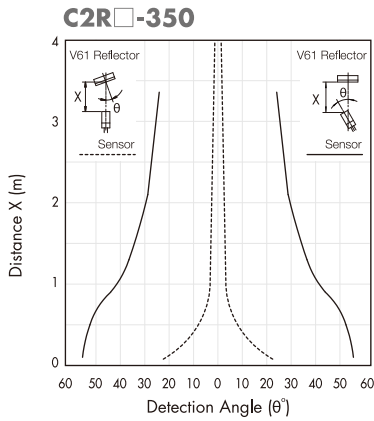
Angle (90 degree)



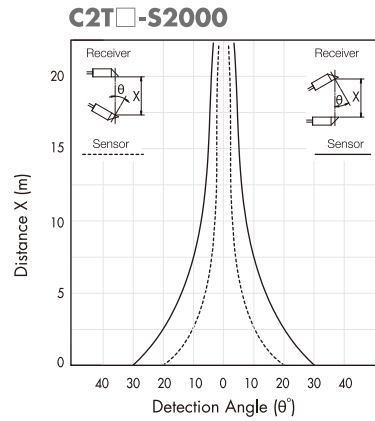
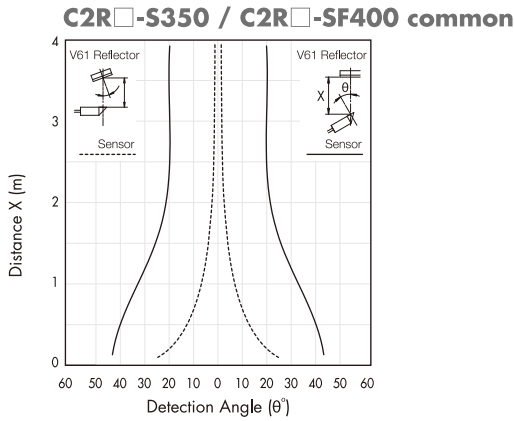
ANGULAR DEVIATION

*common between plastic / metal housing

Standard Types



Angle (90 degree)



BGS HYSTERESIS

*common among all the BGS types

