

S8 SERIES

The new **S8** series of compact sensors offers excellent detection performances, usually associated with sensors that have larger dimensions and a higher price. The **S8** series is able to solve the most critical sensor applications. A solution for packaging lines, food and beverage industries, automotive, test and assembling machines and electronic plants. Laser models with coaxial polarized retroreflex and background suppression are available. Base models with LED emission are also offered featuring polarized retroreflex, diffuse proximity, background suppression, coaxial polarized retroreflex for transparents and contrast sensors. The Laser versions present extremely focused spot lower than to 1 mm and switching frequencies that are amongst the highest on the market reaching 10 kHz. The contrast sensor is the most compact sensor available today with RGB emission and coaxial optics. Connector M8 or M12 'pig-tail' versions are available. Also available models designed for frequent wash downs with a corrosion-resistant AISI316L stainless steel case which is IP69K rated.



HIGHLIGHTS

- Compact dimensions (14x42x25 mm)
- Up to 10 kHz switching frequency
- Extremely focussed spot, under 1 mm (Laser vers.)
- Very high resolutions
- Coaxial versions
- IP69K degree of protection with AISI316L stainless steel housing resists the effects of detergents, disinfectants and high-temperature, high-pressure wash down

APPLICATIONS

Food & Pharma



Beverage & Bottling



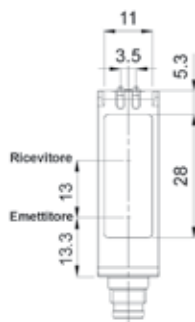
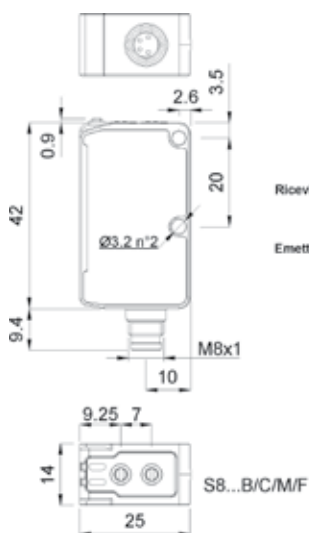
Packaging lines



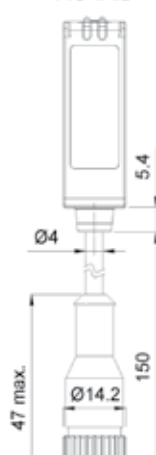
The Laser versions present extremely focused spot inferior to 1 mm and switching frequencies that are amongst the highest on the market reaching 10 kHz. Offering excellent reading repeatability, and the object can be 'detected' always in the same position! The coaxial retroreflex version with LED emission guaranteeing an excellent resolution in detecting transparent objects that, associated to a 2 kHz frequency and ALARM output for dirty lenses, offer great reliability and plant productivity. The contrast sensor is the most compact sensor with RGB emission and coaxial optics available today on the market, offering excellent detection resolution and field of depth typical of sensors with a higher price/dimension ratio. The retroreflex modes offer an additional alarm signal for received signal problems or dirty lenses.

