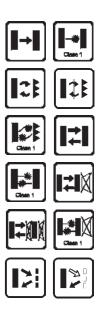
COMPACT METAL PHOTOELECTRIC SENSORS





- Sturdy metal housing in a compact 41x49x15 mm format
- Complete range of universal, application and laser optic functions
- Trimmer or push-button setting with EASYtouch[™] function
- NPN and PNP versions standard M12 rotatable connector

S90 SERIES

The **S90** series, in a compact 41x49x15 mm metal housing, offers all the application and universal optic functions also with safety class 1 laser emission.

The series includes polarised retroreflex models with coaxial optics for the detection of reflective and transparent objects, background and foreground suppression versions, contrast sensor with white light emission for colour mark detection, ultraviolet sensor for luminescent object detection. Basic models are available with class 1 laser emission for high-resolution detection.

The **S90** models with universal proximity, retroreflex and through beam optic functions have trimmer sensitivity adjustment. More sophisticated models are microprocessor controlled and offer the patent-covered *EASYtouch*TM setting procedure for rapid and precise automatic setting of the switching threshold, with remote control, keyboard lock and output delay activation functions.

NPN or PNP versions are available with standard M12 connector that can be rotated in 4 different positions.



S90 COMPACT METAL SENSORS

The polarised retroreflex model and the version for transparent object detection are available also with coaxial optics guaranteeing a more accurate axis detection as well as the elimination of the blank zone near to the sensor.

The coaxial optics is also present in the contrast sensor with white light LED emission and in the luminescence sensor with ultraviolet light LED emission, improving the precision and depth of field.

The biaxial optics which is present in the background suppression models, including laser versions, allows the triangulation for a precise detection.



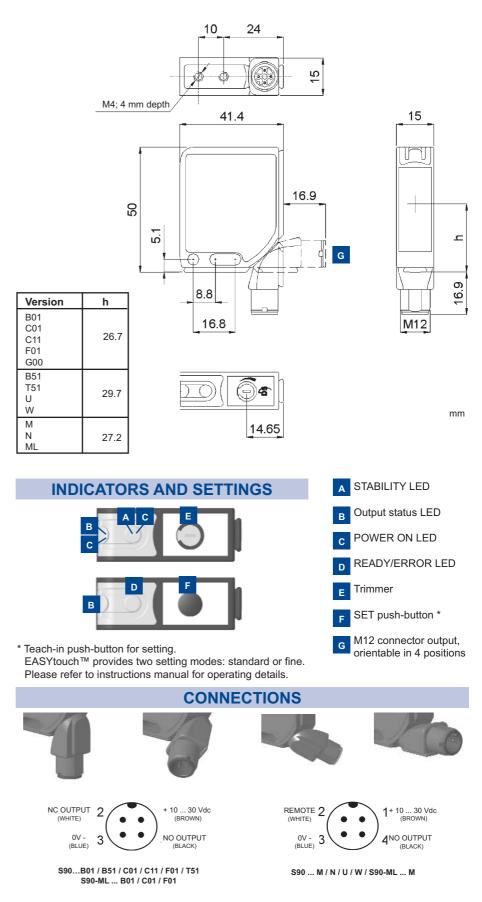
COAXIAL OPTICS

ACCESSORIES

For dedicated accessories refer to the **ACCESSORIES** section of this catalogue.

Refer also to **Connectors (A.03)** and **Fixing Brackets (A.04)** of the **General Catalogue**.

DIMENSIONS





S90 ... G00

S90-PL ... G00

+ 10 ... 30 Vdc

(BROWN)

1

4 NOT

USED

TEST +

(WHITE)

0V -

(BLUE)

