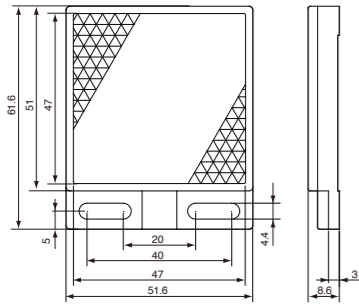
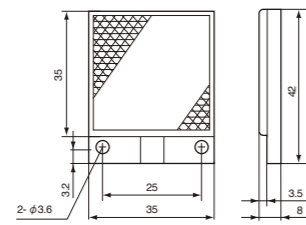


Options

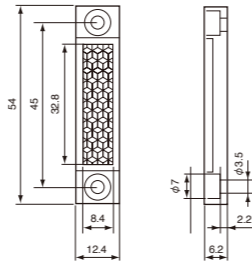
Standard reflector V-61



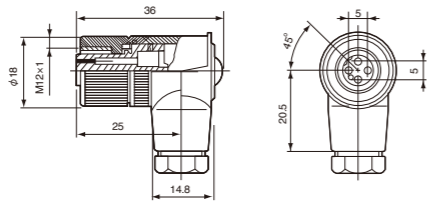
Small reflector V-42



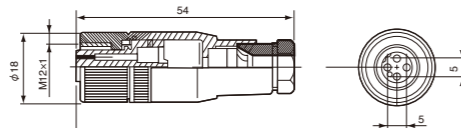
Tiny reflector P-45



90 degree QD connector CCN-L



Standard QD connector CCN-S



- Specifications are subject to change without prior notice.
- Specifications and technical information not mentioned here are written in Instruction Manual. Or visit our website for details.
- All the warnings and cautions to know prior to use are given in Instruction Manual.

OPTEX
FA **OPTEX FA CO., LTD.**

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<http://www.optex-fa.com>

78002-00-QL1206

OPTEX
FA

Photoelectric sensor
C2 Series

Plastic Casing

Compliance with RoHS. Plastic in material but tough structure.
"C2 Series" – An ecological product.

NEW! Angle (90 degree) type



standard type

The best in its class of Cylindrical type sensor
with custom ASIC .

Up to 40M of Max sensing distance.

Angle (90 degree) type

NEW!



standard type

Metal Casing

Metallic Brass casing coated with Nickel of 20um thickness.
Coating applies to internal and external of the casing.
"C2 Series" – Now with an Ultimate anti-rust housing.





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

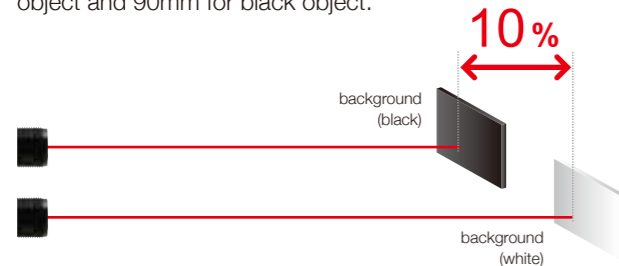
Custom ASIC with Power Circuit

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.



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.



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.



BGS type sensors

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



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)



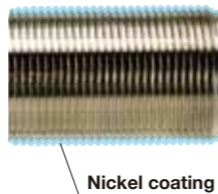
Trimmer of Silicon plastic for high durability against chemical impact.

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



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

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



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).