DIMENSIONS

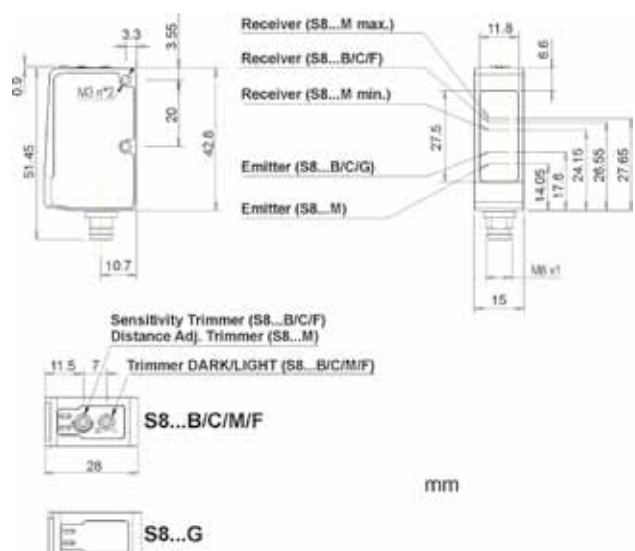
PLASTIC



VERSIONE PIG-TAIL



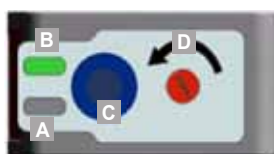
METAL



INDICATORS AND SETTINGS

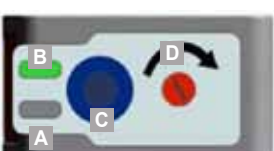
PUSH BUTTON VERSION

Delay On / Light On



- A Output status LED
- B Ready LED
- C SET push-button

Delay Off / Dark On



- D Delay trimmer (W) Light/Dark trimmer (T)

