

# S5N



## EXTENDED RANGE OF STANDARD “ONE FOR ALL” PHOTOELECTRIC TUBULAR M18 SENSORS

- All optic functions
- Improved EMI immunity
- Improved ambient light immunity
- Improved laser safety level
- M18 flat plastic with universal mounting
- Short plastic housing models
- Available in M18 metal housing
- Stainless steel housing models
- Axial or radial optics, cable or connector
- Standard 4-wire NO-NC NPN or PNP output
- M12 pigtail models available
- IO-Link connectivity V1.1 with double channel



### APPLICATIONS

- Processing and Packaging machinery
- Conveyor lines, material handling
- Ceramics intralogistics
- Automated warehousing

(\*) Stainless steel models. ATEX II 3DG

S5N		
<b>Through beam</b>		0...25 m (S5N-PP/NN; S5N-Px/Mx...PK/NK models) 0...20 m (S5N-SA/NA models) 0...60 m (class 1 LASER S5N...PP/NN models)
<b>Retroreflective (on R2 reflector)</b>		0,1...4 m (S5N-PP/NN; S5N-Px/Mx...PK/NK models)
<b>Polarized retroreflective (on R2 reflector)</b>		0,1...3m (S5N-Px/Mx...PK/NK models) 0,1...4 m (S5N...PP/NN; S5N-SA/NA models) 0,1...16 m (class 1 LASER S5N...PP/NN models)
<b>Retroreflective for transparent (on R2 reflector)</b>		0,1...0,8 m (S5N-SA/NA) 0,1...1,3 m (S5N...PP/NN models)
<b>Diffuse proximity</b>		short distance 0...100 mm (all models) medium distance 0...400 mm (S5N...PP/NN models) medium distance 0...350 (S5N-SA/NA models) medium distance 0...450 (S5N-Px/Mx...PK/NK models) long distance 0...700 ammm (S5N...PP/NN models) long distance Laser 0...350 mm (S5N...PP/NN models)
<b>Fixed focus</b>		50 mm (S5N-SA/NA models) 100 mm (S5N...PP/NN models)
<b>Background suppression</b>		40...120 mm (S5N-SA/NA models) 50...150 mm (S5N...PP/NN models)
<b>Through beam with fiber optic</b>		0...100 mm (S5N...PP/NN models)
<b>Diffuse proximity with fiber optic</b>		0...30 mm (S5N...PP/NN models)
<b>Contrast sensor</b>		10 ±2 mm (S5N...PP/NN models)
<b>Luminescence sensor</b>		0...20 mm (S5N...PP/NN models)
<b>Power supply</b>	Vdc	10...30 V
	Vac	
	Vac/dc	
<b>Output</b>	PNP	•
	NPN	•
	NPN/PNP	
	relay	
	other	IO-Link v 1.1
<b>Connection</b>	cable	•
	connector	•
	pig-tail	•
<b>Approximate dimensions (mm)</b>		M18 x (see mechanical drawings)
<b>Housing material</b>		PBT, Nickel plated Brass (S5N-PP/NN; S5N-Px/Mx...PK/NK models) ABS, AISI 316 L Stainless steel inox (S5N-SA/NA models)
<b>Mechanical protection</b>		IP67 (S5N-PP/NN; S5N-Px/Mx...PK/NK models) IP65 - IP67 - IP69K (S5N-SA/NA)

# TECHNICAL DATA

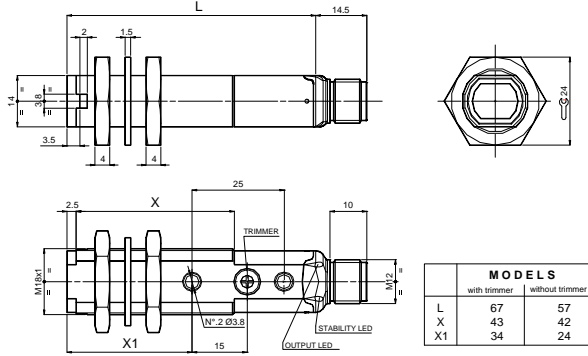
<b>Power supply</b>	10 ... 30 Vdc (limit values all models)
<b>Ripple</b>	2 Vpp max. (all models)
<b>Consumption (output current excluded)</b>	35 mA max. (all models)
<b>Light emission</b>	red LED 630 nm (mod. S5N...D00/E01, S5N-PA/MA...M03) red LED 660 nm (mod. S5N...B01...PP/NN/PK/NK; S5N...T01...PP/NN) - (mod. S5N-SA/NA...B/D/T/M) red LED 670 nm (mod. S5N-PS/MS...M03...PP/NN) IR LED 880 nm - (mod. S5N-Px/Mx...A00/C01/C10/C21/G00...PP/NN/PK/NK) - (mod. S5N-SA/NA...A/C/G) white LED 400-700 nm (mod. S5N...W03...PP/NN) UV LED 370 nm (mod. S5N...U03...PP/NN) red Laser 650 nm (mod. S5N-PH/PL...G00/B01/C01...PP/NN)
<b>Setting</b>	sensitivity trimmer 270° and without trimmer model (see mech drawings) 4 turns sensitivity trimmer (mod. S5N-Px/Mx...M01...PK/NK) teach-in push-button (mod. S5N...M03/W03/U03...PP/NN)
<b>Operating mode</b>	LIGHT mode on N.O. output / DARK mode on N.C. output (mod.S5N...C01/C10/C21/D00/M03/U03...PP/NN) DARK mode on N.O. output / LIGHT mode on N.C. output (mod.S5N...A00/B01/E01/F01/T01/W03...PP/NN) L/D input white wire or pin 2, if pin not connected on S5N-Px/Mx...PK/NK: LIGHT mode (mod. S5N-Px/Mx...C/D/M...PK/NK) DARK mode (mod. S5N-Px/Mx...A/B/T/F...PK/NK) white wire or pin 2 connected to: 0 V DARK mode, +Vcc LIGHT mode
<b>Indicators</b>	yellow OUTPUT LED (S5N, excl. mod. G00) green STABILITY LED (mod. S5N...B01/C01/C21/E01/F01/W03/U03), POWER LED (mod. S5N...G00) green/red READY/ERROR LED (mod. S5N...M03...PP/NN)
<b>Output</b>	PNP or NPN; NO; NC (mod. S5N...PP/NN) PNP or NPN (mod. S5N-Px/Mx...PK/NK) IO-Link v 1.1 (mod.S5N...OZ)
<b>IO-Link interface</b>	(mod.S5N...OZ) v 1.1, com 2, 38,4 kBAud, 32 bit process data, 5 ms cycle time LED emission model, 8 ms cycle time LASER emission model
<b>Output current</b>	100 mA max. (all models)
<b>Saturation voltage</b>	2 V max. (all models)
<b>Response time</b>	0,5 ms (mod. S5N...A00/B01/T01/C10/C21/C01/D00/E01/U03...PP/NN) - (mod. S5N-Px/Mx...D00...PK/NK) 2 ms (mod. S5N...F01/G00...PP/NN) - (mod. S5N-Px/Mx...F00...PK/NK) 1 ms (mod. S5N...M03...PP/NN) - (mod. S5N-Px/Mx...A/B/C/T/M...PK/NK) 100 µs (mod. S5N...W03...PP/NN) 333 µs (mod. S5N-PH/PL...PP/NN Laser emission models)
<b>Switching frequency</b>	1 kHz (mod. S5N...A00/B01/T01/C10/C21/C01/D00/E01/U03...PP/NN) - (mod. S5N-Px/Mx...D00...PK/NK) 250 Hz (mod. S5N...F01/G00...PP/NN) - (mod. S5N-Px/Mx...F00...PK/NK) 500 Hz (mod. S5N...M03...PP/NN) - (mod. S5N-Px/Mx...A/B/C/T/M...PK/NK) 100 µs (mod. S5N...W03...PP/NN) 333 µs (mod. S5N...PP/NN Laser emission models)
<b>Connection</b>	M12 4-pole connector, 2 m cable Ø 4 mm, 150 mm length Ø 4 mm cable with M12 4-pole connector
<b>Dielectric strength</b>	500 Vac, 1 min between electronics and housing
<b>Insulating resistance</b>	>20 MΩ, 500 Vdc between electronics and housing
<b>Electrical protection</b>	class 2
<b>Mechanical protection</b>	IP67 (S5N-PP/NN; S5N-Px/Mx...PK/NK models) IP65 - IP67 - IP69K (S5N-SA/NA)
<b>Ambient light rejection</b>	according to EN 60947-5-2
<b>Vibrations</b>	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
<b>Shock resistance</b>	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
<b>Housing material</b>	PBT, Nickel plated Brass (S5N-Px/Mx...PP/NN/PK/NK models) ABS, AISI 316 L Stainless steel inox (S5N-SA/NA models)
<b>Lens material</b>	PMMA (all models)
<b>Operating temperature</b>	-25 ... 55 °C (Laser mod.) -10 ... 50 °C
<b>Storage temperature</b>	-25 ... 70 °C
<b>Weight</b>	Plastic version 75 g max. cable vers. (90 g max. mod. M03), 25 g max. conn. vers. (40 g max. mod. M03) Metal version 110 g max. cable vers. (125 g max. mod. M03), 60 g max. conn. vers. (75 g max. mod. M03)