Product family



Plastic housing



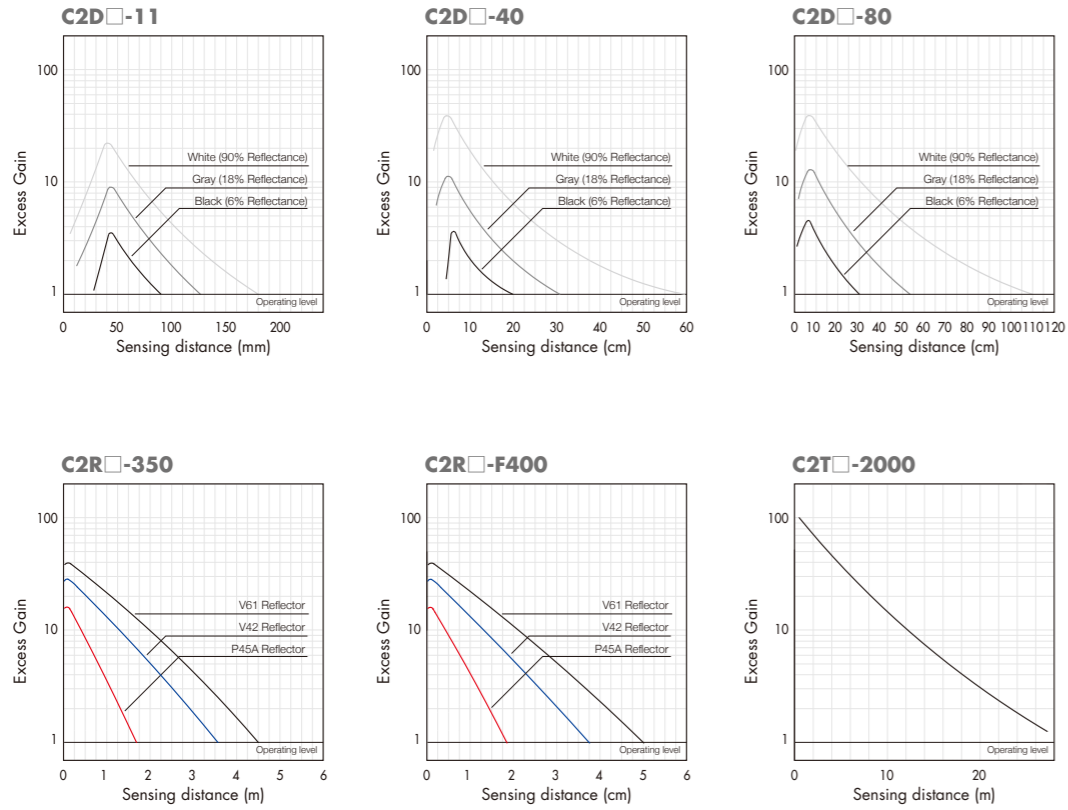
Metal housing

				Standard	Angle 90°
Plastic housing	Retro-reflective Without Polarizing filter	2m cable	NPN	C2RP-350N	C2RP-S350N
			PNP	C2RP-350P	C2RP-S350P
	M12 connector	NPN	C2RP-350CN	C2RP-S350CN	
			PNP	C2RP-350CP	C2RP-S350CP
	Retro-reflective With Polarizing filter	2m cable	NPN	C2RP-F400N	C2RP-SF400N
			PNP	C2RP-F400P	C2RP-SF400P
	M12 connector	NPN	C2RP-F400CN	C2RP-SF400CN	
			PNP	C2RP-F400CP	C2RP-SF400CP
	Diffuse-reflective Focused 110mm type	2m cable	NPN	C2DP-11N	C2DP-S11N
			PNP	C2DP-11P	C2DP-S11P
	M12 connector	NPN	C2DP-11CN	C2DP-S11CN	
			PNP	C2DP-11CP	C2DP-S11CP
	Diffuse-reflective Energetic 400mm type	2m cable	NPN	C2DP-40N	C2DP-S40N
			PNP	C2DP-40P	C2DP-S40P
	M12 connector	NPN	C2DP-40CN	C2DP-S40CN	
			PNP	C2DP-40CP	C2DP-S40CP
	Diffuse-reflective Energetic 800mm type	2m cable	NPN	C2DP-80N	C2DP-S80N
			PNP	C2DP-80P	C2DP-S80P
M12 connector	NPN	C2DP-80CN	C2DP-S80CN		
		PNP	C2DP-80CP	C2DP-S80CP	
Thru-beam	2m cable	NPN	C2TP-2000N	C2TP-S2000N	
		PNP	C2TP-2000P	C2TP-S2000P	
M12 connector	NPN	C2TP-2000CN	C2TP-S2000CN		
		PNP	C2TP-2000CP	C2TP-S2000CP	
BGS	2m cable	NPN	BGS-CP30N	-	
		PNP	BGS-CP30P	-	
M12 connector	NPN	BGS-CP30CN	-		
		PNP	BGS-CP30CP	-	
Metal housing	Retro-reflective Without Polarizing filter	2m cable	NPN	C2RM-350N	C2RM-S350N
			PNP	C2RM-350P	C2RM-S350P
	M12 connector	NPN	C2RM-350CN	C2RM-S350CN	
			PNP	C2RM-350CP	C2RM-S350CP
	Retro-reflective With Polarizing filter	2m cable	NPN	C2RM-F400N	C2RM-SF400N
			PNP	C2RM-F400P	C2RM-SF400P
	M12 connector	NPN	C2RM-F400CN	C2RM-SF400CN	
			PNP	C2RM-F400CP	C2RM-SF400CP
	Diffuse-reflective Focused 110mm type	2m cable	NPN	C2DM-11N	C2DM-S11N
			PNP	C2DM-11P	C2DM-S11P
	M12 connector	NPN	C2DM-11CN	C2DM-S11CN	
			PNP	C2DM-11CP	C2DM-S11CP
	Diffuse-reflective Energetic 400mm type	2m cable	NPN	C2DM-40N	C2DM-S40N
			PNP	C2DM-40P	C2DM-S40P
	M12 connector	NPN	C2DM-40CN	C2DM-S40CN	
			PNP	C2DM-40CP	C2DM-S40CP
	Diffuse-reflective Energetic 800mm type	2m cable	NPN	C2DM-80N	C2DM-S80N
			PNP	C2DM-80P	C2DM-S80P
M12 connector	NPN	C2DM-80CN	C2DM-S80CN		
		PNP	C2DM-80CP	C2DM-S80CP	
Thru-beam	2m cable	NPN	C2TM-2000N	C2TM-S2000N	
		PNP	C2TM-2000P	C2TM-S2000P	
M12 connector	NPN	C2TM-2000CN	C2TM-S2000CN		
		PNP	C2TM-2000CP	C2TM-S2000CP	
BGS	2m cable	NPN	BGS-CM30N	-	
		PNP	BGS-CM30P	-	
M12 connector	NPN	BGS-CM30CN	-		
		PNP	BGS-CM30CP	-	