2

3

Versions and options: refer to MODEL SELECTION TABLE

TECHNICAL DATA

Note LED 400 - 700 nmred LASER 650 nmSetting: sensitivity trimmer *SET push-buttonSET push-buttonGetting Procedure: EASYtouch TM Indicators:yellow OUTPUT LEDgreen STABILITY LEDImage: Sensitivity trimmer *green POWER ON LEDImage: Sensitivity trimmer *Output type:30 Vdc max., NPN or PNPOutput type:30 Vdc max., NPN or PNPOutput current: $\leq 100 \text{ mA}$ Saturation voltage: $\leq 2 V$ Response time:100 μ sSwitching frequency:500 μ s1.5 kHzImage: Sensitivity the sensitivity the sensitivity the sensitivity the sensitivity the sensitivity trimer *Connection:M12 4-pole connector 4Connection:M12 4-pole connector 4Mechanical protection:IP67Protection devices:A B *Housing material:Zama (Zn-Al alloy)Lens material:Yen Connection:Weight:77 g max.Operating temperature:-10 +50°C-25 +55°C							-				-			1		_	<u> </u>
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infrared LED 880 nm • UV LED 370 nm • White LED 400 - 700 nm • white LED 400 - 700 nm • red LASER 650 nm • Setting: sensitivity timmer ³ Setting Procedure: EASYtouch™ Indicators: yellow OUTPUT LED green STABILITY LED • green POWER ON LED • Output type: 30 Vdc max., NPN or PNP Output current: ≤ 100 mA Saturation voltage: ≤ 2 V Response time: 100 µs 1 ms • Switching frequency: 500 Hz 1 kHz • • 1 S kHz • 2 kHz • • 2 kHz • • • Switching frequency: 500 Hz • • • Switching frequency: 500 Hz • </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>\downarrow</td> <td>_</td> <td></td> <td></td> <td></td> <td>•</td> <td>•</td> <td>•</td> <td></td> <td></td>								\downarrow	_				•	•	•		
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-25 +55 °C ●	operating temperatur		_	-	\vdash	-	+	+	+	+	+	-		-			-
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EIN 00820-1, CDKH21 CFK 1040.10 • • • • • • •	Reference standard:		_	<u> </u>	•		-	-	• ("	-	-		-	-	-	•
		EN 00825-1, CDRH21 CFR 1040.10	ן ו					•									

SELECTION TABLE

receiver			
S90-MA-5-F01-PP	956301050	PNP	
S90-MA-5-F01-NN	956301210	NPN	
S90-ML-5-F01-PP	956301110	PNP	laser
S90-ML-5-F01-NN	956301280	NPN	laser
	000001200		14001
emitter			
S90-MA-5-G00-XG	956301060	-	
S90-ML-5-G00-XG	956301120	-	laser
polarised retroreflex			
S90-MA-5-B01-PP	956301000	PNP	
S90-MA-5-B01-NN	956301160	NPN	
S90-ML-5-B01-PP	956301090	PNP	laser
S90-ML-5-B01-NN	956301260	NPN	laser
030-1112-0-001-1111	330301200		10301
coaxial polarised ret		1	1
S90-MA-5-B51-PP	956301030	PNP	coaxial
S90-MA-5-B51-NN	956301170	NPN	coaxial
retroreflex for transp		-	
S90-MA-5-T51-PP	956301040	PNP	coaxial
S90-MA-5-T51-NN	956301180	NPN	coaxial
diffuse proximity			
S90-MA-5-C01-PP	956301010	PNP	
S90-MA-5-C01-NN	956301190	NPN	
S90-ML-5-C01-PP	956301100	PNP	laser
S90-ML-5-C01-NN	956301270	NPN	laser
S90-MA-5-C11-PP	956301020	PNP	10301
S90-MA-5-C11-NN	956301200	NPN	
background suppres			
S90-MA-5-M08-PH	956301070	PNP	
S90-MA-5-M08-NH	956301220	NPN	
S90-ML-5-M08-PH	956301130	PNP	laser
S90-ML-5-M08-NH	956301290	NPN	laser
foreground suppress	ion		
S90-MA-5-N03-PH	956301080	PNP	
S90-MA-5-N03-NH	956301080	NPN	
000 111 0 1100-1111	00001200		
contrast sensor			
S90-MA-5-W08-PH	956301150	PNP	coaxial
S90-MA-5-W08-NH	956301250	NPN	coaxial
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luminococonoo conoo			
		DND	anaviel
luminescence senso S90-MA-5-U08-PH S90-MA-5-U08-NH	956301140 956301240	PNP NPN	coaxial coaxial