# DIMENSIONS

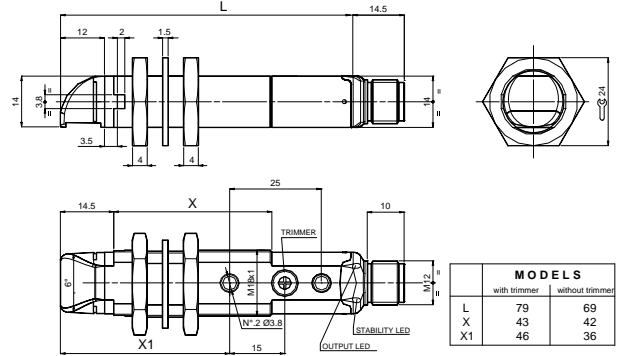
## S5N...NN/PP MODELS

### PLASTIC

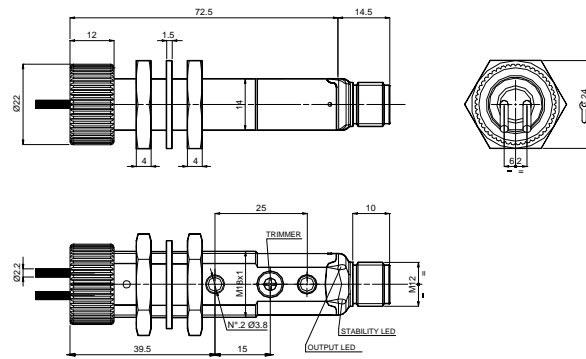
#### AXIAL VERSION



#### RADIAL VERSION

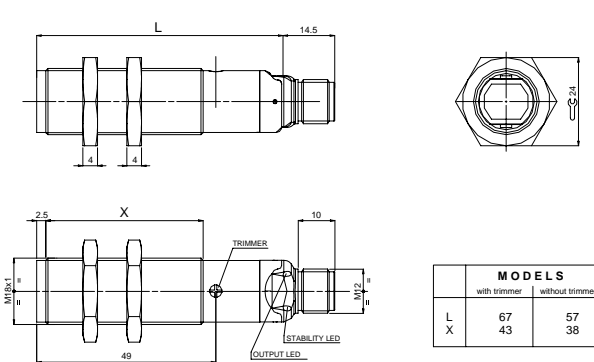


#### FIBRE OPTIC VERSION

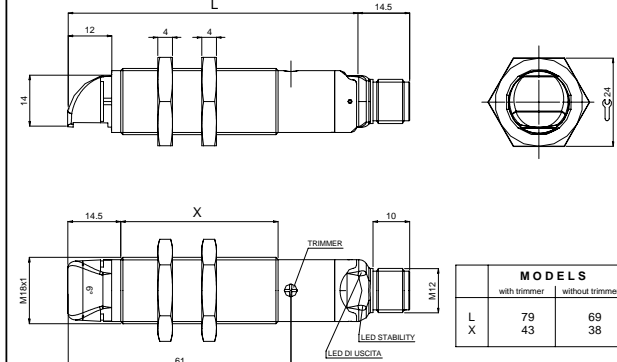


### METAL

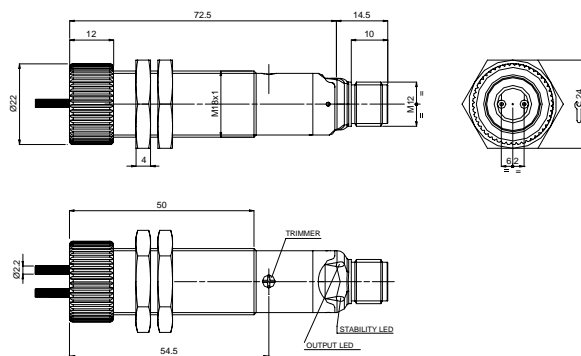
#### AXIAL VERSION



#### RADIAL VERSION

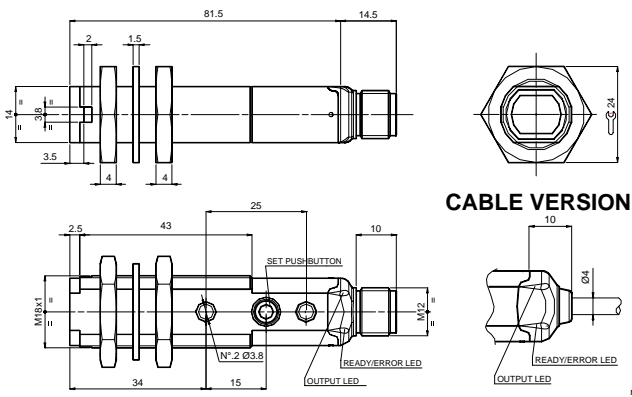


#### FIBRE OPTIC VERSION

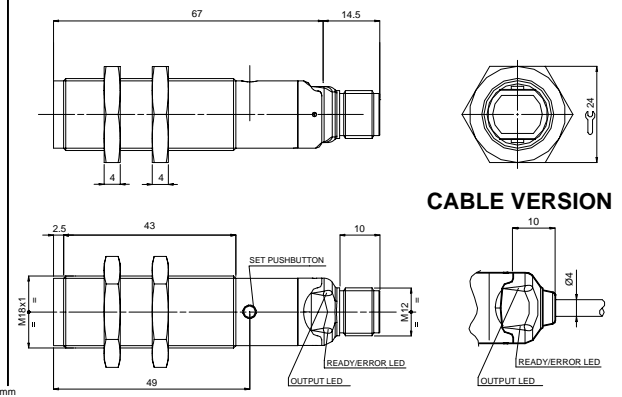


## BACKGROUND SUPPRESSION AXIAL VERSION

### PLASTIC

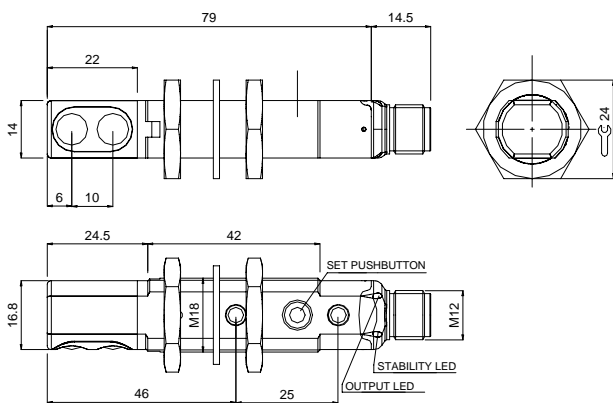


### METAL

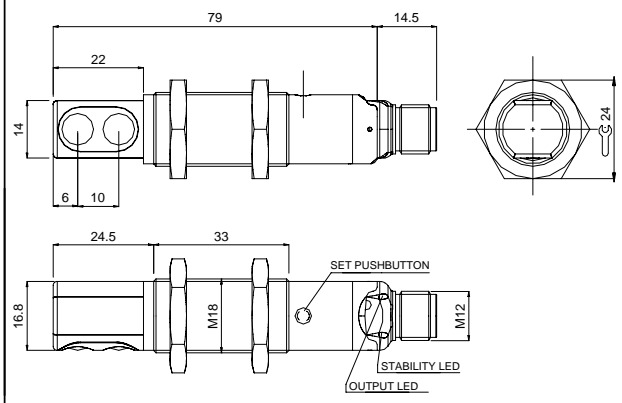


## BACKGROUND SUPPRESSION RADIAL VERSION

### PLASTIC

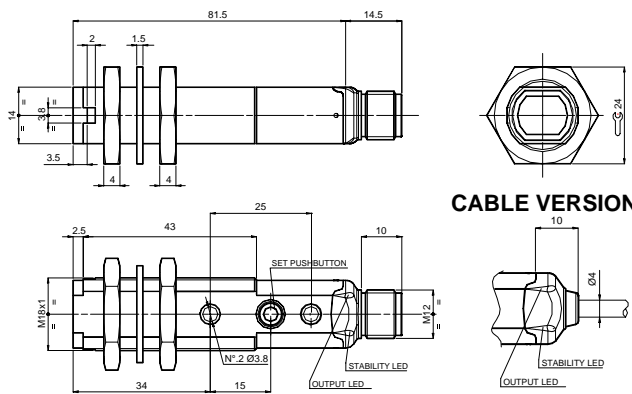


### METAL

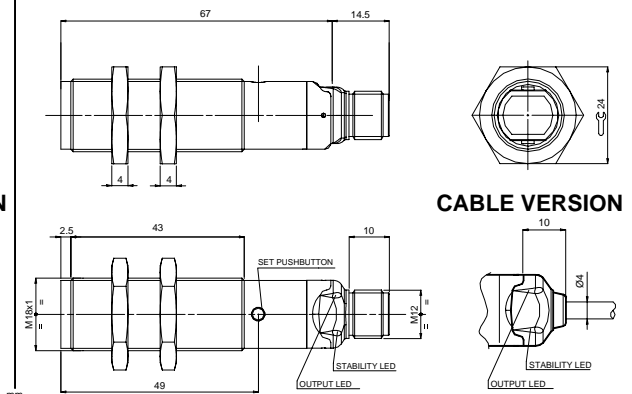


## LUMINESCENCE AND CONTRAST

### PLASTIC



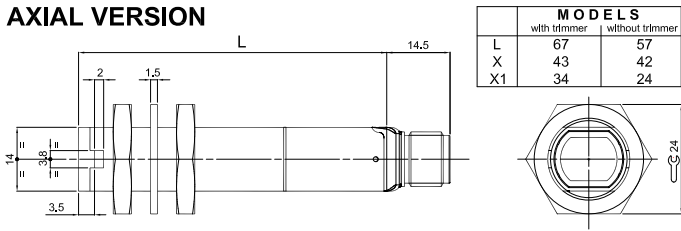
### METAL



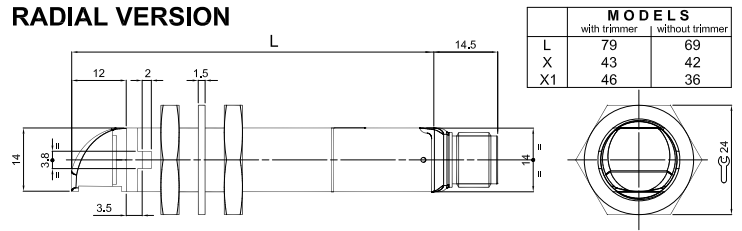
# DIMENSIONS

## S5N-Px/Mx...PK/NK MODELS

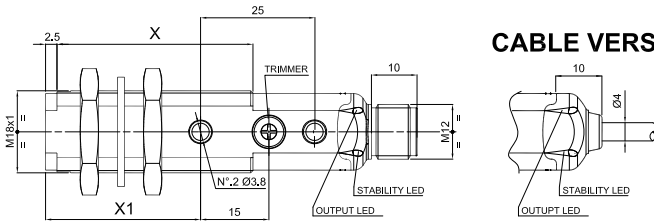
### AXIAL VERSION



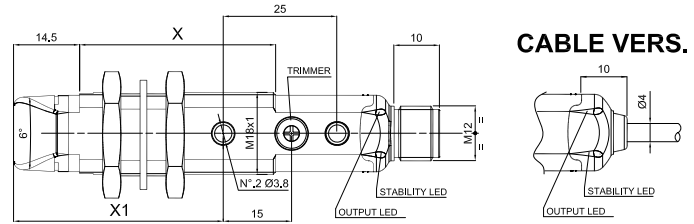
### RADIAL VERSION



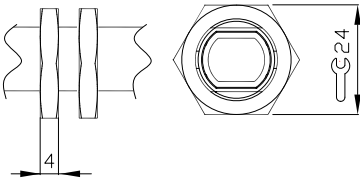
### CABLE VERS



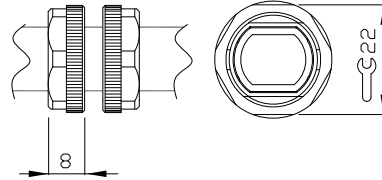
### CABLE VERS.



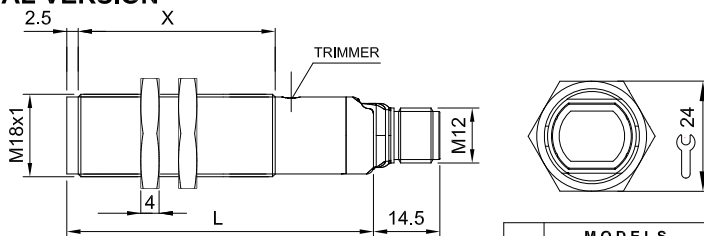
### CH.24 PLASTIC NUTS



### CH.22 PLASTIC NUTS

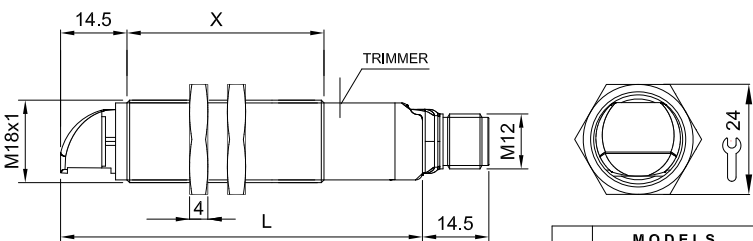


### AXIAL VERSION



MODELS		
	B01/C01/F00	A00/C10/G00
L	67	57
X	43	38

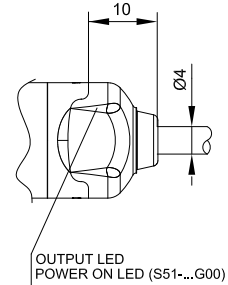
### RADIAL VERSION



MODELS		
	B01/C01/F00	A00/C10/G00
L	79	69
X	43	38

mm

### CABLE VERSION



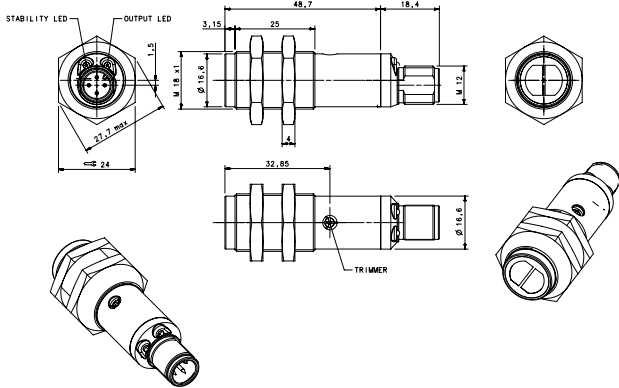


# DIMENSIONS

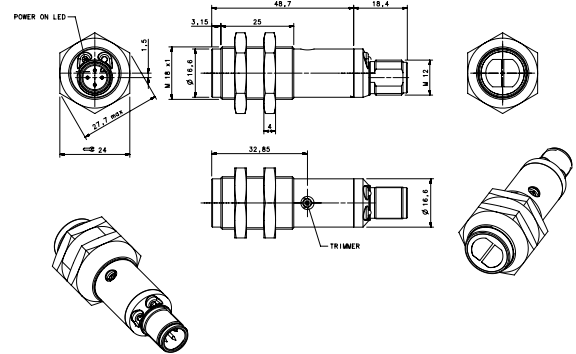
## S5N-NA MODELS

### STAINLESS STEEL

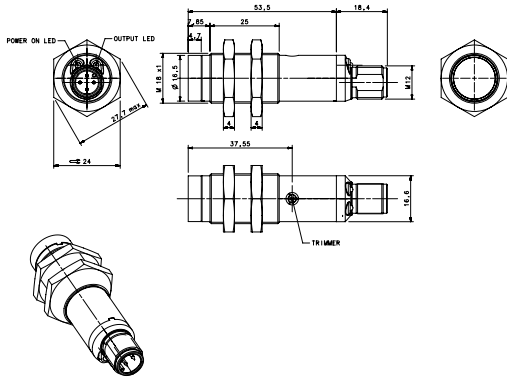
M12 connector version



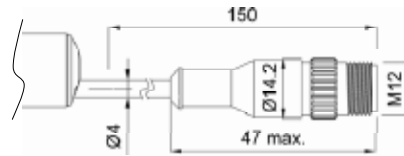
Through beam emitter - M12 connector version



Background suppression - M12 connector version



Pig-tail version

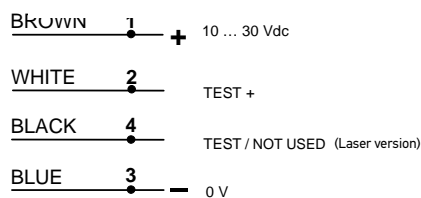
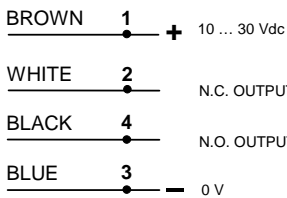