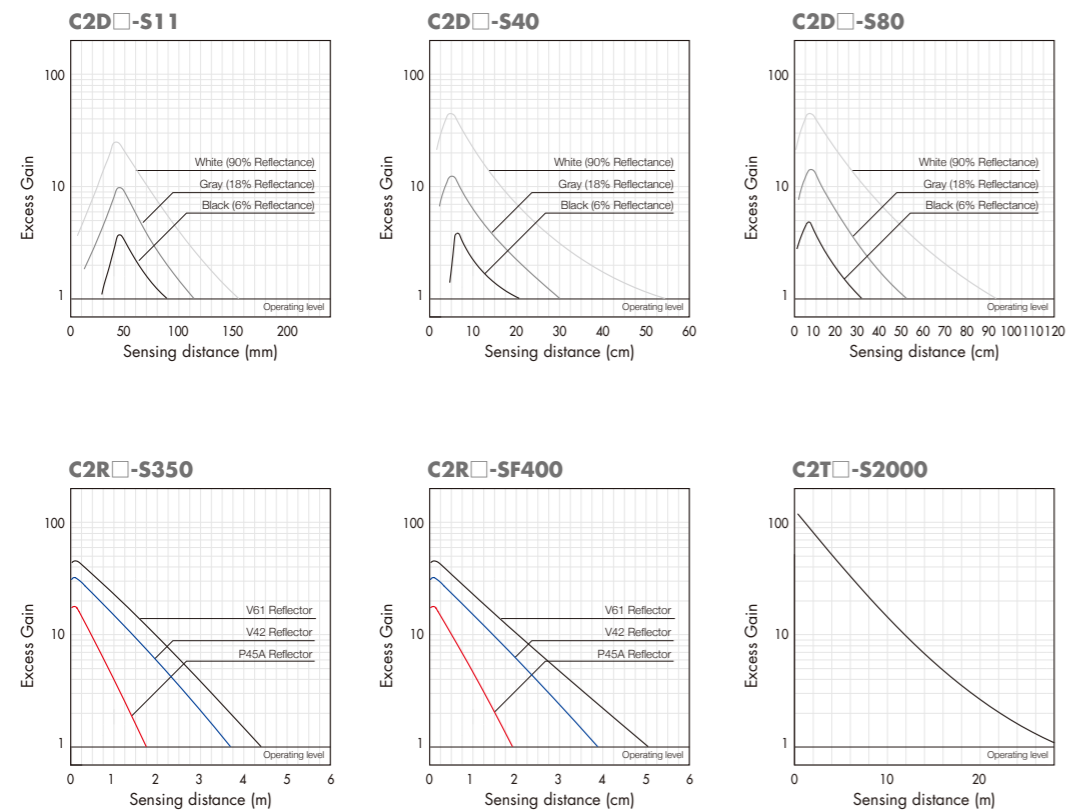
EXCESS GAIN

Standard Types

*common between plastic / metal housing



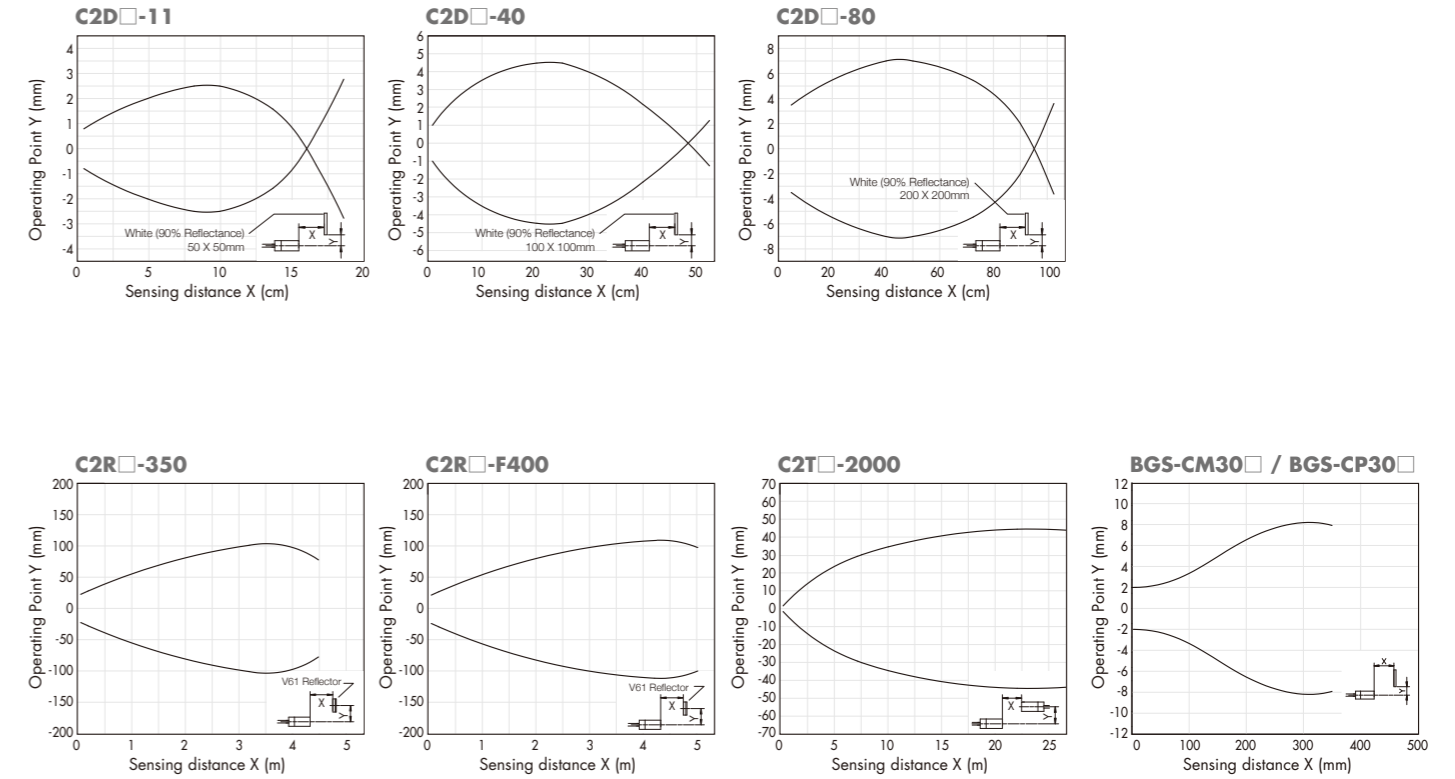
Angle (90 degree)