REMOTE VERSION



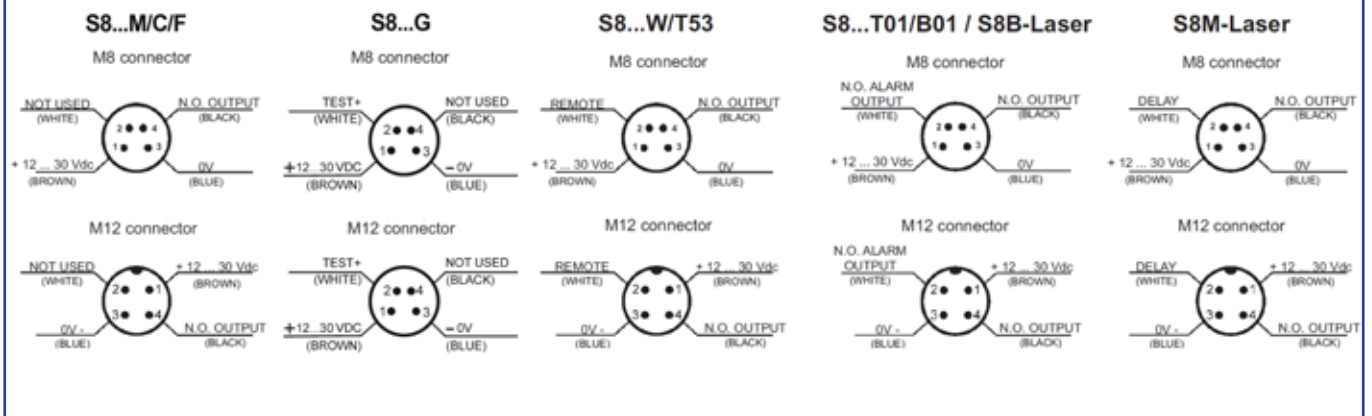
- A Output status LED
- B Ready LED

S8...M / B / C / T01

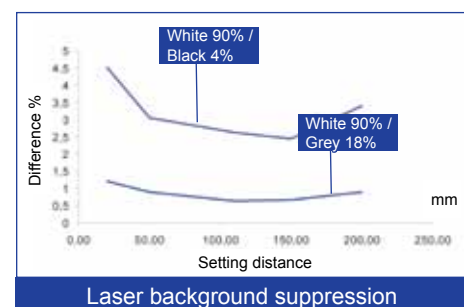
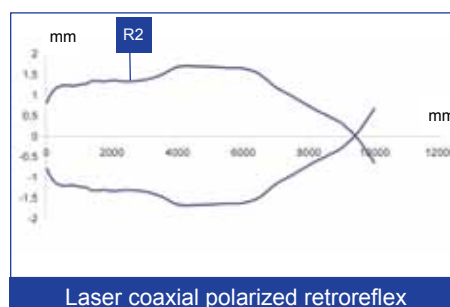
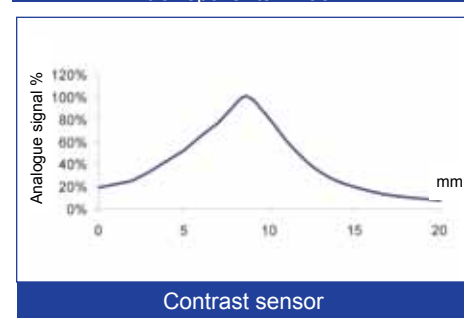
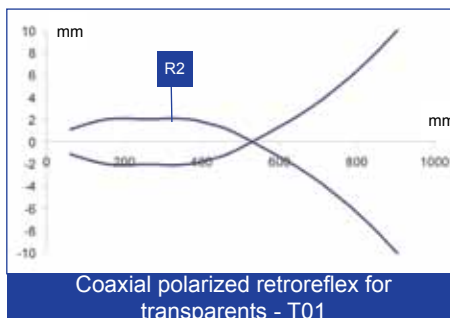
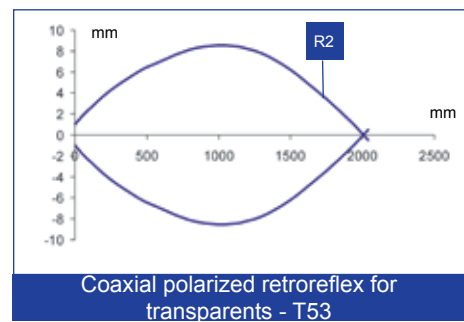
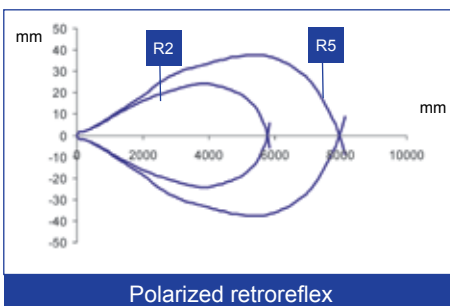
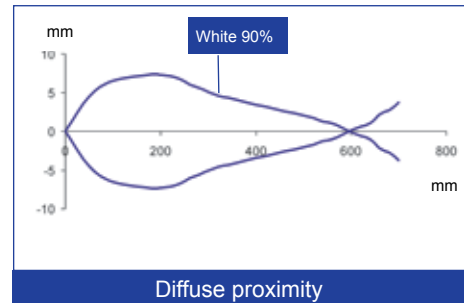
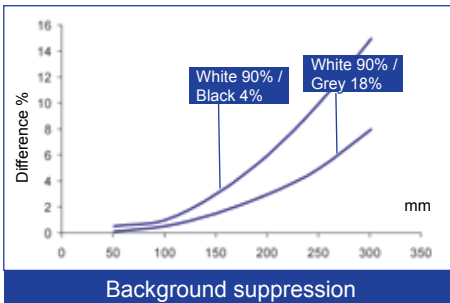


- A Output status LED
- B Ready LED or Power ON LED
- C Sensitivity adjustment trimmer
- D Dark/light trimmer