# CONNECTIONS

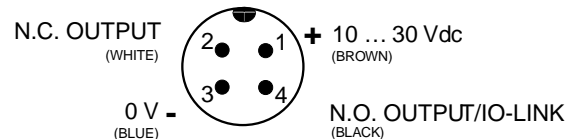
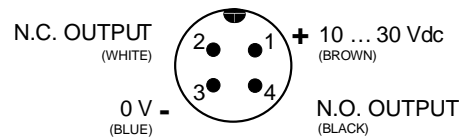
## S5N...PP/NN MODELS

### CABLE

Through beam emitter

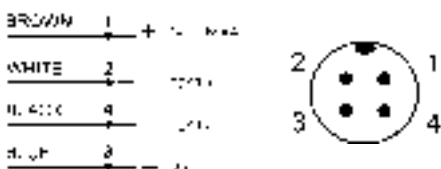


### M12 CONNECTOR

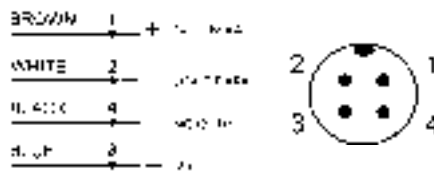


## S5N-Px/Mx...PK/NK MODELS

### G00 MODEL



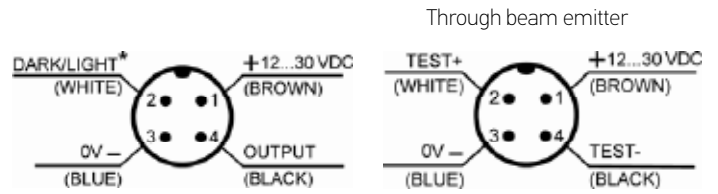
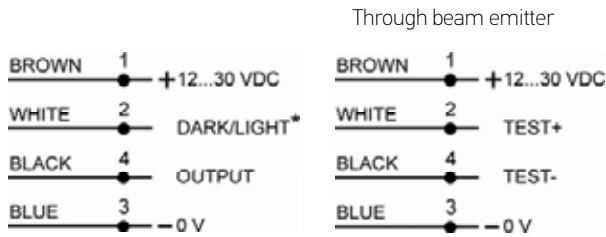
### A00/B01/C01/C10/C20/F00 MODELS



## S5N...NA/SA MODELS

Cable and Pig-tail

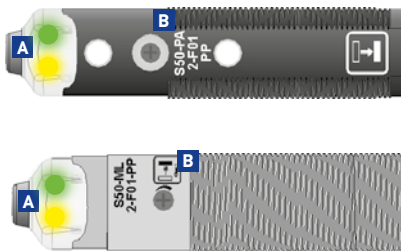
M12 connector



## INDICATORS AND SETTINGS

### S5N...PP/NN MODELS

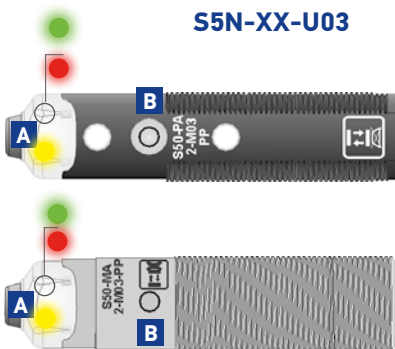
#### S5N-XX...A00/B01/C01/C21/E01/F01/T01



- A** OUTPUT status LED Yellow  
STABILITY LED Green (Only Receiver)  
POWER ON LED Green (Only Emitter)
- B** Adjustment trimmer (receiver)

Single-turn trimmer for sensitivity adjustment. Rotate in a clockwise direction to increase the operating distance.

#### S5N-XX-U03

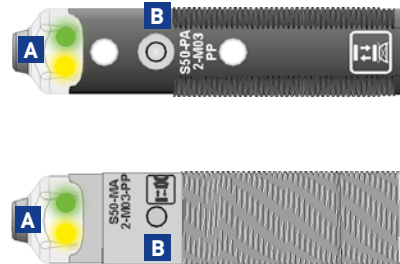


- A** OUTPUT status LED Yellow  
READY LED Green  
LED Red error
- B** Teach-in push-button

Teach-in button for setting.

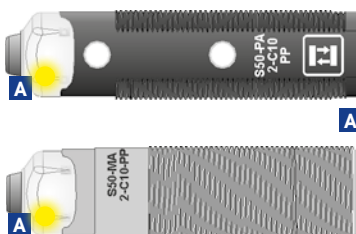
EASYtouch™ provides two setting modes: standard or fine, both obtained by pressing the push-button only once. Please refer to instructions manual for operating details.

#### S5N-XX-M03/W03



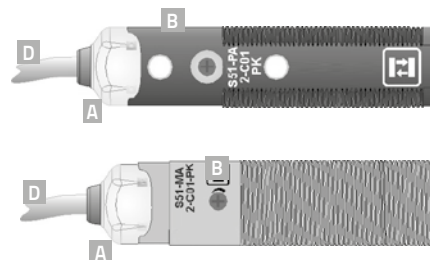
- A** OUTPUT status LED Yellow  
READY LED Green
- B** Teach-in push-button

#### S5N-XX-A00/C10/D00



- A00/C10  
**A** OUTPUT status LED Yellow
- G00  
**A** OUTPUT status LED yellow (Only Emitter G00)

#### S5N-Px/Mx...PK/NK MODELS



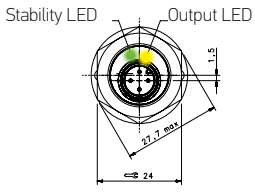
- A** OUTPUT status LED;  
POWER ON LED on G00 model
- B** Adjustment trimmer (B01, C01 models)
- C** M12 connector
- D** Cable connection

Trimmer for sensitivity adjustment. Rotate in a clockwise direction to increase the operating distance.

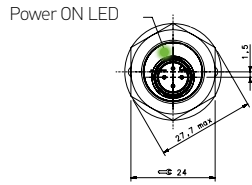


## S5N...SA/NA MODELS

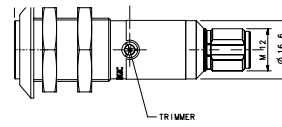
Plastic/metal case with trimmer, M12 connector



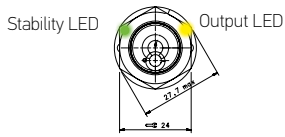
A01, B01, C11, C31, T01, F01, M01



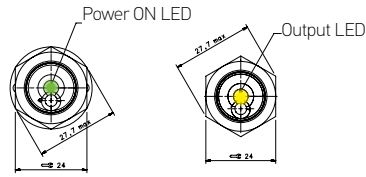
G01



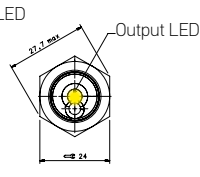
Plastic, no trimmer, Cable, Pig Tail



A00, B00, C10, C00, T01, D50



G00



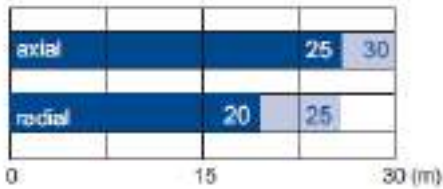
F00



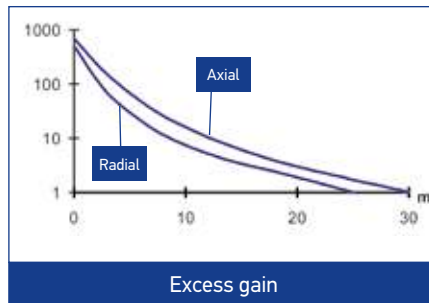
## DETECTION DIAGRAMS

### S5N...PP/NN MODELS

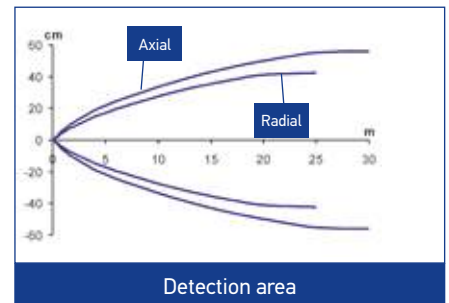
#### THROUGH BEAM (G/F) INFRARED EMISSION



■ Recommended operating distance  
■ Maximum operating distance



Excess gain

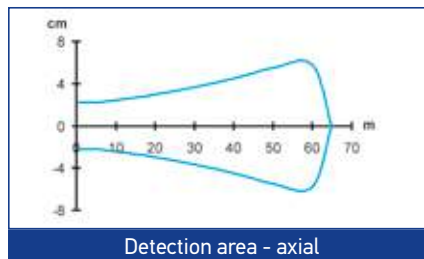


Detection area

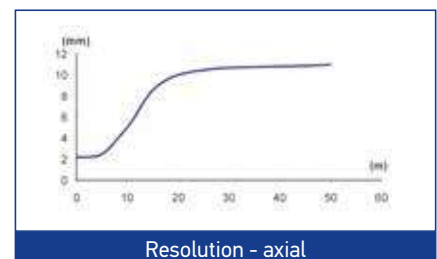
#### THROUGH BEAM (G/F) LASER RED EMISSION



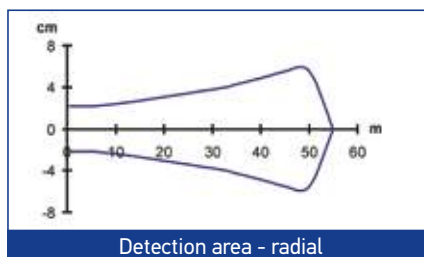
■ Operating distance



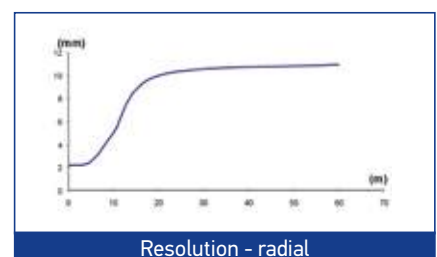
Detection area - axial



Resolution - axial



Detection area - radial

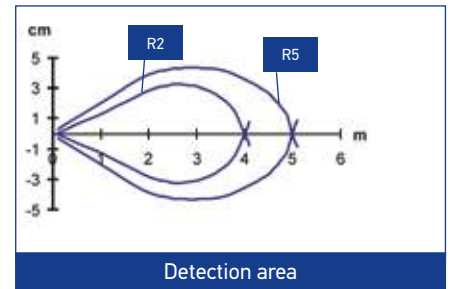
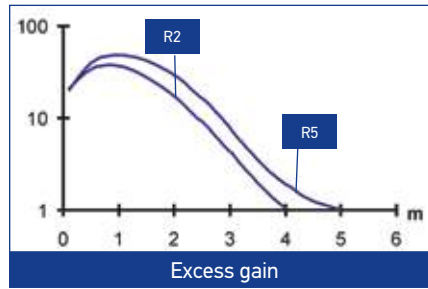


Resolution - radial

## RETROREFLECTIVE (A) INFRARED EMISSION



Operating distance

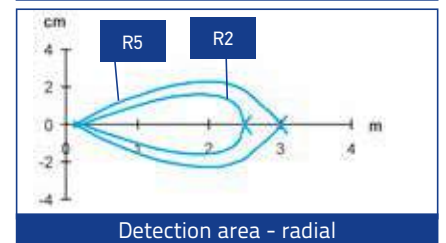
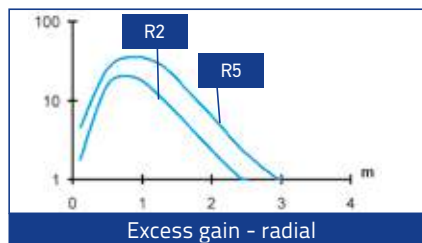
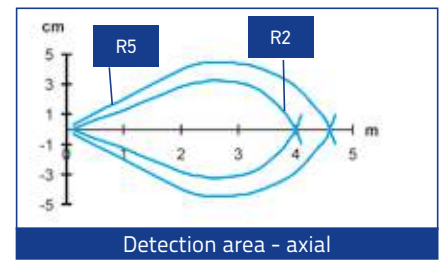
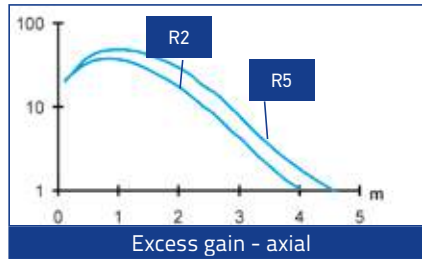


## RETROREFLECTIVE POLARIZED (B) RED EMISSION

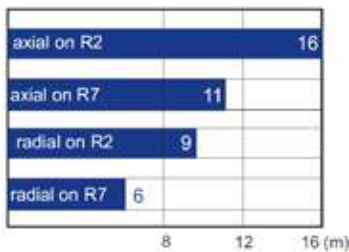


Recommended operating distance  
Maximum operating distance

High efficiency reflectors can be used to obtain larger operating distances. Refer to **Reflectors** (A.01).