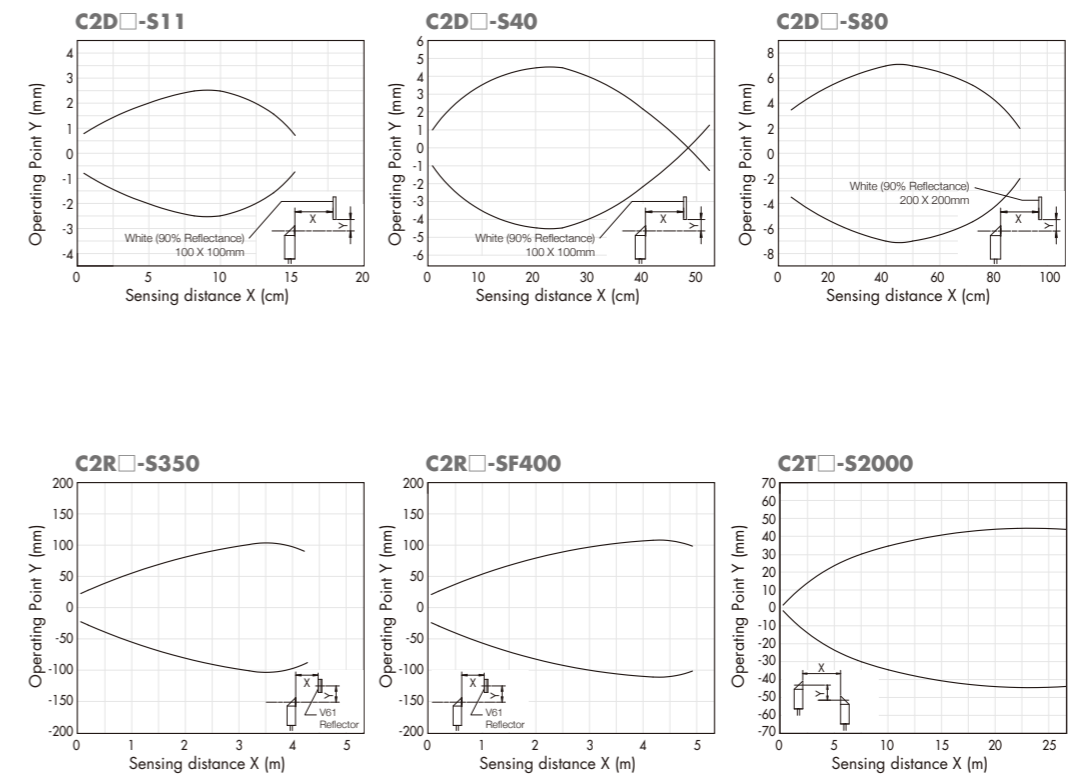
SENSING AREA

Standard Types

*common between plastic / metal housing

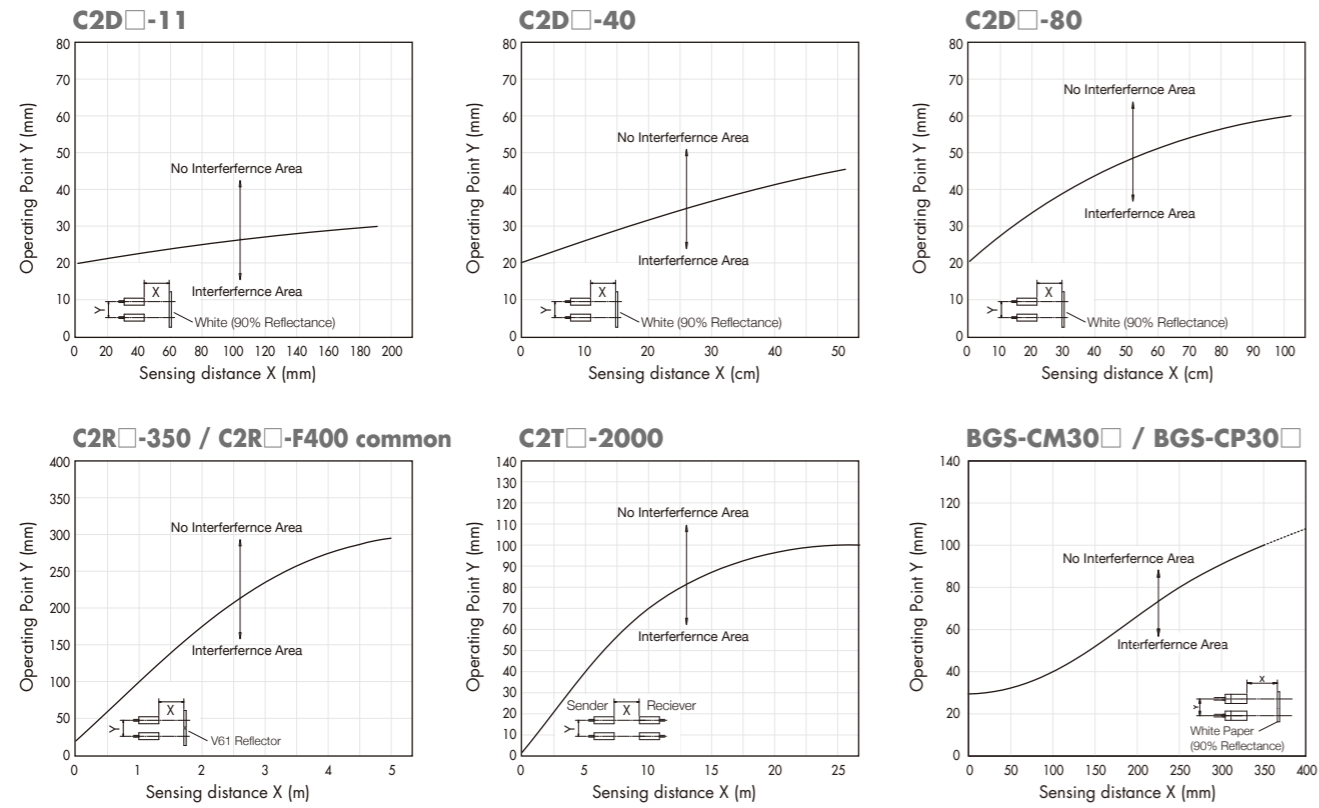


Angle (90 degree)