CONNECTIONS



DETECTION DIAGRAMS



TECHNICAL DATA OF MODELS WITH LED EMISSION

		S8-PR-5-B01-xx	S8-PR-3-B01-xx	S8-PR-5-M01-xx	S8-PR-3-M01-xx	S8-PR-5-C01-xx	S8-PR-3-C01-xx	S8-PR-5-T51-xx	S8-PR-3-T51-xx	S8-PR-5-T53-xx	S8-PR-5-W03-xx	S8-PR-3-W03-xx	S8-MR-5-B01-xx	S8-MR-5-M01-xx	S8-MR-5-C01-xx	S8-MR-5-T53-xx	S8-MR-5-W03-xx
Polarized retroreflex operating distance:	0 ... 5 m (on R2)	•	•										•				
Background suppression op. distance:	50 ... 300 mm			•	•									•			
Difuse proximity operating distance:	0 ... 500 mm					•	•									•	
RRX for transparents op. distance:	50 ... 800 mm							•	•								
	0 ... 2000 mm									•							•
Constrast sensor operating distance:	9 ± 3 mm										•	•					•
Power supply:	12 ... 30 Vdc	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Ripple:	≤ 2 Vpp	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Consumption:	15 mA max.							•	•								
	30 mA max.	•	•	•	•	•	•			•	•	•	•	•	•	•	•
Light emission:	red LED 660 nm	•	•	•	•	•	•	•	•	•			•	•	•	•	
	blue LED 465nm/green LED 520nm/red LED 630nm										•	•					•
Spot dimension:	3 x 1 mm ²										•	•					•
	refer to diagrams for the other models	•	•	•	•	•	•	•	•	•			•	•	•	•	
Setting:	monoturn trimmer for dark/light selection	•	•	•	•	•	•	•	•	•			•	•	•	•	
	monoturn trimmer for delay OFF 20msec. sel.										•	•					•
	monoturn sensitivity adjustment trimmer	•	•			•	•	•	•				•		•		
	multiturn trimmer (8 turns)			•	•									•			
	SET push-button									•	•	•					•
Indicators:	yellow OUTPUT LED	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	green READY LED									•	•	•					•
	green POWER ON LED	•	•	•	•	•	•	•	•				•	•	•		
Output type:	PNP or NPN, N.O./N.C.	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	ALARM OUTPUT (PNP/NPN)	•	•					•	•				•				
Output current:	≤ 100 mA	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Saturation voltage:	≤ 2 V	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Response time:	50 μs										•	•					•
	250 μs							•	•	•							•
	500 μs	•	•			•	•						•		•		
	1 ms			•	•											•	
Max. switching frequency:	10 kHz										•	•					•
	2 kHz							•	•	•							•
	1 kHz	•	•			•	•						•		•		
	500 Hz			•	•											•	
Operating mode:	selectable dark/light	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Connection:	M8 4-pole connector	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	M12 4-pole, Ø 4 mm, pig-tail			•	•	•	•	•	•	•	•	•					
Mechanical protection:	IP67	•	•	•	•	•	•	•	•	•	•	•					
	IP67, IP69K												•	•	•	•	•
Protection devices:	A, B	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Housing material:	ABS	•	•	•	•	•	•	•	•	•	•	•					
	stainless steel AISI316L												•	•	•	•	•
Lens material:	window in glass							•	•	•	•	•					
	window in PMMA	•	•	•	•	•	•						•	•	•	•	•
	lenses in PC	•	•	•	•	•	•				•	•	•	•	•	•	•
	lens in glass							•	•	•							•
Weight:	12 g max. connector version	•		•		•		•		•	•						
	50 g max. pig-tail version		•		•		•		•			•					
	70 g max. stainless steel version												•	•	•	•	•
Operating temperature:	-10 ... +55°C	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Storage temperature:	-20 ... +70°C	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Reference standard:	EN 60947-5-2	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