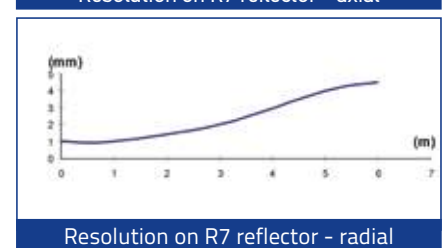
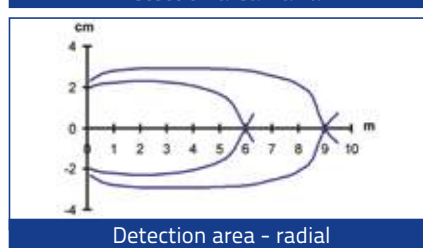
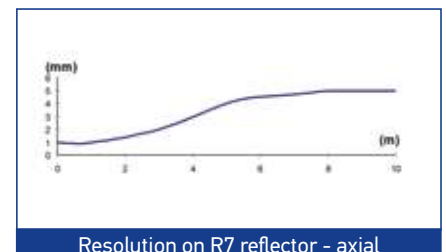
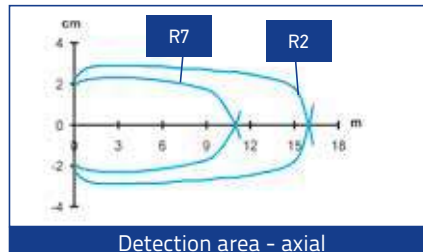


## RETROREFLECTIVE POLARIZED (B) LASER RED EMISSION

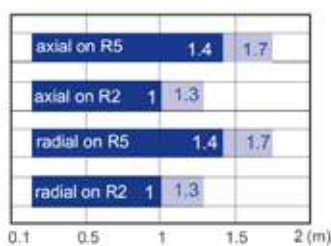


Operating distance

High efficiency reflectors can be used to obtain larger operating distances. Refer to **Reflectors** (A.01).

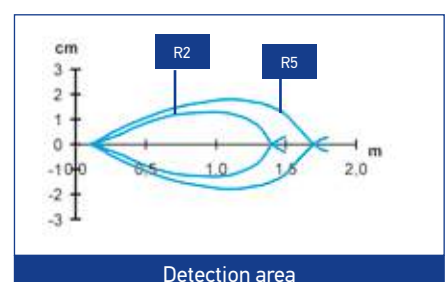
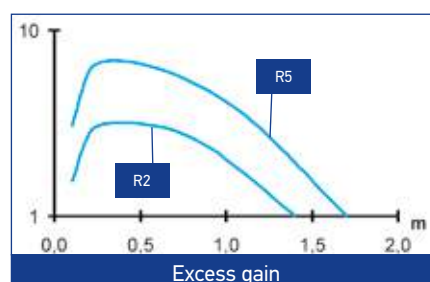


## RETROREFLECTIVE TRANSPARENT (T) RED EMISSION

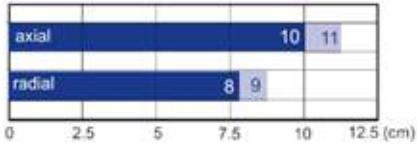


Recommended operating distance  
Maximum operating distance

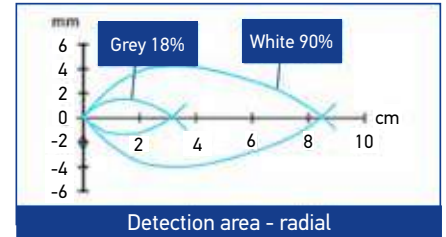
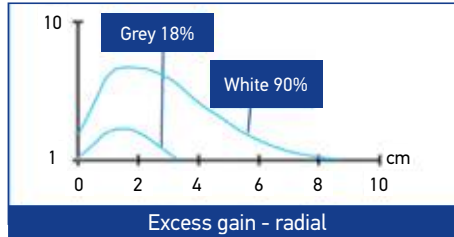
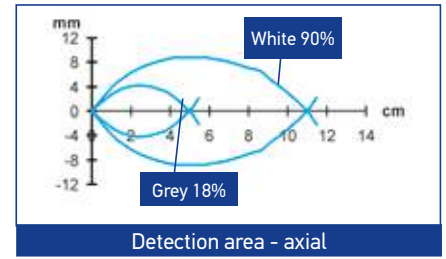
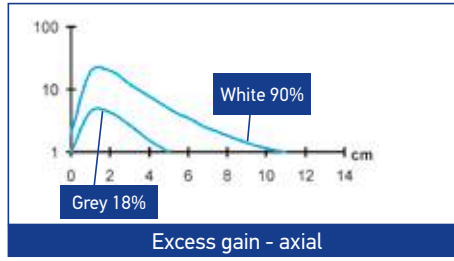
High efficiency reflectors can be used to obtain larger operating distances. Refer to **Reflectors**.



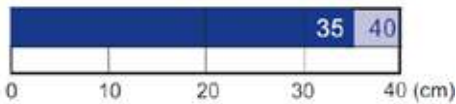
## ENERGETIC DIFFUSED (C) SHORT INFRARED EMISSION



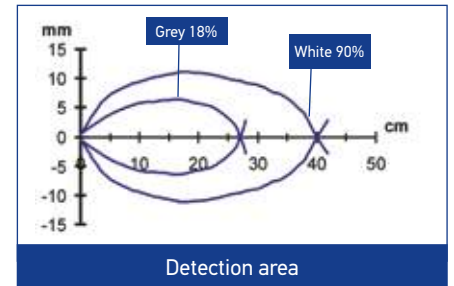
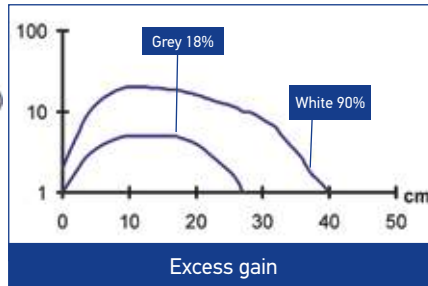
Recommended operating distance  
 Maximum operating distance



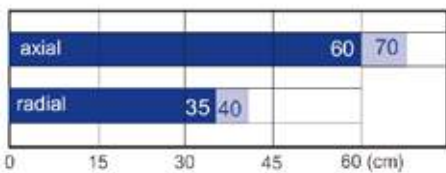
## ENERGETIC DIFFUSED (C) MID INFRARED EMISSION



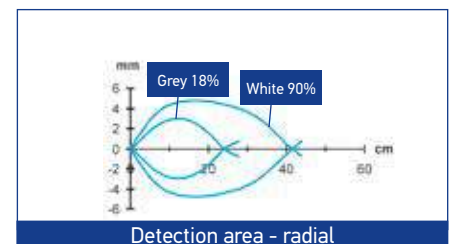
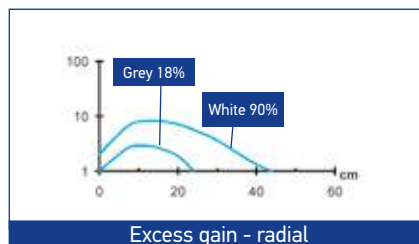
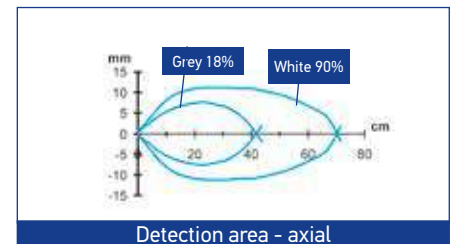
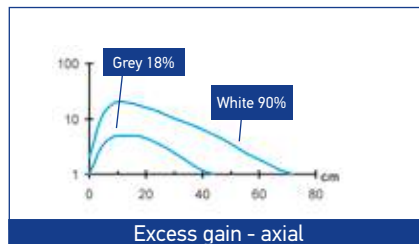
Recommended operating distance  
 Maximum operating distance



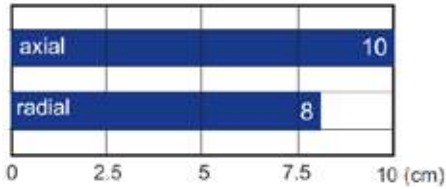
## ENERGETIC DIFFUSED (C) LONG INFRARED EMISSION



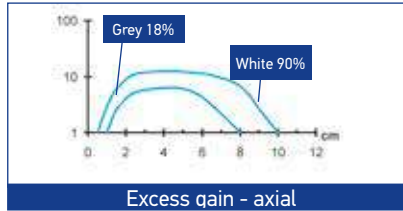
Recommended operating distance  
 Maximum operating distance



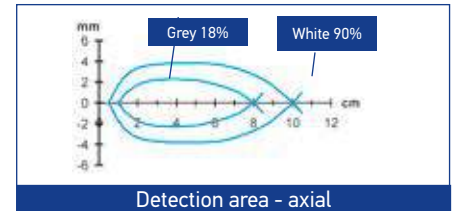
## FIXED FOCUS (D) RED EMISSION



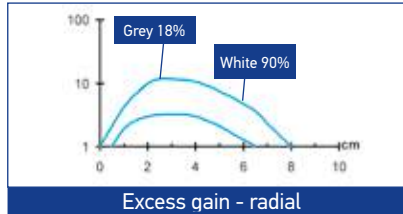
Operating distance



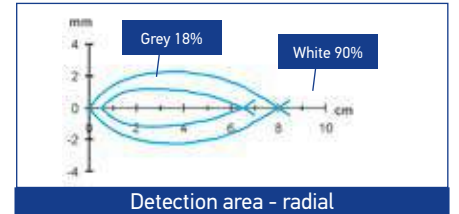
Excess gain - axial



Detection area - axial

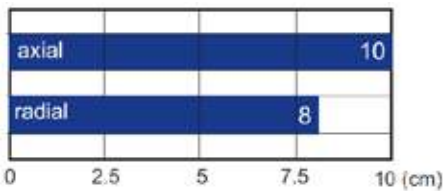


Excess gain - radial

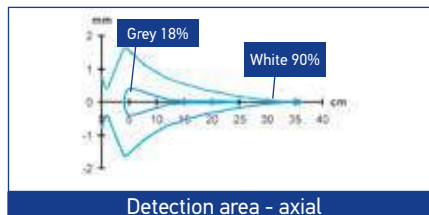


Detection area - radial

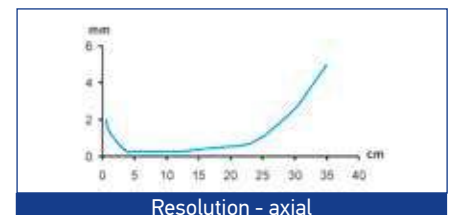
## DIFFUSED (C) LASER RED EMISSION



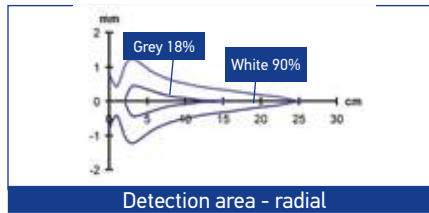
Operating distance



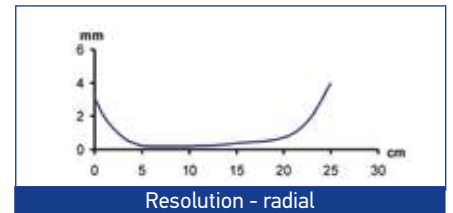
Detection area - axial



Resolution - axial

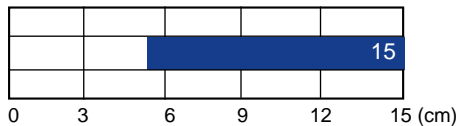


Detection area - radial

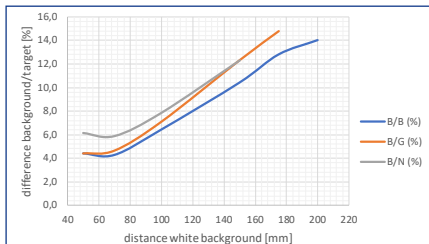


Resolution - radial

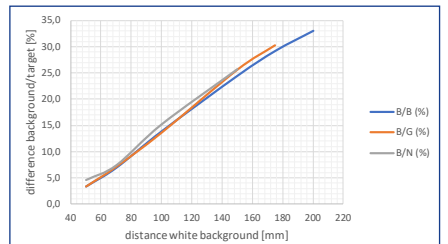
## BACKGROUND SUPPRESSOR (M) AXIAL RED EMISSION



Operating distance

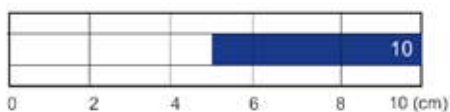


Detection difference with EASYtouch™ acquisition

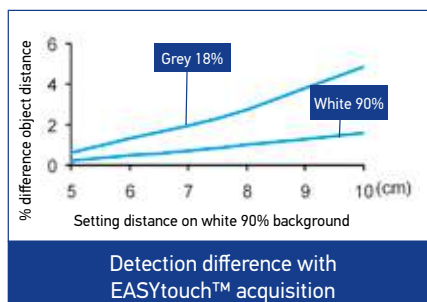


Detection difference with EASYtouch™ fine acquisition

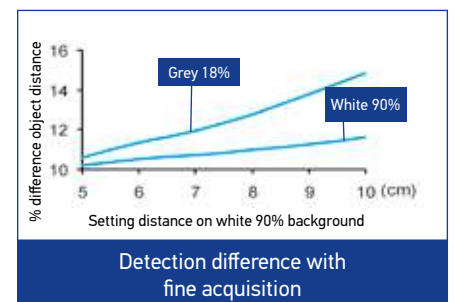
## BACKGROUND SUPPRESSOR (M) RADIAL RED EMISSION



