

## S8 BGS SHINY

A new patented technology is now available for the seamless detection of clear transparent objects by means of a photoelectric sensor with background suppression optic function. Glass or plastic clear objects such as bottles, vials, packaging films, etc. can be easily detected in diffuse mode even in presence of shiny and reflective backgrounds. This breakthrough technology offers many improvements with respect to previous systems based on polarized retro-reflex photoelectric or even ultrasonic sensors:

- No prismatic reflector: No need to have the clear object passing between sensor and reflector therefore reducing installation time and costs.
- Less mechanical constraints: The detection can be made from either the side or from the top with no need to screen or modify any metal parts of the machine.
- Highest depth of field: the clear object can move or float in any position between its background and the sensor without any need to adjust the detection threshold.



## HIGHLIGHTS

- 50 to 150mm operating range with fine mechanical adjustment
- High resolution
- Bright visible red Laser light emission with 5mm spot at maximum distance
- Fast response time: 1ms with a switching frequency of 500Hz.

## APPLICATIONS

### Food & Pharma



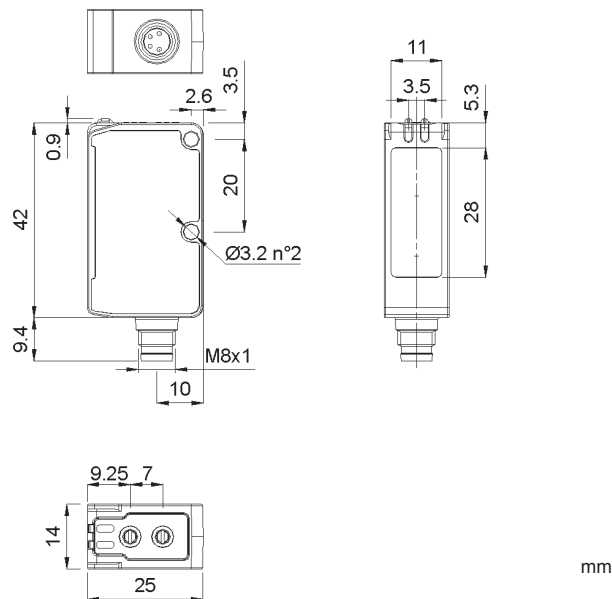
### Beverage & Bottling



### Packaging lines



## DIMENSION



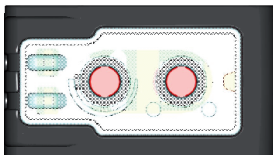
## SETTING

### SUPPRESSION DISTANCE AND BACKGROUND ACQUISITION SETTING

The S8-PH...M53 sensor which provides background suppression for shiny objects, allows detection of shiny objects without false commutations typical of other background suppression sensors. To function correctly it is necessary to perform the Background Acquisition Setting procedure described below.

#### 1. Start Setting and Background Acquisition

Rotate the TEACH-IN trimmer fully counter-clockwise. If the trimmer is already in the counter-clockwise position, rotate it to the clockwise position and then back to the counter-clockwise position. The N.O. Output signal (black wire) is set to OFF and the yellow LED indicates commutations of a standard background suppressor.

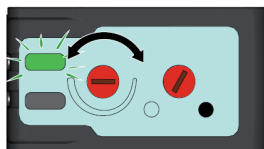


#### 2. Background Exclusion

Position the sensor in front of the background. Rotate the DISTANCE ADJUSTMENT trimmer clockwise until the yellow LED turns ON: condition where background is detected. If the background is outside the operating range, the yellow LED is still OFF when the trimmer reaches maximum level. Rotate the DISTANCE ADJUSTMENT trimmer counter-clockwise until the yellow LED just turns OFF: condition where background is outside operating range.

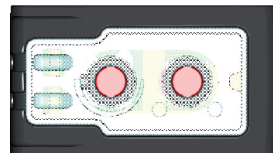
background

Detection Area



#### 3. Background Acquisition

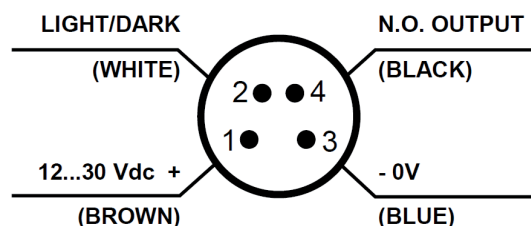
Rotate the TEACH-IN trimmer fully clockwise. The sensor acquires the background characteristics and is ready to detect any object that passes in the Detection Area. If the yellow LED blinks, the background acquisition procedure has failed. Rotate the TEACH-IN trimmer fully counter-clockwise and repeat the procedure from step 2.



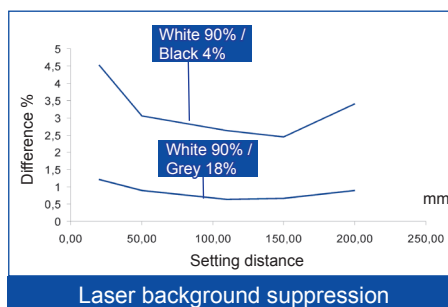
#### BACKGROUND AUTO-ADJUSTMENT FUNCTION

The sensor provides a background auto-adjustment function. If the background deteriorates, the received signal changes, after 1 minute the sensor automatically adjusts the background to compensate for this change therefore avoiding the need to continually acquire the background through manual setting.

## CONNECTIONS

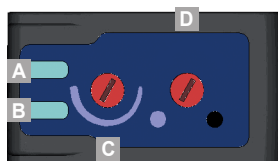


## DETECTION DIAGRAM



## INDICATORS AND SETTINGS

S8...M53



- A** Output status LED
- B** Ready LED or Power ON LED
- C** Distance adjustment trimmer
- D** Background setting trimmer

## TECHNICAL DATA OF MODELS WITH LASER EMISSION

Background suppression operative distance:	50 ... 150 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
Focussing point:	110 mm
Setting:	multi-turn distance adjustment trimmer
	monoturn trimmer background setting
Indicators:	yellow OUTPUT LED
	green POWER ON LED
Output type:	PNP N.O./N.C.
Output current:	≤ 100 mA
Saturation current:	≤ 2 V
Response time:	1 ms
Max. switching frequency:	500 Hz
Operating mode:	selectable dark/light by wire
Connection:	M8 4-pole connector
Mechanical protection:	IP67
Protection devices:	A, B
Housing material:	ABS
Lens material:	window in PMMA
	lenses in PC
Weight:	12 g max. connector 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

<sup>1</sup> Average life of 50.000 h with TA = +25 °C

<sup>2</sup> A - reverse polarity protection  
B - overload and short-circuit protection



## MODEL SELECTION AND ORDER INFORMATION

MODEL	FUNCTION	CONNECTION	OUTPUT	ORDER N°
S8-PH-5-M53-PP	BGS Shiny clear laser 15 cm	M8	PNP	950801380

## ACCESSORY SELECTION AND ORDER INFORMATION

MODEL	DESCRIPTION	ORDER N°
ST-5072	fixing bracket	95ACC1470



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