TECHNICAL DATA OF MODELS WITH LASER EMISSION

		S8-PH-5-B51-XX	S8-PH-3-B51-XX	S8-PH-5-M01-XX	S8-PH-3-M01-XX	S8-MH-5-B51-XX	S8-MH-5-M01-XX
Coaxial retroreflex operating distance:	0 ... 10 m (su R2)	•	•			•	
Background suppression operative distance:	20 ... 200 mm			•	•		•
Power supply:	12 ... 30 Vdc	•	•	•	•	•	•
Ripple:	≤ 2 Vpp	•	•	•	•	•	•
Consumption:	≤ 30 mA	•	•	•	•	•	•
Light emission:	red Laser 645...665 nm	•	•	•	•	•	•
	class II EN 60825-1	•	•	•	•	•	•
	class II CDRH21 CFR 1040.10	•	•	•	•	•	•
Spot dimension:	≤ 0.2 mm at 110 mm			•	•		•
	≤ 0.5 mm at 400 mm	•	•			•	
Focussing point:	110 mm			•	•		•
	400 mm	•	•			•	
Setting:	monoturn sensitivity adjustment trimmer	•	•			•	
	multi-turn sensitivity adjustment trimmer			•	•		•
	monoturn trimmer for dark/light selection	•	•	•	•	•	•
Indicators:	yellow OUTPUT LED	•	•	•	•	•	•
	green POWER ON LED	•	•	•	•	•	•
Output type:	PNP or NPN, N.O./N.C.	•	•	•	•	•	•
	ALARM OUTPUT (PNP/NPN)	•	•			•	
Output current:	≤ 100 mA	•	•	•	•	•	•
Saturation current:	≤ 2 V	•	•	•	•	•	•
Response time:	50 μs	•	•			•	
	100 μs			•	•		•
Max. switching frequency:	5 kHz			•	•		•
	10 kHz	•	•			•	
Operating mode:	selectable dark/light	•	•	•	•	•	•
Connection:	M8 4-pole connector	•		•		•	•
	M12 4-pole, Ø 4 mm, pig-tail		•		•		
Mechanical protection:	IP67	•	•	•	•		
	IP67, IP69K					•	•
Protection devices:	A, B	•	•	•	•	•	•
Housing material:	ABS	•	•	•	•		
	stainless steel AISI316L					•	•
Lens material:	window in PMMA	•	•	•	•	•	•
	lenses in PC	•	•	•	•	•	•
Weight:	12 g max. connector version	•	•				
	50 g max. pig-tail version		•		•		
	70 g max stainless steel version					•	•
Operating temperature:	-10 ... +55 °C	•	•	•	•	•	•
Storage temperature:	-20 ... +70 °C	•	•	•	•	•	•
Reference standard:	EN 60947-5-2,	•	•	•	•	•	•
	EN 60825-1, CDRH21 CFR 1040.10	•	•	•	•	•	•



TECHNICAL NOTES
¹ Average life of 100.000 h with TA = +25 °C
² A - reverse polarity protection
B - overload and short-circuit protection

MODEL SELECTION AND ORDER INFORMATION - PLASTIC VERSION

MODELS WITH LED EMISSION

MODEL	FUNCTION	SETTING	OUTPUT	ORDER N°
S8-PR-5-B01-PP	POLARIZED RETROREFLEX 5 M M8	Trimmer	PNP	950801160
S8-PR-5-B01-NN	POLARIZED RETROREFLEX 5 M M8	Trimmer	NPN	950801170
S8-PR-5-M01-PP	BACKGROUND SUPPRESSION 30 CM M8	Trimmer	PNP	950801200
S8-PR-5-M01-NN	BACKGROUND SUPPRESSION 30 CM M8	Trimmer	NPN	950801210
S8-PR-5-C01-PP	DIFUSE PROXIMITY 50 CM M8	Trimmer	PNP	950801240
S8-PR-5-C01-NN	DIFUSE PROXIMITY 50 CM M8	Trimmer	NPN	950801260
S8-PR-5-T51-PP	RETROREFLEX FOR TRANSPARENTS 0,8 M M8	Trimmer	PNP	950801040
S8-PR-5-T51-NN	RETROREFLEX FOR TRANSPARENTS 0,8 M M8	Trimmer	NPN	950801050
S8-PR-5-T53-PP	RETROREFLEX FOR TRANSPARENTS 2 M M8	Push button	PNP	950801280
S8-PR-5-T53-NN	RETROREFLEX FOR TRANSPARENTS 2 M M8	Push button	NPN	950801290
S8-PR-5-W03-PP	CONTRAST SENSOR, RGB M8	Push button	PNP	950801060
S8-PR-5-W03-NN	CONTRAST SENSOR, RGB M8	Push button	NPN	950801070
S8-PR-3-B01-PP	POLARIZED RETROREFLEX 5 M PIG-TAIL M12	Trimmer	PNP	950801180
S8-PR-3-B01-NN	POLARIZED RETROREFLEX 5 M PIG-TAIL M12	Trimmer	NPN	950801190
S8-PR-3-M01-PP	BACKGROUND SUPPRESSION 30 CM PIG-TAIL M12	Trimmer	PNP	950801220
S8-PR-3-M01-NN	BACKGROUND SUPPRESSION 30 CM PIG-TAIL M12	Trimmer	NPN	950801230
S8-PR-3-C01-PP	DIFUSE PROXIMITY 50 CM PIG-TAIL M12	Trimmer	PNP	950801250
S8-PR-3-C01-NN	DIFUSE PROXIMITY 50 CM PIG-TAIL M12	Trimmer	NPN	950801270
S8-PR-3-T51-PP	RETROREFLEX FOR TRANSPARENTS 0,8 M PIG-TAIL M12	Trimmer	PNP	950801120
S8-PR-3-T51-NN	RETROREFLEX FOR TRANSPARENTS 0,8 M PIG-TAIL M12	Trimmer	NPN	950801130
S8-PR-3-W03-PP	CONTRAST SENSOR, RGB PIG-TAIL M12	Push button	PNP	950801140
S8-PR-3-W03-NN	CONTRAST SENSOR, RGB PIG-TAIL M12	Push button	NPN	950801150
S8-PR-5-F01-NN	RECEIVER NPN M8	Trimmer	NPN	950801510
S8-PR-5-F01-PP	RECEIVER PNP M8	Trimmer	PNP	950801500
S8-PR-5-G00-XG	EMITTER M8	-	-	950801540