TECHNICAL NOTES

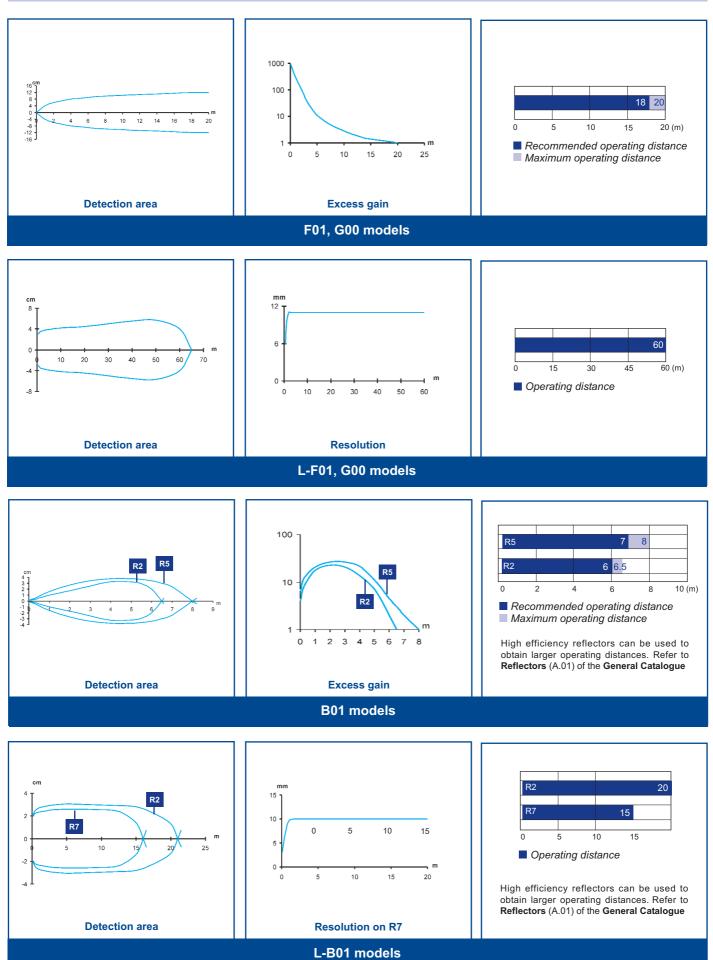
- ¹ Limit values
- 2 Average life of 100.000 h with T_A = +25 °C Average life of 50.000 in ML-B01, C01, F01, M vers.
- ³ 270° single-turn trimmer
- ⁴ Connector with 4 position rotation
- ⁵ A reverse polarity protection
 B overload and short-circuit protection
- ⁶ Internal lenses in polycarbonate Internal lenses in glass in B51, T51, U, W vers. Internal lenses in glass and PC in ML- B01, C01, F01, M vers.