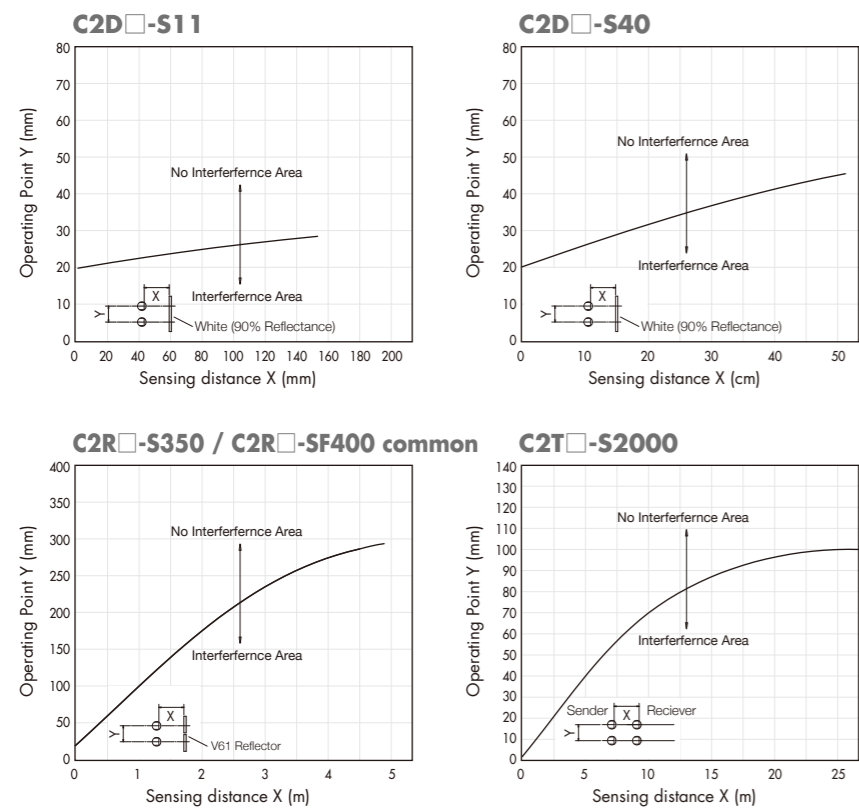


INTERFERENCE AREA *common between plastic / metal housing

Standard Types

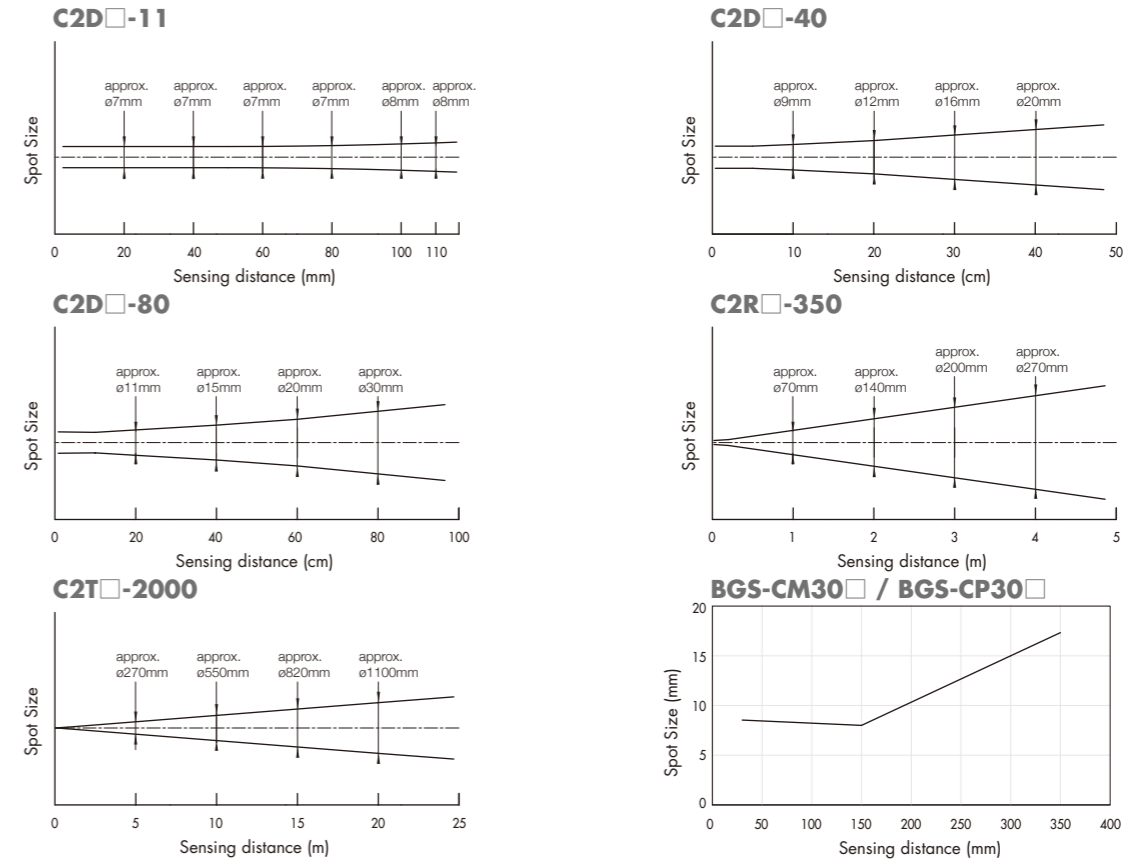


Angle (90 degree)