Operating distance

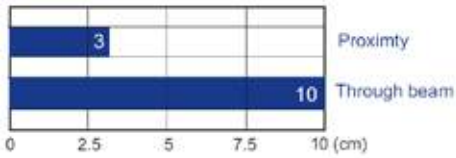


Detection difference with EASYtouch™ acquisition



Detection difference with fine acquisition

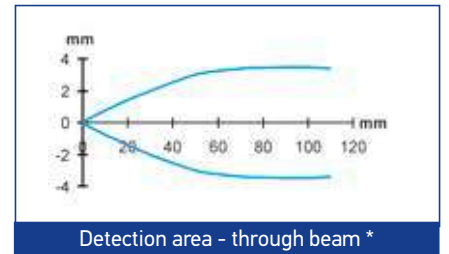
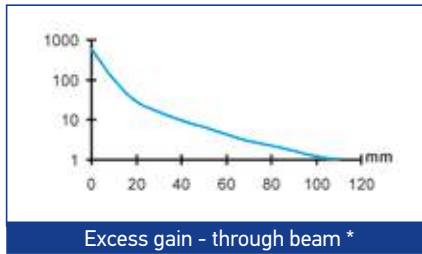
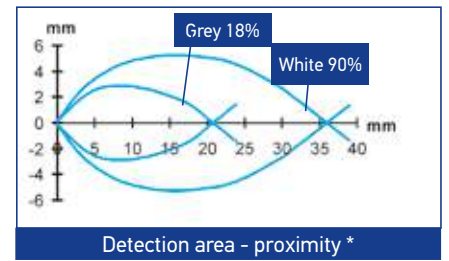
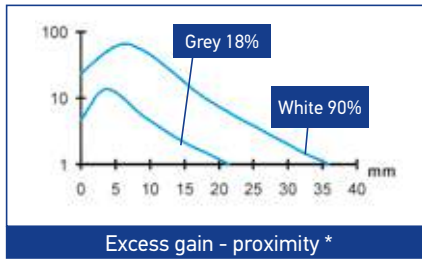
## FIBER OPTIC (E) RED EMISSION



Operating distance with standard fibers

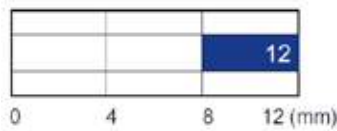
Standard Fiber-optics:  
OF-42-ST-20 proximity  
OF-43-ST-20 through beam

High efficiency fiber-optics or accessory lenses can be used to obtain larger operating distances.

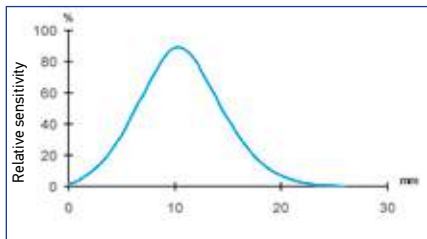


\* standard Fiber-optics

## MARK READER (W) WHITE EMISSION

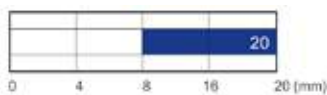


Operating distance

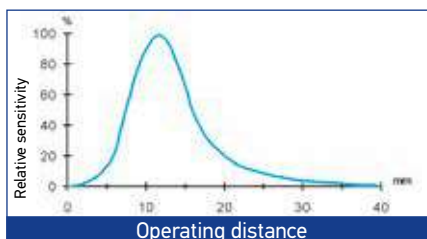


Operating distance

## LUMINESCENCE (U) UV EMISSION



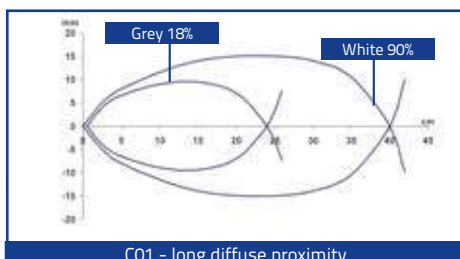
Operating distance



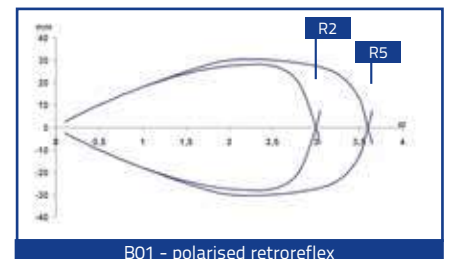
Operating distance

## S5N...PK/NK MODELS

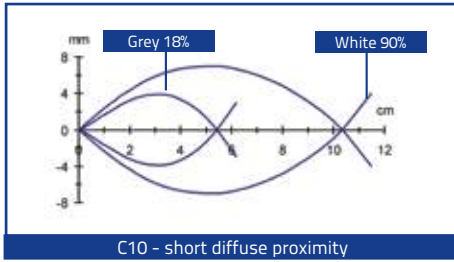
A00	3.5	4
A00	4	4.5
A00	2.5	3
A00	3	3.5



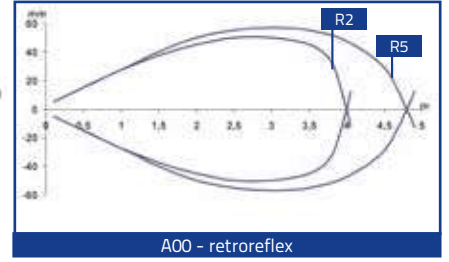
C10/C20	10
C10	8



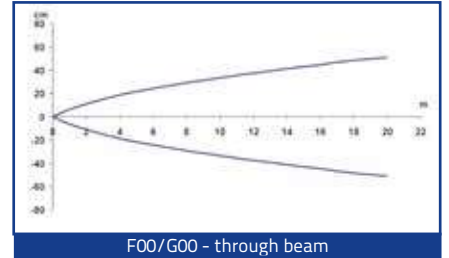
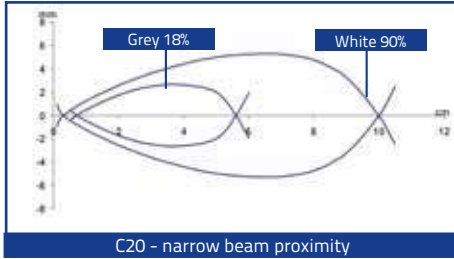
D01	2.5	3
B01	3	3.5
B01	2	2.5
B01	2.5	3



C01	40	45
C01	30	35



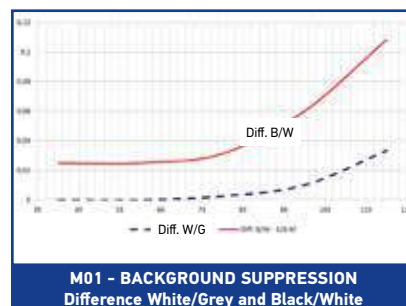
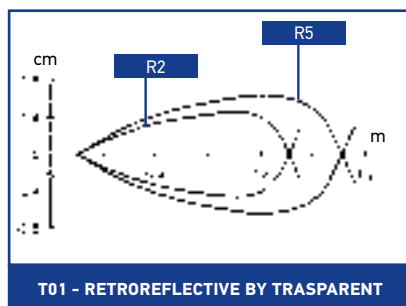
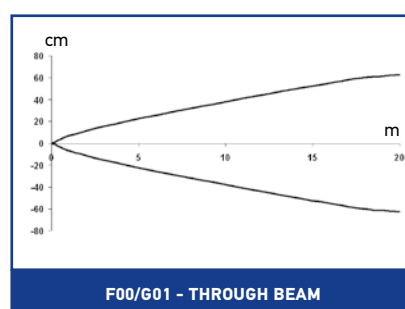
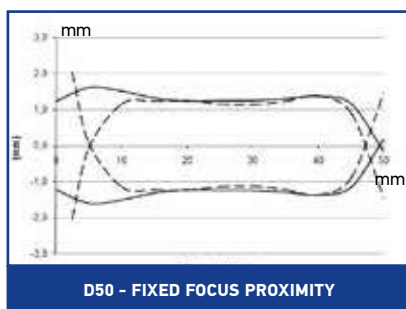
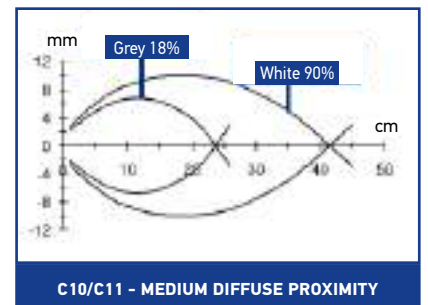
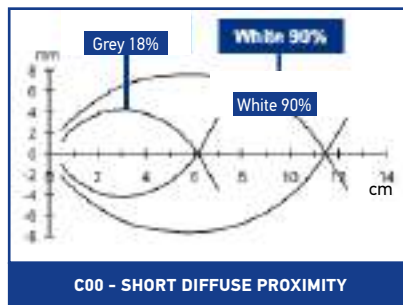
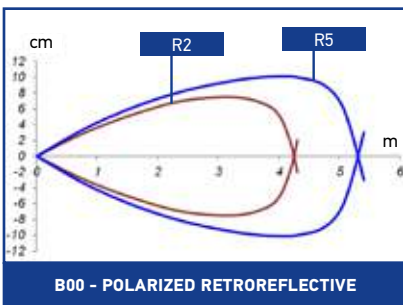
F/G	18	20
F/G	15	18



Recommended operating distance  
Maximum operating distance

Note: the diagrams indicate the detection area typical of the axial optic versions; the maximum operating distance of the radial optic versions decreases as indicated in the tables given below