MODELS WITH LASER EMISSION

MODEL	FUNCTION	SETTING	OUTPUT	ORDER N°
S8-PH-5-B51-PP	LASER COAXIAL RETROREFLEX 10 M M8	Trimmer	PNP	950801000
S8-PH-5-B51-NN	LASER COAXIAL RETROREFLEX 10 M M8	Trimmer	NPN	950801010
S8-PH-5-M01-PP	LASER BACKGROUND SUPPRESSION 20 CM M8	Trimmer	PNP	950801020
S8-PH-5-M01-NN	LASER BACKGROUND SUPPRESSION 20 CM M8	Trimmer	NPN	950801030
S8-PH-3-B51-PP	LASER COAXIAL RETROREFLEX 10 MV PIG-TAIL M12	Trimmer	PNP	950801080
S8-PH-3-B51-NN	LASER COAXIAL RETROREFLEX 10 M PIG-TAIL M12	Trimmer	NPN	950801090
S8-PH-3-M01-PP	LASER BACKGROUND SUPPRESSION 20 CM PIG-TAIL M12	Trimmer	PNP	950801100
S8-PH-3-M01-NN	LASER BACKGROUND SUPPRESSION 20 CM PIG-TAIL M12	Trimmer	NPN	950801110

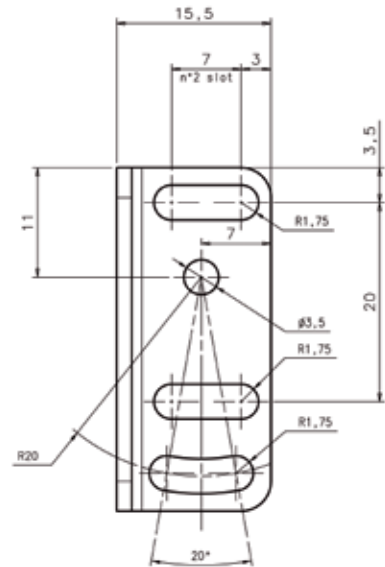
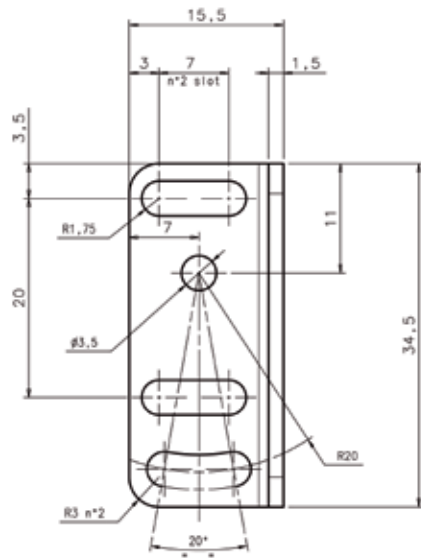
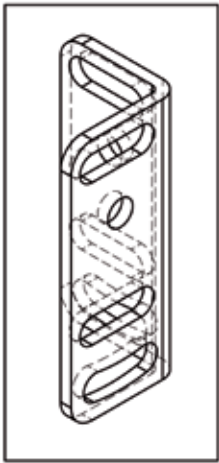
MODEL SELECTION AND ORDER INFORMATION - STAINLESS STEEL VERSION