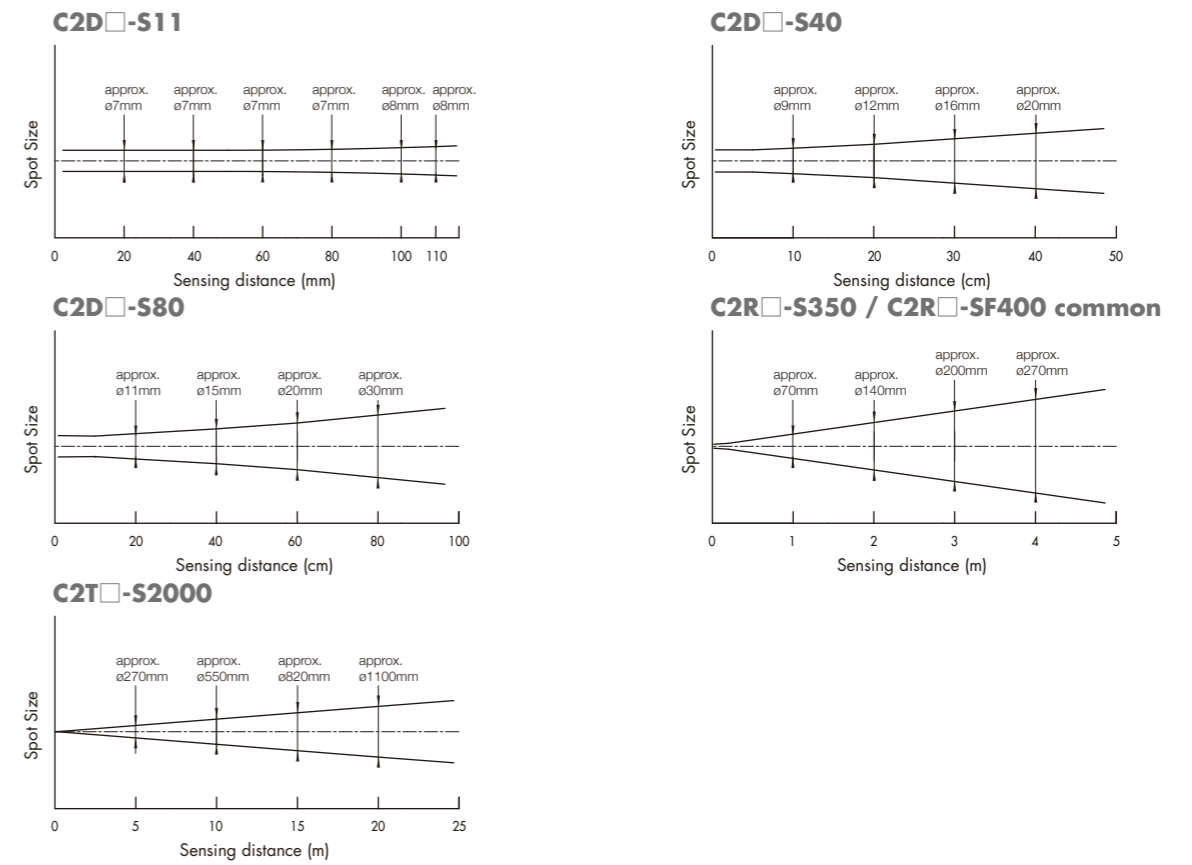


SPOT SIZE *common between plastic / metal housing

Standard Types



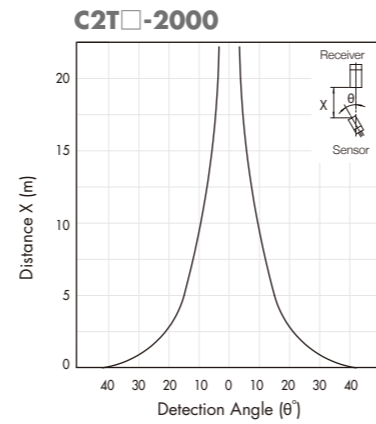
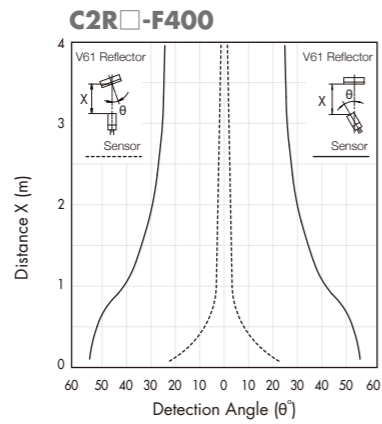
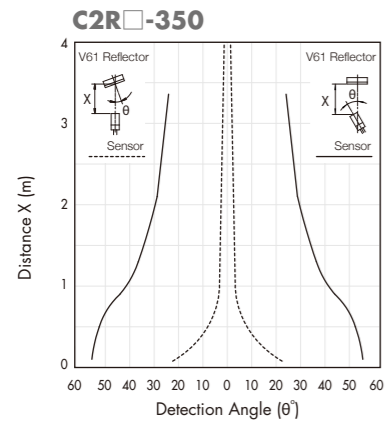
Angle (90 degree)