### S5N-SA/NA MODELS



# MODEL SELECTION AND ORDER INFORMATION

S5N - STANDARD PLASTIC HOUSING - NO/NC STANDARD OUTPUT & IO-LINK MODELS (S5N-PA...PP/NN/OZ)						
OPTIC FUNCTION	EMISSION	CONNECTION	OUTPUT	MODEL	ORDER NO.	
Retroreflective	LED, Axial optic	2m Cable	NPN	S5N-PA-2-A00-NN	952002091	
			PNP	S5N-PA-2-A00-PP	952002081	
		M12 Connector	NPN	S5N-PA-5-A00-NN	952002111	
			PNP	S5N-PA-5-A00-PP	952002101	
Polarized retroreflective	LED, Axial optic	2m Cable	NPN	S5N-PA-2-B01-NN	952001611	
			PNP	S5N-PA-2-B01-PP	952001011	
		M12 Connector	NPN	S5N-PA-5-B01-NN	952001501	
			PNP	S5N-PA-5-B01-PP	952001021	
	LED, Radial optic	2m Cable	IO-Link	S5N-PA-5-B01-OZ	952002200	
			NPN	S5N-PR-2-B01-NN	952001781	
		M12 Connector	PNP	S5N-PR-2-B01-PP	952001031	
			NPN	S5N-PR-5-B01-NN	952001721	
	LASER, Axial optic	2m Cable	PNP	S5N-PR-5-B01-PP	952001041	
			NPN	S5N-PL-2-B01-NN	952001871	
		M12 Connector	PNP	S5N-PL-2-B01-PP	952001361	
			NPN	S5N-PL-5-B01-NN	952001841	
LASER, Radial optic	2m Cable	PNP	S5N-PL-5-B01-PP	952001371		
		IO-Link	S5N-PL-5-B01-OZ	952002250		
	M12 Connector	NPN	S5N-PH-2-B01-NN	952001951		
		PNP	S5N-PH-2-B01-PP	952001941		
Long Diffuse proximity	LED, Axial optic	2m Cable	NPN	S5N-PH-5-B01-NN	952001971	
			PNP	S5N-PH-5-B01-PP	952001961	
		M12 Connector	NPN	S5N-PA-2-C01-NN	952001621	
			PNP	S5N-PA-2-C01-PP	952001051	
	LED, Radial optic	2m Cable	NPN	S5N-PA-5-C01-NN	952001511	
			PNP	S5N-PA-5-C01-PP	952001061	
		M12 Connector	IO-Link	S5N-PA-5-C01-OZ	952002210	
			NPN	S5N-PR-2-C01-NN	952001791	
	LASER, Axial optic	2m Cable	PNP	S5N-PR-2-C01-PP	952001071	
			NPN	S5N-PR-5-C01-NN	952001731	
		M12 Connector	PNP	S5N-PR-5-C01-PP	952001081	
			NPN	S5N-PL-2-C01-NN	952001881	
LASER, Radial optic	2m Cable	PNP	S5N-PL-2-C01-PP	952001381		
		NPN	S5N-PL-5-C01-NN	952001851		
	M12 Connector	PNP	S5N-PL-5-C01-PP	952001391		
		IO-Link	S5N-PL-5-C01-OZ	952002260		
Short Diffuse proximity	LED, Axial optic	2m Cable	NPN	S5N-PH-2-C01-NN	952001991	
			PNP	S5N-PH-2-C01-PP	952001981	
		M12 Connector	NPN	S5N-PH-5-C01-NN	952002011	
			PNP	S5N-PH-5-C01-PP	952002001	
	LED, Radial optic	2m Cable	NPN	S5N-PA-2-C10-NN	952001631	
			PNP	S5N-PA-2-C10-PP	952001241	
		M12 Connector	NPN	S5N-PA-5-C10-NN	952001521	
			PNP	S5N-PA-5-C10-PP	952001251	
	Medium Diffuse proximity	LED, Axial optic	2m Cable	NPN	S5N-PR-2-C10-NN	952001801
				PNP	S5N-PR-2-C10-PP	952001491
			M12 Connector	NPN	S5N-PR-5-C10-NN	952001741
				PNP	S5N-PR-5-C10-PP	952001481
LED, Radial optic		2m Cable	NPN	S5N-PA-2-C21-NN	952002171	
			PNP	S5N-PA-2-C21-PP	952002161	
		M12 Connector	NPN	S5N-PA-5-C21-NN	952002191	
			PNP	S5N-PA-5-C21-PP	952002181	
Fixed focus		LED, Axial optic	2m Cable	NPN	S5N-PA-2-D00-NN	952001641
				PNP	S5N-PA-2-D00-PP	952001091
			M12 Connector	NPN	S5N-PA-5-D00-NN	952001531
				PNP	S5N-PA-5-D00-PP	952001101
	LED, Radial optic	2m Cable	NPN	S5N-PR-2-D00-NN	952001811	
			PNP	S5N-PR-2-D00-PP	952001111	
Through beam receiver	LED, Axial optic	2m Cable	NPN	S5N-PR-5-D00-NN	952001751	
			PNP	S5N-PR-5-D00-PP	952001121	
		M12 Connector	NPN	S5N-PA-2-E01-NN	952001651	
			PNP	S5N-PA-2-E01-PP	952001131	
	LED, Radial optic	2m Cable	NPN	S5N-PA-5-E01-NN	952001541	
			PNP	S5N-PA-5-E01-PP	952001141	
		M12 Connector	NPN	S5N-PA-2-F01-NN	952001661	
			PNP	S5N-PA-2-F01-PP	952001151	
	Through beam emitter	LED, Axial optic	2m Cable	NPN	S5N-PA-5-F01-NN	952001551
				PNP	S5N-PA-5-F01-PP	952001161
			M12 Connector	NPN	S5N-PR-2-F01-NN	952001821
				PNP	S5N-PR-2-F01-PP	952001171
LASER, Axial optic		2m Cable	NPN	S5N-PR-5-F01-NN	952001761	
			PNP	S5N-PR-5-F01-PP	952001181	
		M12 Connector	NPN	S5N-PL-2-F01-NN	952001891	
			PNP	S5N-PL-2-F01-PP	952001401	
LASER, Radial optic		2m Cable	NPN	S5N-PL-5-F01-NN	952001861	
			PNP	S5N-PL-5-F01-PP	952001411	
		M12 Connector	NPN	S5N-PH-2-F01-NN	952002031	
			PNP	S5N-PH-2-F01-PP	952002021	
Through beam emitter	LED, Axial optic	2m Cable	NPN	S5N-PH-5-F01-NN	952002051	
			PNP	S5N-PH-5-F01-PP	952002041	
		M12 Connector	-	S5N-PA-2-G00-XG	952001191	
			-	S5N-PA-5-G00-XG	952001201	
	LASER, Radial optic	2m Cable	-	S5N-PR-2-G00-XG	952001211	
			-	S5N-PR-5-G00-XG	952001221	
		M12 Connector	-	S5N-PL-2-G00-XG	952001421	
			-	S5N-PL-5-G00-XG	952001431	
	LASER, Radial optic	2m Cable	-	S5N-PH-2-G00-XG	952002061	
		M12 Connector	-	S5N-PH-5-G00-XG	952002071	

S5N - STANDARD PLASTIC HOUSING - NO/NC STANDARD OUTPUT & IO-LINK MODELS (S5N-PA...PP/NN/OZ)

Background suppression	LED, Axial optic	2m Cable	NPN	S5N-PA-2-M03-NN	952001671
			PNP	S5N-PA-2-M03-PP	952001231
	M12 Connector		NPN	S5N-PA-5-M03-NN	952001561
			PNP	S5N-PA-5-M03-PP	952001001
Retroreflective for transparent	LED, Radial optic	M12 Connector	 IO-Link	S5N-PA-5-M03-OZ	952002230
			PNP	S5N-PS-5-M03-PP	952001931
	2m Cable		NPN	S5N-PS-5-M03-NN	952001921
			PNP	S5N-PS-2-M03-PP	952001911
Luminescence	LED, Axial optic	M12 Connector	NPN	S5N-PS-2-M03-NN	952001901
			NPN	S5N-PA-2-T01-NN	952001691
	M12 Connector		PNP	S5N-PA-2-T01-PP	952001261
			NPN	S5N-PA-5-T01-NN	952001581
Contrast	LED, Radial optic	2m Cable	PNP	S5N-PA-5-T01-PP	952001271
			 IO-Link	S5N-PA-5-T01-OZ	952002220
	M12 Connector		NPN	S5N-PR-2-T01-NN	952001831
			PNP	S5N-PR-2-T01-PP	952001281
Retroreflective	LED, Axial optic	2m Cable	NPN	S5N-PR-5-T01-NN	952001771
			PNP	S5N-PR-5-T01-PP	952001291
	M12 Connector		NPN	S5N-PA-2-U03-NN	952001701
			PNP	S5N-PA-2-U03-PP	952001301
Diffuse proximity	LED, Axial optic	2m Cable	NPN	S5N-PA-5-U03-NN	952001591
			PNP	S5N-PA-5-U03-PP	952001311
	M12 Connector		NPN	S5N-PA-2-W03-NN	952001711
			PNP	S5N-PA-2-W03-PP	952001321
Retroreflective	LED, Axial optic	2m Cable	NPN	S5N-PA-5-W03-NN	952001601
			PNP	S5N-PA-5-W03-PP	952001331
	M12 Connector		 IO-Link	S5N-PA-5-W03-OZ	952002240

S5N - STANDARD PLASTIC HOUSING - L/D INPUT MODELS (S5N-PA...PK/NK)

Retroreflective	LED, Axial optic	2m Cable	NPN	S5N-PA-2-A00-NK	952701072
			PNP	S5N-PA-2-A00-PK	952701002
	M12 Connector		NPN	S5N-PA-5-A00-NK	952701332
			PNP	S5N-PA-5-A00-PK	952701262
Polarized retroreflective	LED, Radial optic	2m Cable	NPN	S5N-PR-2-A00-NK	952701202
			PNP	S5N-PR-2-A00-PK	952701132
	M12 Connector		PNP	S5N-PR-5-A00-PK	952701392
		LED, Axial optic	2m Cable	NPN	S5N-PA-2-B01-NK
	PNP		S5N-PA-2-B01-PK	952701012	
Diffuse proximity	LED, Radial optic	M12 Connector	NPN	S5N-PA-5-B01-NK	952701342
			PNP	S5N-PA-5-B01-PK	952701272
	2m Cable		NPN	S5N-PR-2-B01-NK	952701212
			PNP	S5N-PR-2-B01-PK	952701142
Short Diffuse proximity	LED, Axial optic	M12 Connector	PNP	S5N-PR-5-B01-PK	952701402
			NPN	S5N-PA-2-C01-NK	952701092
	M12 Connector		PNP	S5N-PA-2-C01-PK	952701022
			NPN	S5N-PA-5-C01-NK	952701352
Through beam receiver	LED, Radial optic	2m Cable	PNP	S5N-PA-5-C01-PK	952701282
			NPN	S5N-PR-2-C01-NK	952701222
	M12 Connector		PNP	S5N-PR-2-C01-PK	952701152
			PNP	S5N-PR-5-C01-PK	952701412
Through beam emitter	LED, Axial optic	2m Cable	NPN	S5N-PA-2-C10-NK	952701102
			PNP	S5N-PA-2-C10-PK	952701032
	M12 Connector		NPN	S5N-PA-5-C10-NK	952701362
			PNP	S5N-PA-5-C10-PK	952701292
Through beam receiver	LED, Radial optic	2m Cable	NPN	S5N-PR-2-C10-NK	952701232
			PNP	S5N-PR-2-C10-PK	952701162
	M12 Connector		PNP	S5N-PR-5-C10-PK	952701422
		LED, Axial optic	2m Cable	NPN	S5N-PA-2-F00-NK
	NPN		S5N-PA-5-F00-NK	952701382	
Through beam emitter	LED, Radial optic	M12 Connector	PNP	S5N-PA-5-F00-PK	952701312
			PNP	S5N-PR-5-F00-PK	952701442
	LED, Axial optic	2m Cable	-	S5N-PA-2-G00-XG	952001191
			-	S5N-PA-5-G00-XG	952001201
Through beam emitter	LED, Radial optic	2m Cable	-	S5N-PR-2-G00-XG	952001211
			-	S5N-PR-5-G00-XG	952001221
	LASER, Axial optic	2m Cable	-	S5N-PL-2-G00-XG	952001421
			-	S5N-PL-5-G00-XG	952001431
Retroreflective for transparent	LASER, Radial optic	2m Cable	-	S5N-PH-2-G00-XG	952002061
			-	S5N-PH-5-G00-XG	952002071

S5N - SHORT PLASTIC HOUSING - L/D INPUT MODELS (S5N-SA...)


Polarized retroreflective	LED, Axial optic	2m Cable	NPN	S5N-SA-2-B00-NK	952301062
			PNP	S5N-SA-2-B00-PK	952301012
Diffuse proximity	LED, Axial optic	Pig Tail M12	PNP	S5N-SA-3-B00-PK	952301122
			NPN	S5N-SA-2-C00-NK	952301072
	2m Cable		PNP	S5N-SA-2-C00-PK	952301022
			PNP	S5N-SA-3-C00-PK	952301132
Short Diffuse proximity Fixed Focus	LED, Axial optic	Pig Tail M12	PNP	S5N-SA-3-C10-PK	952301142
			NPN	S5N-SA-3-D50-PK	952301541
Through beam receiver	LED, Axial optic	Pig Tail M12	PNP	S5N-SA-3-F00-PK	952301152
			-	S5N-SA-3-G00-XG	952301212
Through beam emitter	LED, Axial optic	Pig Tail M12	NPN	S5N-SA-5-M01-NK	952301351
			PNP	S5N-SA-5-M01-PK	952301271
Background suppression	LED, Axial optic	Pig Tail M12	PNP	S5N-SA-5-T01-PK	952301241
			NPN	S5N-SA-5-T01-NK	952301321
Retroreflective for transparent	LED, Axial optic	M12 Connector	PNP	S5N-SA-5-T01-PK	952301241
			NPN	S5N-SA-5-T01-NK	952301321



S5N - METAL HOUSING - NO/NC STANDARD OUTPUT & IO-LINK MODELS (S5N-MA...PP/NN/OZ)

