

## MULTI-FUNCTION M18 SENSORS



- *Wide versatility of optic functions and connections*
- *High operating distances for all functions*
- *Models with trimmer adjustment and stability LED*
- *Rugged and impermeable plastic housing*



## S5 SERIES

The **S5** series offers the most complete range of plastic tubular M18 photoelectric sensors.

The most varied optic functions can be chosen amongst the fixed focus or diffuse proximity models with short, medium or long operating distances reaching 60 cm; the 4 m retroreflective, 3 m polarised retroreflective and 1 m for detection of transparent materials; the 12 m through beam and models with optic fibre connection.


Different versions with either axial or radial optics are available. The series offers connector or cable connection, with 3 wires Vac or Vdc, or with 4 wires Vdc with complete configuration of the NPN/PNP output and dark/light mode.

A red LED indicating the output status is visible on the bottom side of the sensor.

The versions with trimmer adjustment present also a green LED signalling the switching stability according to the received signal's intensity.

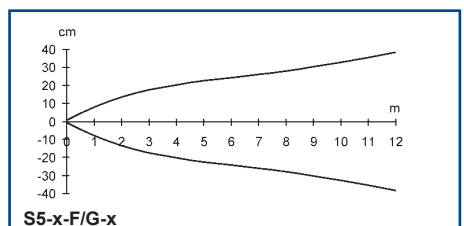
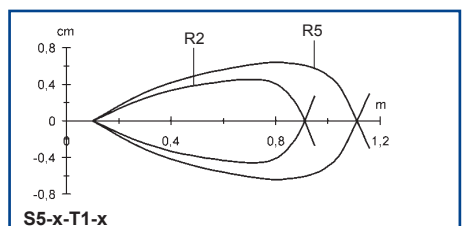
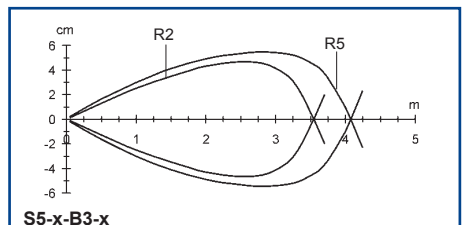
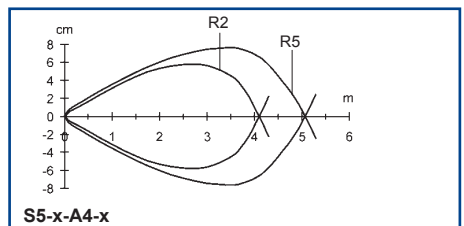
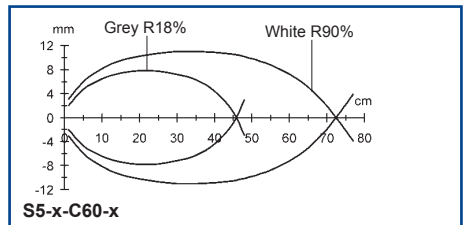
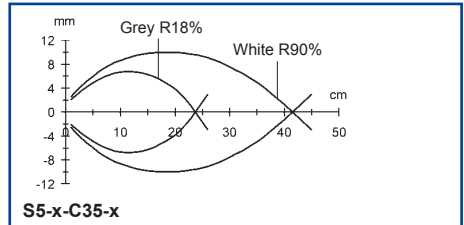
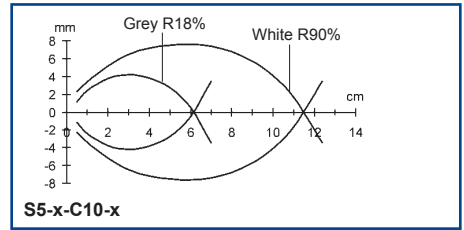
The rugged ABS housing always guarantees IP67 protection.