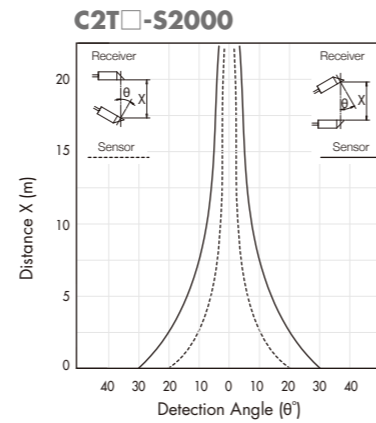
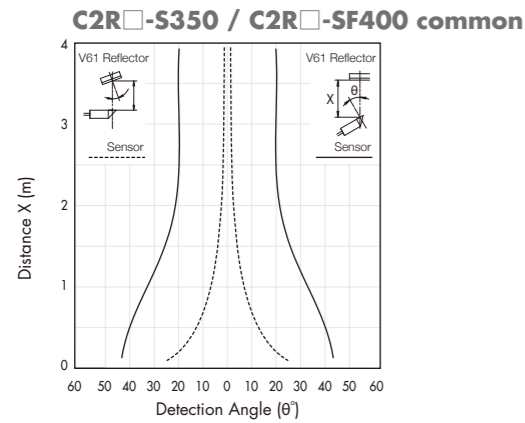
ANGULAR DEVIATION

*common between plastic / metal housing

Standard Types

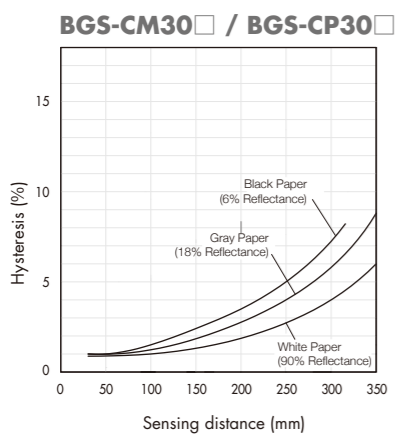


Angle (90 degree)



BGS HYSTERESIS

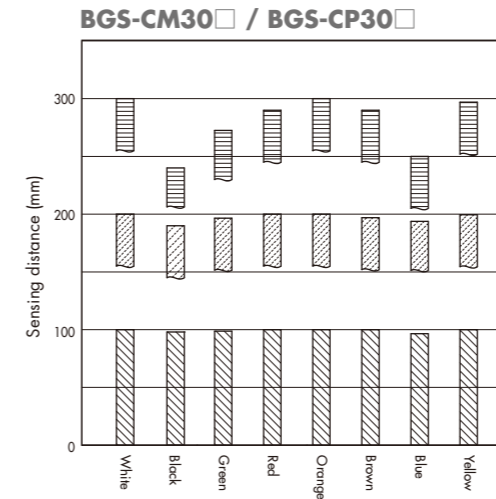
*common among all the BGS types



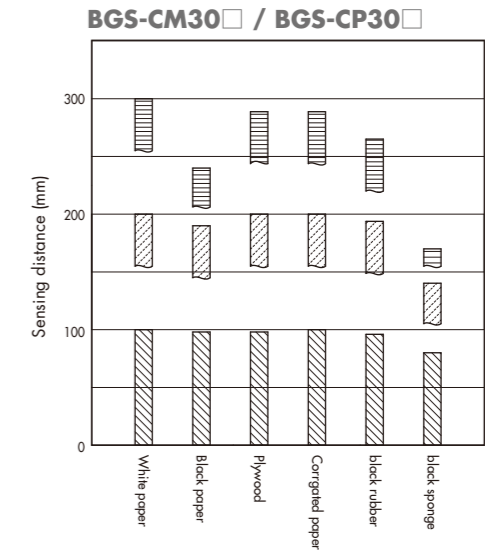
BGS RESPONSE

*common among all the BGS types

Color response



Material response



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	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							

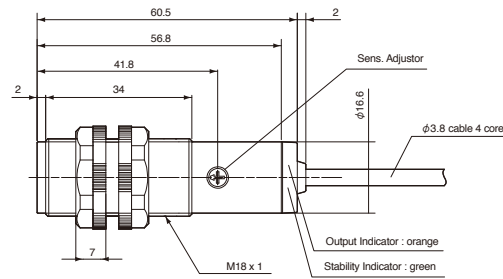
*1 White Paper 90%

DIMENSIONS (mm)

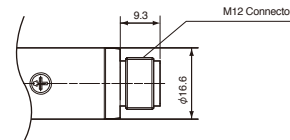
Plastic housing

Standard

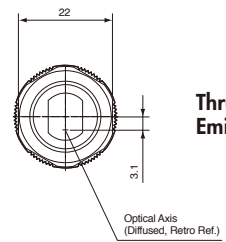
Cable type



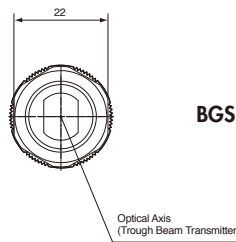
M12 Connector type



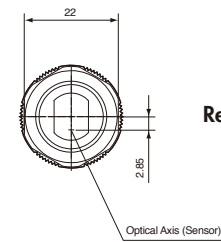
Diffuse-reflective
(110,400,800mm Type)
Thru-beam receiver