MODELS WITH LED EMISSION				
MODEL	DESCRIPTION	SETTING	OUTPUT	ORDER N°
S8-MR-5-B01-PP	INOX RRX POL PNP M8	Trimmer	PNP	950801410
S8-MR-5-B01-NN	INOX RRX POL NPN M8	Trimmer	NPN	950801420
S8-MR-5-C01-NN	INOX DIFF NPN M8	Trimmer	NPN	950801440
S8-MR-5-C01-PP	INOX DIFF PNP M8	Trimmer	PNP	950801430
S8-MR-5-F01-NN	RECEIVER NPN M8	Trimmer	NPN	950801570
S8-MR-5-F01-PP	RECEIVER PNP M8	Trimmer	PNP	950801560
S8-MR-5-G00-XG	EMITTER M8	-	-	950801580
S8-MR-5-M01-NN	INOX BGS NPN M8	Trimmer	PNP	950801400
S8-MR-5-M01-PP	INOX BGS PNP M8	Trimmer	NPN	950801390
S8-MR-5-T50-NH	RRX INOX TRA NPN REMOTE M8	Remote wire	NPN	950801600
S8-MR-5-T50-PH	RRX INOX TRA PNP REMOTE M8	Remote wire	PNP	950801330
S8-MR-5-T53-NN	RRX INOX TRA NPN TEACH M8	Push button	NPN	950801320
S8-MR-5-T53-PP	RRX INOX TRA PNP TEACH M8	Push button	PNP	950801310
S8-MR-5-W00-NH	CONTRAST. INOX NPN REMOTE M8	Remote wire	NPN	950801300
S8-MR-5-W00-PH	CONTRAST. INOX PNP REMOTE M8	Remote wire	PNP	950801370
S8-MR-5-W03-PP	CONTRAST. INOX PNP TEACH M8	Push button	PNP	950801340
S8-MR-5-W03-NN	CONTRAST. INOX NPN TEACH M8	Push button	NPN	950801360
S8-MR-5-W03-PP	CONTRAST. INOX PNP TEACH M8	Push button	PNP	950801350

MODELS WITH LASER EMISSION				
MODEL	FUNCTION	SETTING	OUTPUT	ORDER N°
S8-MH-5-B51-PP	LASER COAXIAL RETROREFLEX 10 M AND M8	Trimmer	PNP	950801490
S8-MH-5-B51-NN	LASER COAXIAL RETROREFLEX 10 M AND M8	Trimmer	NPN	950801480
S8-MH-5-M01-PP	LASER BACKGROUND SUPPRESSION 20 CM AND M8	Trimmer	PNP	950801470
S8-MH-5-M01-NN	LASER BACKGROUND SUPPRESSION 20 CM AND M8	Trimmer	NPN	950801460

ACCESSORY SELECTION AND ORDER INFORMATION

MODEL	FUNCTION	ORDER N°
ST-5072	fixing bracket	95ACC1470
R4K	IP69K plastic reflector 51 x 61 mm	95A151220



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9C504100E

The company endeavours to continuously improve and renew its products; for this reason the technical data and contents of this catalogue may undergo variations without prior notice. For correct installation and use, the company can guarantee only the data indicated in the instruction manual supplied with the products.