## TECHNICAL DATA

<b>Power supply:</b> .....	10 ... 30 Vdc (d.c. vers.), reverse polarity protection 15 ... 264 Vac (a.c. vers.)
<b>Consumption:</b> .....	30 mA max. (d.c. vers.) 10 mA max. (a.c. vers.)
<b>Light emission:</b> .....	infrared LED 880 nm red LED 660 nm (B, E1 vers.)
<b>Diffuse proximity operating distance:</b> .....	1 ... 10 cm (C10 vers.) 1 ... 35 cm (C35 vers.) 1 ... 60 cm (C60 vers.)
<b>Limited proximity operating distance:</b> .....	2 ... 15 mm (L2 vers.)
<b>Fixed focus operating distance:</b> .....	15 mm with 1 mm spot (D15 vers.)
<b>Retroreflex operating distance:</b> .....	0.1 ... 4 m (on R2)
<b>Polarised retroreflex operating distance:</b> ..	0.1 ... 3 m (on R2)
<b>Retroreflex for transparent op. distance:</b> ..	0.1 ... 0.8 m (on R2)
<b>Through beam operating distance:</b> .....	0 ... 12 m
<b>Operating distance with optic fibres:</b> .....	22 mm proximity (with OF-18-ST) 85 mm through beam (with OF-19-ST) <i>refer to OF series for other fibres</i>
<b>Setting:</b> .....	sensitivity trimmer (A, C8, D15, L2, G vers. excluded)
<b>Indicators:</b> .....	red OUTPUT LED green STABILITY LED (d.c. vers.) red POWER LED (G vers.)
<b>Output type:</b> .....	NPN or PNP configurable (d.c. vers.) SCR + bridge rectifier (a.c. vers.)
<b>Saturation voltage:</b> .....	2.5 V max. (vers. d.c.)
<b>Output current:</b> .....	150 mA max.(vers. d.c.), short-circuit prot. 100 mA max.(vers. a.c.)
<b>Response time:</b> .....	1 ms max. 2 ms (F vers. in d.c.) 20 ms max. (c.a. vers.)
<b>Switching frequency:</b> .....	500 Hz max. 250 Hz max. (F vers. in d.c.) 25 Hz max. (a.c. vers.)
<b>Operating mode:</b> .....	dark/light (configurable in 4 wires d.c. vers.)
<b>Auxiliary functions:</b> .....	'test +' and 'test -' inputs (G vers. in c.c.)
<b>Connection:</b> .....	4-pole M12 connector or 2 m Ø 5 mm cable
<b>Electrical protection:</b> .....	class 1 (vers. a.c.) class 2 (vers. d.c.)
<b>Mechanical protection:</b> .....	IP67
<b>Housing material:</b> .....	ABS
<b>Lens material:</b> .....	PMMA plastic
<b>Weight:</b> .....	25 g max. (connector vers.) 100 g max. (cable vers.)
<b>Operating temperature:</b> .....	-25 ... +55°C
<b>Storage temperature:</b> .....	-25 ... +70°C
<b>Reference standard:</b> .....	EN 60947-5-2
<b>Certifications:</b> .....	CE (c  us vers.d.c.)

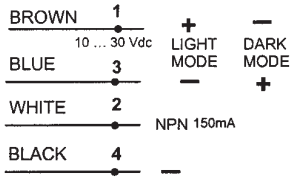
The operating distances indicate the detection distance with excess gain 2.

## DETECTION DIAGRAMS

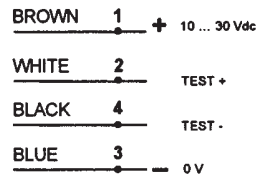
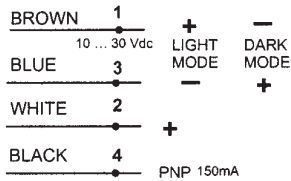


The detection diagrams indicate the typical operating distance with excess gain 1.