Retroreflective	LED, Axial optic	2m Cable	NPN	S5N-MA-2-A00-NN	952022091	
		M12 Connector	PNP	S5N-MA-2-A00-PP	952022081	
			NPN	S5N-MA-5-A00-NN	952022111	
		M12 Connector	PNP	S5N-MA-5-A00-PP	952022101	
LED, Radial optic	2m Cable		NPN	S5N-MA-2-B01-NN	952021501	
	M12 Connector	PNP	S5N-MA-2-B01-PP	952021001		
		NPN	S5N-MA-5-B01-NN	952021661		
	PNP	S5N-MA-5-B01-PP	952021201			
Polarized retroreflective	LED, Radial optic	2m Cable	NPN	S5N-MR-2-B01-NN	952021601	
			PNP	S5N-MR-2-B01-PP	952021141	
		M12 Connector	NPN	S5N-MR-5-B01-NN	952021761	
			PNP	S5N-MR-5-B01-PP	952021341	
	LASER, Axial optic	2m Cable	NPN	S5N-ML-2-B01-NN	952021821	
			PNP	S5N-ML-2-B01-PP	952021401	
		M12 Connector	NPN	S5N-ML-5-B01-NN	952021851	
			PNP	S5N-ML-5-B01-PP	952021441	
	LASER, Radial optic	2m Cable	IO-Link	S5N-ML-5-B01-OZ	952022180	
			NPN	S5N-MH-2-B01-NN	952021951	
		M12 Connector	PNP	S5N-MH-2-B01-PP	952021941	
			NPN	S5N-MH-5-B01-NN	952021971	
Long Diffuse proximity	LED, Axial optic	2m Cable	NPN	S5N-MA-2-C01-NN	952021511	
			PNP	S5N-MA-2-C01-PP	952021011	
		M12 Connector	NPN	S5N-MA-5-C01-NN	952021671	
			PNP	S5N-MA-5-C01-PP	952021211	
	LED, Radial optic	2m Cable	IO-Link	S5N-MA-5-C01-OZ	952022200	
			NPN	S5N-MR-2-C01-NN	952021611	
		M12 Connector	PNP	S5N-MR-2-C01-PP	952021151	
			NPN	S5N-MR-5-C01-NN	952021771	
	LASER, Axial optic	2m Cable	PNP	S5N-MR-5-C01-PP	952021351	
			NPN	S5N-ML-2-C01-NN	952021831	
		M12 Connector	PNP	S5N-ML-2-C01-PP	952021411	
			NPN	S5N-ML-5-C01-NN	952021861	
	LASER, Radial optic	2m Cable	PNP	S5N-ML-5-C01-PP	952021451	
			IO-Link	S5N-ML-5-C01-OZ	952022190	
		M12 Connector	NPN	S5N-MH-2-C01-NN	952021991	
			PNP	S5N-MH-2-C01-PP	952021981	
Short Diffuse proximity	LED, Axial optic	2m Cable	NPN	S5N-MA-2-C10-NN	952021521	
			PNP	S5N-MA-2-C10-PP	952021021	
		M12 Connector	NPN	S5N-MA-5-C10-NN	952021681	
			PNP	S5N-MA-5-C10-PP	952021221	
	LED, Radial optic	2m Cable	NPN	S5N-MR-2-C10-NN	952021621	
			PNP	S5N-MR-2-C10-PP	952021491	
		M12 Connector	NPN	S5N-MR-5-C10-NN	952021781	
			PNP	S5N-MR-5-C10-PP	952021481	
	Medium Diffuse proximity	LED, Axial optic	2m Cable	NPN	S5N-MA-2-C21-NN	952022131
				PNP	S5N-MA-2-C21-PP	952022121
			M12 Connector	NPN	S5N-MA-5-C21-NN	952022151
				PNP	S5N-MA-5-C21-PP	952022141
Fixed focus		LED, Axial optic	2m Cable	NPN	S5N-MA-2-D00-NN	952021531
				PNP	S5N-MA-2-D00-PP	952021031
		M12 Connector	NPN	S5N-MA-5-D00-NN	952021691	
			PNP	S5N-MA-5-D00-PP	952021231	
Fiber optic	LED, Radial optic	2m Cable	NPN	S5N-MR-2-D00-NN	952021631	
			PNP	S5N-MR-2-D00-PP	952021161	
		M12 Connector	NPN	S5N-MR-5-D00-NN	952021791	
			PNP	S5N-MR-5-D00-PP	952021361	
	Through beam receiver	LED, Axial optic	2m Cable	NPN	S5N-MA-2-E01-NN	952021881
				PNP	S5N-MA-2-E01-PP	952021041
			M12 Connector	NPN	S5N-MA-5-E01-NN	952021891
				PNP	S5N-MA-5-E01-PP	952021241
Through beam receiver	LED, Radial optic	2m Cable	NPN	S5N-MA-2-F01-NN	952021541	
			PNP	S5N-MA-2-F01-PP	952021051	
		M12 Connector	NPN	S5N-MA-5-F01-NN	952021701	
			PNP	S5N-MA-5-F01-PP	952021251	
	LASER, Axial optic	2m Cable	NPN	S5N-MR-2-F01-NN	952021641	
			PNP	S5N-MR-2-F01-PP	952021171	
		M12 Connector	NPN	S5N-MR-5-F01-NN	952021801	
			PNP	S5N-MR-5-F01-PP	952021371	
	LASER, Radial optic	2m Cable	NPN	S5N-ML-2-F01-NN	952021841	
			PNP	S5N-ML-2-F01-PP	952021421	
		M12 Connector	NPN	S5N-ML-5-F01-NN	952021871	
			PNP	S5N-ML-5-F01-PP	952021461	
Through beam receiver	2m Cable	NPN	S5N-MH-2-F01-NN	952022031		
		PNP	S5N-MH-2-F01-PP	952022021		
	M12 Connector	NPN	S5N-MH-5-F01-NN	952022051		
		PNP	S5N-MH-5-F01-PP	952022041		

S5N - METAL HOUSING - NO/NC STANDARD OUTPUT & IO-LINK MODELS (S5N-MA...PP/NN/OZ)

Through beam emitter	LED, Axial optic	2m Cable	-	S5N-MA-2-G00-XG	952021061
		M12 Connector	-	S5N-MA-5-G00-XG	952021261
	LED, Radial optic	2m Cable	-	S5N-MR-2-G00-XG	952021181
		M12 Connector	-	S5N-MR-5-G00-XG	952021381
	LASER, Axial optic	2m Cable	-	S5N-ML-2-G00-XG	952021431
		M12 Connector	-	S5N-ML-5-G00-XG	952021471
LASER, Radial optic	2m Cable	-	S5N-MH-2-G00-XG	952022061	
	M12 Connector	-	S5N-MH-5-G00-XG	952022071	
Background suppression	LED, Axial optic	2m Cable	NPN	S5N-MA-2-M03-NN	952021551
Background suppression			M12 Connector	PNP	S5N-MA-2-M03-PP
	LED, Radial optic	M12 Connector		 IO-Link	S5N-MA-5-M03-OZ
Retroreflective for transparent			LED, Axial optic	2m Cable	PNP
	M12 Connector	PNP			S5N-MS-2-M03-PP
Retroreflective for transparent		LED, Axial optic	2m Cable	NPN	S5N-MA-2-T01-NN
	M12 Connector			PNP	S5N-MA-2-T01-PP
Retroreflective for transparent		LED, Radial optic	2m Cable	NPN	S5N-MA-5-T01-NN
	M12 Connector			PNP	S5N-MA-5-T01-PP
Retroreflective for transparent		LED, Radial optic	2m Cable	NPN	S5N-MR-2-T01-NN
	M12 Connector			PNP	S5N-MR-2-T01-PP
Retroreflective for transparent		LED, Radial optic	2m Cable	NPN	S5N-MR-5-T01-NN
	M12 Connector			PNP	S5N-MR-5-T01-PP
Luminescence		LED, Axial optic	M12 Connector	PNP	S5N-MA-5-U03-PP
Contrast	LED, Axial optic		2m Cable	PNP	S5N-MA-2-W03-PP
		M12 Connector	NPN	S5N-MA-5-W03-NN	952021751
Contrast	LED, Axial optic	M12 Connector	PNP	S5N-MA-5-W03-PP	952021311

S5N - METAL HOUSING - L/D INPUT MODELS MODELS (S5N-MA...PK/NK)

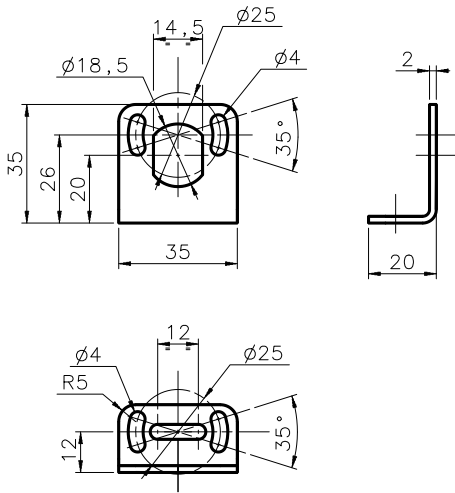
Retroreflective		M12 Connector	NPN	S5N-MA-5-A00-NK	952701802
			PNP	S5N-MA-5-A00-PK	952701532
Polarized retroreflective		M12 Connector	NPN	S5N-MA-5-B01-NK	952701812
			PNP	S5N-MA-5-B01-PK	952701762
Diffuse proximity	LED, Axial optic	2m Cable	NPN	S5N-MA-2-C01-NK	952701622
			PNP	S5N-MA-2-C01-PK	952701562
		M12 Connector	NPN	S5N-MA-5-C01-NK	952701822
			PNP	S5N-MA-5-C01-PK	952701772
		2m Cable	NPN	S5N-MA-2-C10-NK	952701632
			PNP	S5N-MA-2-C10-PK	952701572
M12 Connector	NPN	S5N-MA-5-C10-NK	952701832		
	PNP	S5N-MA-5-C10-PK	952701522		
Through beam receiver		M12 Connector	NPN	S5N-MA-5-F00-NK	952701842
			PNP	S5N-MA-5-F00-PK	952701782
Through beam emitter	LED, Axial optic	2m Cable	-	S5N-MA-2-G00-XG	952021061
		M12 Connector	-	S5N-MA-5-G00-XG	952021261
	LED, Radial optic	2m Cable	-	S5N-MR-2-G00-XG	952021181
		M12 Connector	-	S5N-MR-5-G00-XG	952021381
	LED, Axial optic	2m Cable	-	S5N-ML-2-G00-XG	952021431
		M12 Connector	-	S5N-ML-5-G00-XG	952021471
LED, Radial optic	2m Cable	-	S5N-MH-2-G00-XG	952022061	
	M12 Connector	-	S5N-MH-5-G00-XG	952022071	

S5N - INOX HOUSING - L/D INPUT MODELS MODELS (S5N-NA...)

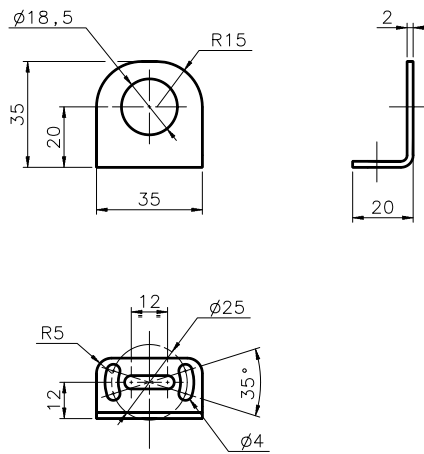
Polarized retroreflective		M12 Connector	NPN	S5N-NA-5-B01-NK	952301461
			PNP	S5N-NA-5-B01-PK	952301381
Diffuse proximity Inox		M12 Connector	NPN	S5N-NA-5-C11-NK	952301481
			PNP	S5N-NA-5-C11-PK	952301401
Through beam receiver Inox	LED, Axial optic	M12 Connector	NPN	S5N-NA-5-F01-NK	952301511
Through beam emitter inox			PNP	S5N-NA-5-F01-PK	952301431
Background suppression inox		M12 Connector	-	S5N-NA-5-G01-XG	952301441
			NPN	S5N-NA-5-M01-NK	952301501
Retroreflective for transparent inox		M12 Connector	PNP	S5N-NA-5-M01-PK	952301421
			NPN	S5N-NA-5-T01-NK	952301471
Retroreflective for transparent inox		M12 Connector	PNP	S5N-NA-5-T01-PK	952301391

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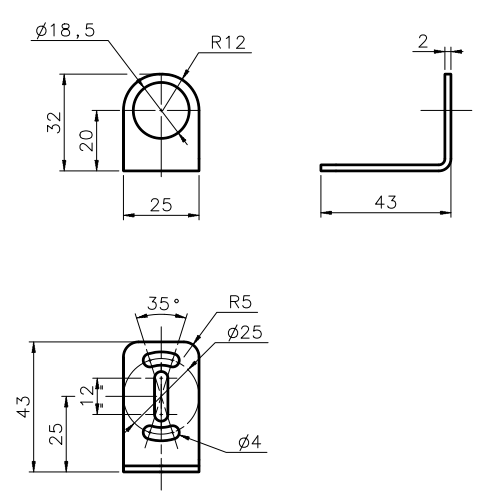
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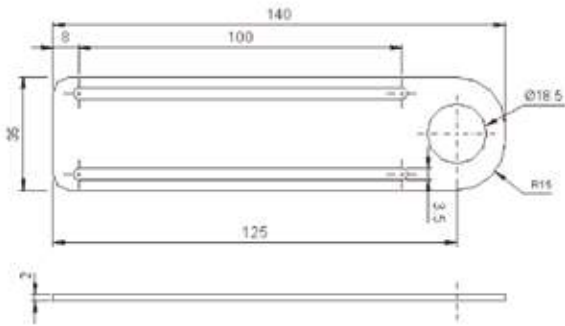
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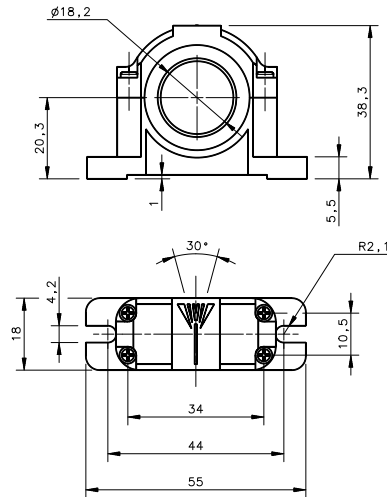
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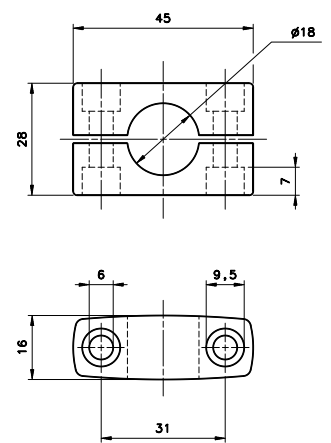
ST-5017