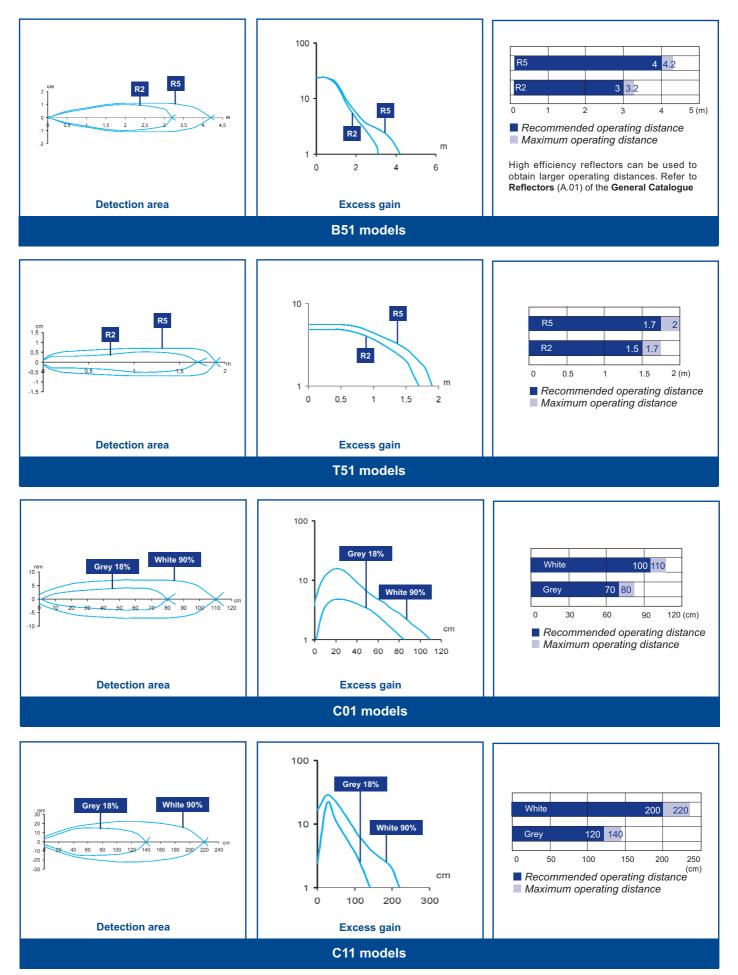


S90 COMPACT METAL SENSORS

DETECTION DIAGRAMS

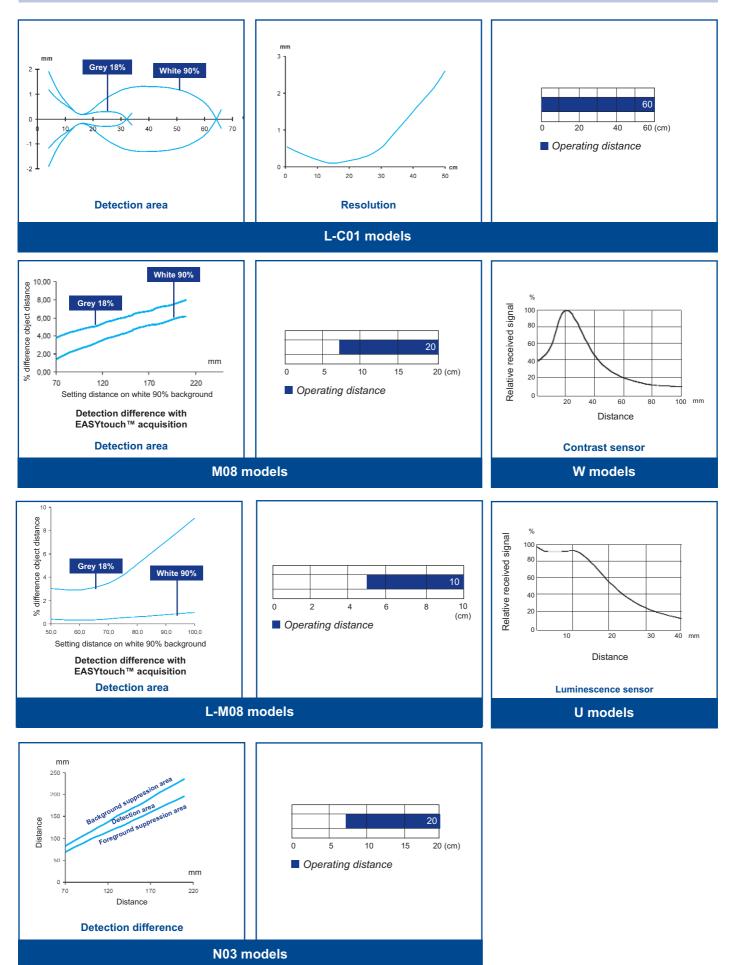


DETECTION DIAGRAMS



S90 COMPACT METAL SENSORS

DETECTION DIAGRAMS



DATASENSOR

ACCESSORY SELECTION AND ORDER INFORMATION

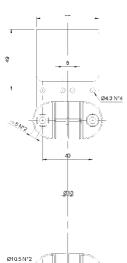
MODEL	DESCRIPTION	ORDER N°
ST-5018	protection bracket	95ACC5310
ST-5019	protection bracket	95ACC5320
ST-5020	fixing bracket	95ACC5330
ST-5021	fixing bracket	95ACC5340
ST-5041	short dove-tail fixing bracket	95ACC2300
ST-5042	long dove-tail fixing bracket	95ACC2310
JOINT-60	protection bracket with jointed support	95ACC5350

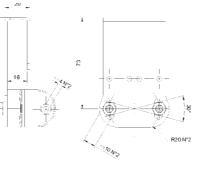
Refer also to Accessories for Sensors **JOINT-60**

8

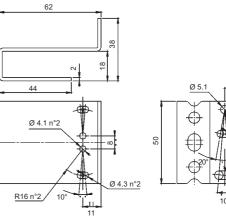
210

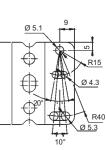
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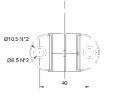


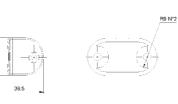


ST-5018



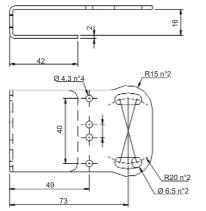


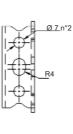


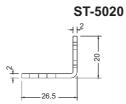


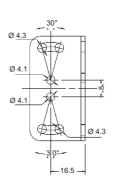
ST-5019

28



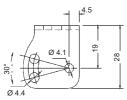


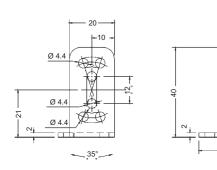




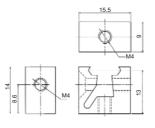
Ø 5.1 Æ Ø 4.<u>3</u> 50 Ø 5.3 -10°-

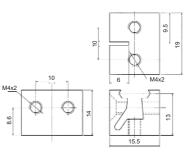
ST-5021





ST-5041





ST-5042