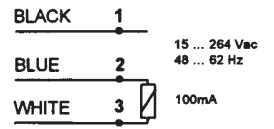
## CONNECTIONS



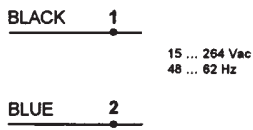
S5-5-x (4 wires)



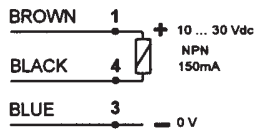
S5-5-G8/G12 (4 wires)



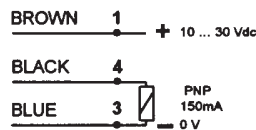
S5-1-x



S5-1-G8



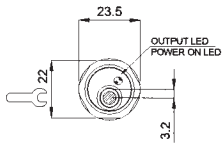
S5-5-x (3 wires)



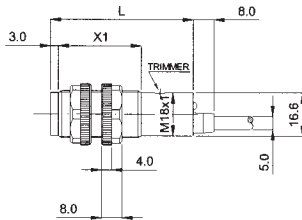
M12 CONNECTOR

## DIMENSIONS

### AC AXIAL VERSION

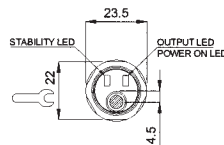


	MODELS	
	with trimmer	without trimmer
X1	52	42
L	75	65

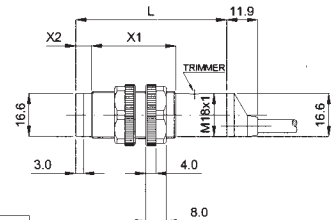


M12 CONNECTOR

### DC AXIAL VERSION

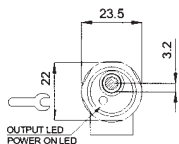


	MODELS		
	without trimmer	with trimmer (except mod. B)	mod. B
L	55	65	68
X1	32	42	42
X2	3	3	6

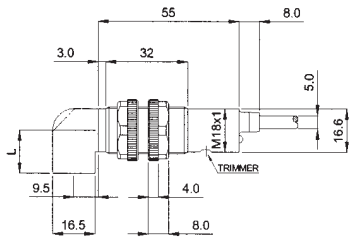


M12 CONNECTOR

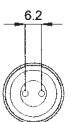
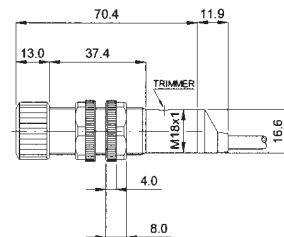
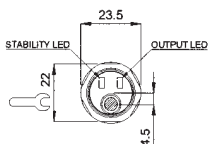
### RADIAL VERSION