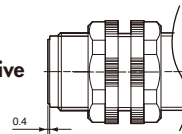
Thru-beam Emitter



BGS

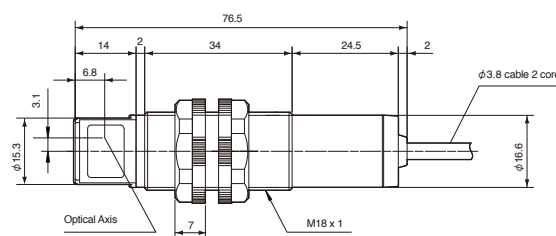


Retro reflective



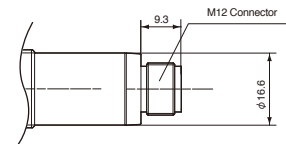
Angle (90 degree)

Cable type

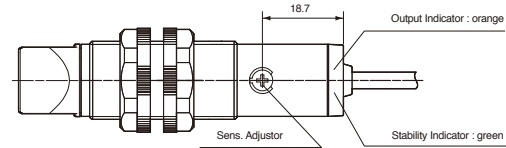
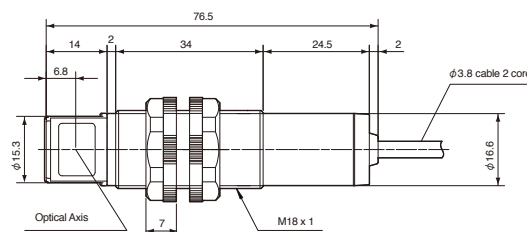


Diffuse-reflective
Thru-beam receiver

M12 Connector type

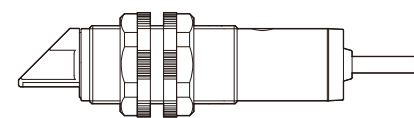
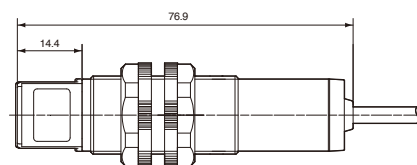


Thru-beam Emitter



Top view

Retro reflective

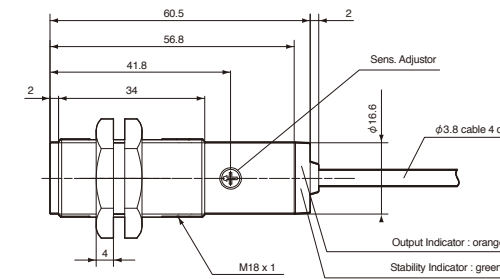


Side view

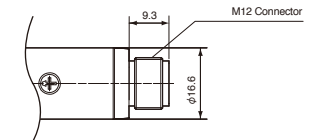
Metal housing

Standard

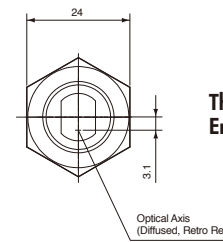
Cable type



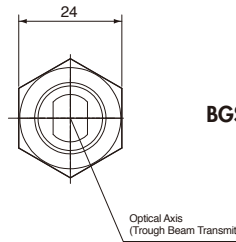
M12 Connector type



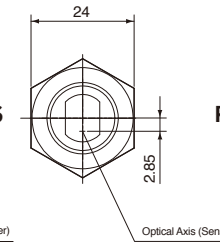
Diffuse-reflective
(110,400,800mm Type)
Thru-beam receiver



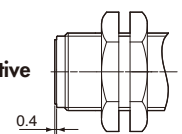
Thru-beam Emitter



BGS

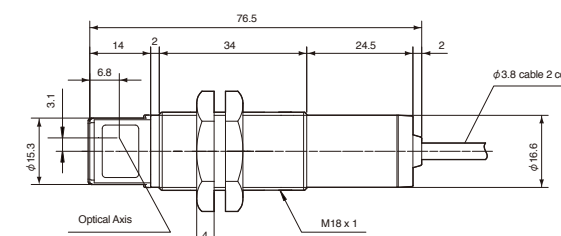


Retro reflective



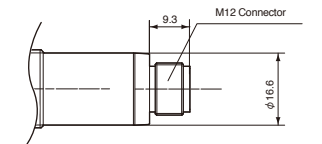
Angle (90 degree)

Cable type

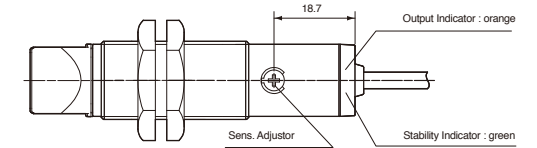
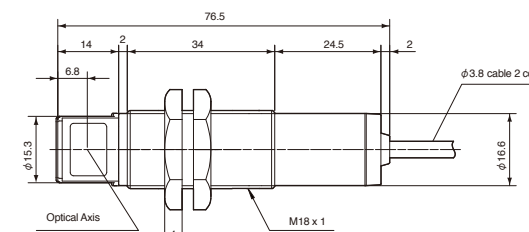


Diffuse-reflective
Thru-beam receiver

M12 Connector type

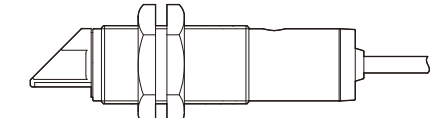
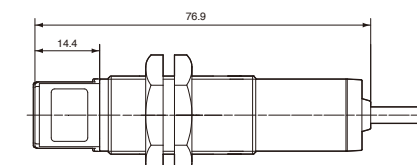


Thru-beam Emitter



Top view

Retro reflective



Side view