SWING-18



SP-40



JOINT 18

MICRO 18

MHF

M18 FLARED PLASTIC NUT



mm

MODEL	DESCRIPTION	ORDER No.
ST-5010	M18/14 mounting bracket	95ACC5230
ST-5011	M18 mounting bracket short	95ACC5240
ST-5012	M18 mounting bracket long	95ACC5250
ST-5017	M18 mounting bracket	95ACC5270
S50 EASY -IN	M18/14 EASY in™ adjustable mounting support	95ACC 5300
JOINT -18	M18 jointed support	95ACC 5220
MICRO -18	support with micrometric regulation for tubular M18 sensors	95ACC 1380
SP-40	mounting bracket tubular	95ACC1370
SWING-18	adjustable support for M18 tubular sensors	895000006
PLASTIC NUT	flared mounting nut	95ACC2630
M18 FLARED NUT	S5N mounting nut M18 flared nut (1 pc)	95ACC2630
M18 METAL NUT	S5N mounting nut M18 nut (1 pc)	G602000017
M18 PLASTIC NUT KIT	S5N mounting nut M18 nuts kit (100 pcs)	G602000008
MEK -PROOF	front protection (only for metal models)	G5000001

## IO-LINK CONNECTIVITY

MODEL	DESCRIPTION	ORDER No.
CBX-8IOL-EIP	CBX-8IOL-EIP 8P IOL M12 EIP MASTER	95ACC8180
CBX-8IOL-PNIO	CBX-8IOL-PNIO 8P IOL M12 PROFINET MASTER	95ACC8190

## CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.
Axial M12 Connector	4-pole, grey, P.V.C.	3 m	CS-A1-02-G-03	95A251380
		5 m	CS-A1-02-G-05	95A251270
		7 m	CS-A1-02-G-07	95A251280
		10 m	CS-A1-02-G-10	95A251390
	4-pole, P.U.R.	2 m	CS-A1-02-R-02	95A251540
		5 m	CS-A1-02-R-05	95A251560
Radial M12 Connector	4-pole, grey, P.V.C.	3 m	CS-A2-02-G-03	95A251360
		5 m	CS-A2-02-G-05	95A251240
		7 m	CS-A2-02-G-07	95A251245
		10 m	CS-A2-02-G-10	95A251260
	4-pole, P.U.R.	2 m	CS-A2-02-R-02	95A251550
		5 m	CS-A2-02-R-05	95A251570
Radial M12 Connector with LED (for PNP N.O. sensors)	4-pole, grey, P.V.C.	3 m	CS-A2-12-G-03	95A251400
		5 m	CS-A2-12-G-05	95A251350
		10 m	CS-A2-12-G-10	95A251370
Axial M12 Connector	4-pole, shielded, black, P.V.C.	3 m	CV-A1-22-B-03	95ACC1480
		5 m	CV-A1-22-B-05	95ACC1490
		10 m	CV-A1-22-B-10	95ACC1500
		15 m	CV-A1-22-B-15	95ACC2070
		25 m	CV-A1-22-B-25	95ACC2090
Radial M12 Connector	4-pole, shielded, black, P.V.C.	3 m	CV-A2-22-B-03	95ACC1540
		5 m	CV-A2-22-B-05	95ACC1550
		10 m	CV-A2-22-B-10	95ACC1560
Axial M12 Connector	4-pole, U.L., black, P.V.C.	3 m	CS-A1-02-U-03	95ASE1120
		5 m	CS-A1-02-U-05	95ASE1130
		10 m	CS-A1-02-U-10	95ASE1140
		15 m	CS-A1-02-U-15	95ASE1150
		25 m	CS-A1-02-U-25	95ASE1160
	4-pole, black	Connector- not cabled	CS-A1-02-B-NC	G5085002
Radial M12 Connector	4-pole, black	Connector- not cabled	CS-A2-02-B-NC	G5085003
Axial M12 Connector	5-pole, L coded power cable	3 m	CS-M1-02-B-03	95ACC0007
Axial M12 F/M12 M Connector	4-pole, double headed	3 m	CS-I1-02-B-03	95ACC0009

00,11/2021

## DATALOGIC PRODUCT OFFERING



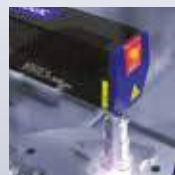
Sensors



Hand Held scanners



Mobile Computers



Laser Marking Systems



Safety Laser Scanner



Vision Systems



Stationary Industrial Scanners



Safety Light Curtains

## S5N-Px-...-PP/NN SERIES INSTRUCTION MANUAL

### CONTROLS

**OUTPUT LED (S5N-Px...A00/B01/C01/C10/C21/D00/E01/F01/T01)**  
 The yellow LED ON indicates that the NO output status is closed.

**STABILITY LED (S5N-Px...B01/C01/C21/E01/F01)**  
 The green LED ON indicates that the received signal has a reserve greater than 30% compared to the output switching value.

**POWER ON LED (S5N-Px...G00)**  
 The green LED indicates that the sensor is operating.

**TRIMMER (S5N-Px...B01/C01/C21/E01/F01/T01)**  
 The trimmer can be used to adjust sensitivity; the operating distance increases turning the trimmer clockwise.

**WARNING:** The trimmer rotation is limited to 270° by a mechanical stop. Do not apply excessive torque when adjusting (max 40 Nmm).

### INSTALLATION

The sensor can be fixed by means of the M18x1 threaded body through a  $\varnothing$  18mm hole, using the specific washer and the two CH.24 nuts enclosed (1.5Nm maximum tightening torque). Alternatively, the sensor can be mounted through the two housing's holes using two screws (M3x22 or longer) and washer. Amongst the various possible solutions, we suggest to choose the combination that offers the best visibility of the signalling LEDs and the easiest access to the trimmer.

Wide range of accessories available: 22mm nuts, h=8mm, (2Nm maximum tightening torque) guarantee an improved torque and various orientable fixing brackets ease the sensor positioning (please refer to the accessories listed in the general catalogue).

**C models:** To improve the detection, the object has to be moved closer or further away from the front surface of the sensor lens. In case of lateral translation, the object must move as indicated in the figure.



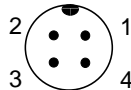
### CONNECTIONS

The connections are compliant to the EN 60947-5-2 standard.

#### S5N-Px...G00

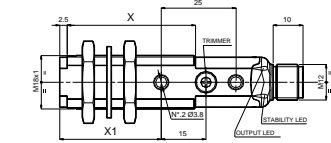
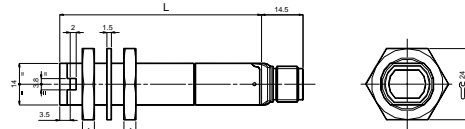
BROWN 1	+	10 ... 30 Vdc	BROWN 1	+	10 ... 30 Vdc
WHITE 2		NC OUTPUT	WHITE 2		TEST +
BLACK 4		NO OUTPUT	BLACK 4		TEST -
BLUE 3		0 V	BLUE 3		0 V

#### M12 CONNECTOR



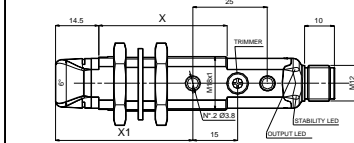
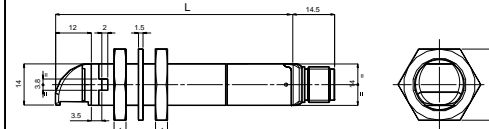
### DIMENSIONS

#### AXIAL VERSION



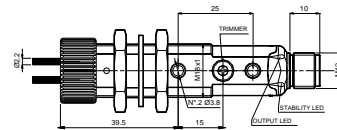
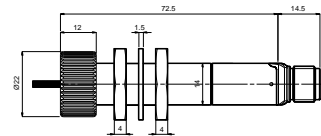
MODELS	with trimmer		without trimmer	
	L	X1	57	24
L	67		57	
X1	43		42	

#### RADIAL VERSION

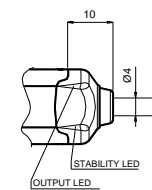


MODELS	with trimmer		without trimmer	
	L	X1	69	36
L	79		69	
X1	43		42	

#### FIBRE OPTIC VERSION



#### CABLE VERSION



### TECHNICAL DATA

	S5N-PA AXIAL VERSION	S5N-PR RADIAL VERSION
Power supply:	10 ... 30 Vdc (limit values)	
Ripple:	2 Vpp max.	
Current consumption (output current excluded):	35 mA max.	
Outputs:	NO and NC; PNP or NPN (short-circuit protection)	
Output current:	100 mA max.	
Output saturation voltage:	2 V max.	
Response time:	0.5 ms (2 ms mod.F01/G00)	
Switching frequency:	1KHz (250 Hz mod.F01/G00)	
Indicators:	OUTPUT LED (YELLOW) excluding mod.G00 STABILITY LED (GREEN) (mod.B01/C01/C21/E01/F01) POWER ON LED (GREEN) (mod.G00)	
Setting:	sensitivity trimmer (mod.B01/C01/C21/E01/F01/T01)	
Operating temperature:	-25 ... 55 °C	
Storage temperature:	-25 ... 70 °C	
Insulating strength:	500 Vac 1 min., between electronics and housing	
Insulating resistance:	>20 M $\Omega$ 500 Vdc, between electronics and housing	
Operating distance (typical values):	A00: 0.1...4 m on R2 B01: 0.1...3.5 m on R2 C01: 0...60 cm C10: 0...10 cm C21: 0...35 cm D00: 0.5...10 cm F01/G00: 0...25 m E01: 30 mm with OF-42 / 100 mm with OF-43 T01: 0.1...1 m on R2	B01: 0.1...2 m on R2 C01: 0...35 cm C10: 0...8 cm D00: 0...8 cm F01/G00: 0...20 m T01: 0.1...1 m on R2
Emission type:	red (630 nm) (mod. D00/E01) / red (660 nm) (mod.B01/T01) / infrared (880nm) (mod. A00/C01/C10/C21/G00)	
Ambient light rejection:	according to EN 60947-5-2	
Vibrations:	0.5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)	
Shock resistance:	11 ms (30 G) 6 shock for every axis (EN60068-2-27)	
Housing material:	PBT	
Lens material:	PMMA	
Mechanical protection:	IP67	
Connections:	2 m cable $\varnothing$ 4 mm / M12 - 4 pole connector	
Weight:	75 g. max. cable vers. / 25 g. max. connector vers.	
AtEx 2014/34/EU:	II 3D EX tc IIIC IP67 T85°C	

### SETTING

#### Setting of S5N-Px...A00

Position the sensor and reflector on opposite sides. Find the points where the yellow LED (OUT) is switched ON and OFF in both vertical and horizontal positions, and fix the sensor in the center between these points.

#### Setting of S5N-Px...B01/T01

Position the sensor and reflector on opposite sides. Turn the sensitivity trimmer to the maximum position. Moving the sensor both vertically and horizontally, determine the power on and off points of the yellow LED (OUT) and then mount the sensor in the middle of the points defined. Optimum operation is obtained when the green LED (mod.B01) is ON and the yellow LED is OFF.

**B01 models:** If necessary reduce sensitivity in order to detect very small targets. In order to improve alignment, repeat the procedure detailed above whilst progressively reducing the sensitivity.

**T01 model:** Turn the sensitivity trimmer counterclockwise until the yellow LED turns ON (pos.A). Turn slowly the trimmer again clockwise until the yellow LED turns OFF (Operating condition, pos.B).



#### Setting of S5N-Px...F01/G00/E01 with OF-43 (P/R fibre-optics)

Position the sensors (fibre terminals) on opposite sides. Turn the sensitivity trimmer to maximum: moving the sensor both vertically and horizontally, determine the power on and off points of the yellow LED (OUT) and then mount the sensor in the middle of the points defined. Optimum operation is obtained when the green LED is ON and the yellow LED is OFF (the output function and the relative LEDs are inverted in the E01 model with the OF-43 fibre). If necessary, reduce sensitivity using the trimmer, in order to detect very small targets. In order to improve alignment, repeat the procedure detailed above whilst progressively reducing the sensitivity.

#### Setting of S5N-Px...C01/C21/E01 with OF-42 (proximity fibre)

Turn the sensitivity trimmer to minimum: the green LED is ON, the yellow LED is OFF. Position the target to detect in front of the sensor or of the fibre terminals. Turn the sensitivity trimmer clockwise until the yellow LED turns ON (Target detected state, pos.A).

Remove the target, the yellow LED turns OFF. Turn the sensitivity trimmer clockwise until the yellow LED turns ON (Background detected state, pos.B).

The trimmer reaches maximum if the background is not detected. Turn the trimmer to the intermediate position C, between the two positions A and B. The green LED must be ON.

#### Setting of S5N-Px...C10/D00

The operating distance range of these sensors is factory preset: please consider this feature when positioning.

### TEST FUNCTION (S5N-Px...G00)

The TEST+ and TEST- inputs can be used to inhibit the emitter and verify that the system is correctly operating.

The receiver output should switch when the test is activated while the beam is uninterrupted.

The inputs activating voltage range is 10 ... 30 VDC.

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