	MODELS	
	mod. FB/G8	other models
L	20.5	16.5



### FIBRE OPTIC VERSION



## MODELS

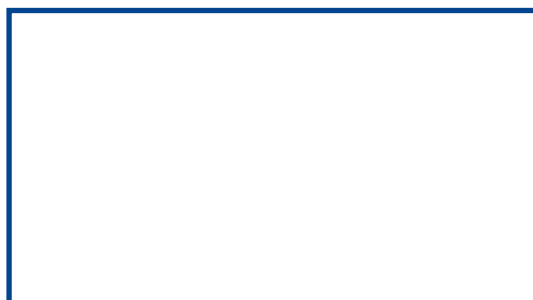
	AXIAL OPTIC VERSIONS		RADIAL OPTIC VERSIONS	
<b>4 WIRE CONNECTION</b>				
<b>10 - 30 Vdc</b>	<b>4 POLE CABLE</b>	<b>M12 CONN.</b>	<b>4 POLE CABLE</b>	<b>M12 CONN.</b>
Short distance diffuse proximity	S5-5-C10-30 (G5210530)	S5-5-C10-32 (G5210532)	S5-5-C8-35 (G5210535)	S5-5-C8-37 (G5210537)
Medium distance diffuse proximity	S5-5-C35-30 (G5210630)	S5-5-C35-32 (G5210632)	S5-5-C30-35 (G5210635)	S5-5-C30-37 (G5210637)
Long distance diffuse proximity	S5-5-C60-30 (952051640)	S5-5-C60-32 (952051650)	S5-5-C60-35 (952051660)	S5-5-C60-37 (952051670)
Fixed focus proximity	S5-5-D15-30 (G5210430)	S5-5-D15-32 (G5210432)	S5-5-D15-35 (G5210435)	S5-5-D15-37 (G5210437)
Retroreflex	S5-5-A4-30 (G5210230)	S5-5-A4-32 (G5210232)	S5-5-A2-35 (G5210235)	S5-5-A2-37 (G5210237)
Polarised Retroreflex	S5-5-B3-30 (G5210730)	S5-5-B3-32 (G5210732)	S5-5-B1,5-35 (G5210735)	S5-5-B1,5-37 (G5210737)
Retroreflex for transparents	S5-5-T1-30 (952051680)	S5-5-T1-32 (952051690)	-	-
Through beam receiver	S5-5-F12-30 (G5210130)	S5-5-F12-32 (G5210132)	S5-5-F8-35 (G5210135)	S5-5-F8-37 (G5210137)
Through beam emitter	S5-5-G12-00 (G5210000)	S5-5-G12-02 (G5210002)	S5-5-G8-05 (G5210005)	S5-5-G8-07 (G5210007)
Fibre optic amplifier	S5-5-E1-30 (G5210830)	S5-5-E1-32 (G5210832)	-	-
<b>3 WIRE CONNECTION</b>				
<b>10 - 30 Vdc</b>	<b>M12 CONN. - NPN</b>	<b>M12 CONN. - PNP</b>	<b>M12 CONN. - NPN</b>	<b>M12 CONN. - PNP</b>
Diffuse proximity light mode	S5-5-C35-72 (G5210672)	S5-5-C35-92 (G5210692)	S5-5-C30-77 (G5210677)	S5-5-C30-97 (G5210697)
Limited proximity light mode	S5-5-L2-72 (G5210972)	S5-5-L2-92 (G5210992)	S5-5-L2-77 (G5210977)	S5-5-L2-97 (G5210997)
Retroreflex dark mode	S5-5-A4-62 (G5210262)	S5-5-A4-82 (G5210282)	S5-5-A2-67 (G5210267)	S5-5-A2-87 (G5210287)
Retroreflex light mode	S5-5-A4-72 (G5210272)	S5-5-A4-92 (G5210292)	S5-5-A2-77 (G5210277)	S5-5-A2-97 (G5210297)
Through beam receiver dark mode	S5-5-F12-62 (G5210162)	S5-5-F12-82 (G5210182)	S5-5-F8-67 (G5210167)	S5-5-F8-87 (G5210187)
Through beam emitter	<i>use 4 wire 10 - 30 Vdc models</i>		<i>use 4 wire 10 - 30 Vdc models</i>	
<b>3 WIRE CONNECTION</b>				
<b>15 - 264 Vac</b>	<b>CABLE - dark mode</b>	<b>CABLE - light mode</b>	<b>CABLE - dark mode</b>	<b>CABLE - light mode</b>
Short distance diffuse proximity	S5-1-C8-10 (G5110510)	S5-1-C8-20 (G5110520)	S5-1-C8-15 (G5110515)	S5-1-C8-25 (G5110525)
Medium distance diffuse proximity	S5-1-C30-10 (G5110610)	S5-1-C30-20 (G5110620)	S5-1-C30-15 (G5110615)	S5-1-C30-25 (G5110625)
Fixed focus proximity	S5-1-D15-10 (G5110410)	S5-1-D15-20 (G5110420)	-	-
Retroreflex	S5-1-A2-10 (G5110210)	S5-1-A2-20 (G5110220)	S5-1-A2-15 (G5110215)	S5-1-A2-25 (G5110225)
Through beam receiver	S5-1-F8-10 (G5110110)	S5-1-F8-20 (G5110120)	S5-1-F8-15 (G5110115)	S5-1-F8-25 (G5110125)
Through beam emitter	S5-1-G8-00 (G5110000)		S5-1-G8-05 (G5110005)	

## ACCESSORIES

MODEL	DESCRIPTION	CODE N°
SP-40	fixed support for tubular M18 sensors	95ACC1370
SWING-18	adjustable support for plastic tubular M18 sensors	895000006

Please refer also to **Sensor Accessories**

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### HEADQUARTERS

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