S8 SHINY

The NEW S8 sensor known as the SHINY has a new patented technology which means it is able to detect transparent objects using a form of laser based background suppression.
Glass or clear plastic objects such as bottles, vials, packaging films, etc. can be easily detected directly even in the presence of shiny or 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: there is no need to have the clear object passing between sensor and reflector so reducing installation time and cost.
• Less mechanical constraints: the detection can be made from either the side or from the above 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.

S8 Shiny is also available with a model designed for frequent wash downs with a corrosion-resistant AISI316L stainless steel case which is IP69K rated.

Diversey   **ECOLAB**

Class 2

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
• IP69K degree of protection with AISI316L stainless steel housing resists the effects of detergents, disinfectants and high-temperature, high-pressure wash down

APPLICATIONS

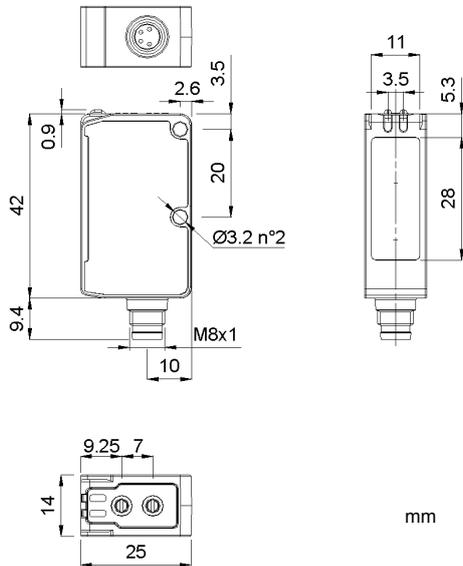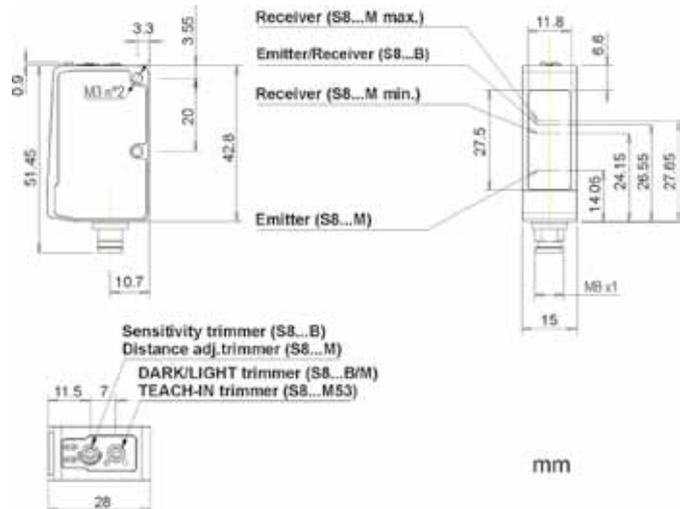**Food & Pharma**

Beverage & Bottling

Packaging lines

DIMENSION

PLASTIC


STAINLESS STEEL

mm

SETTING

SUPPRESSION DISTANCE AND BACKGROUND ACQUISITION SETTING

The S8-PH…M53 sensor which provides background suppression for shiny objects, enables the detection of clear objects without false or multiple triggering 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 the status in the same way as a standard background suppression sensor.
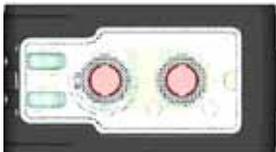

2.Background Exclusion

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. Rotate counter-clockwise the trimmer until the yellow LED turns OFF: condition where background is out of the field of view.
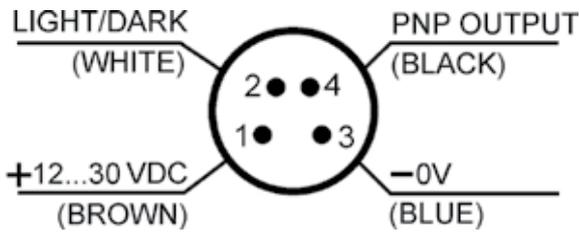

3.Background Acquisition

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.
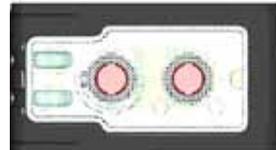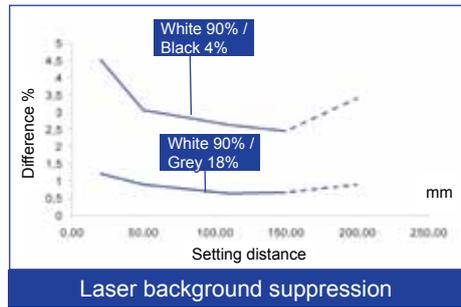

BACKGROUND AUTO-ADJUSTMENT FUNCTION

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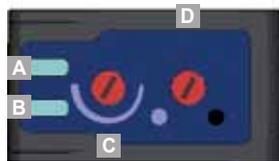
CONNECTIONS

LIGHT/DARK (WHITE)   PNP OUTPUT (BLACK)

```
        2 ● ● 4
        1 ●   ● 3
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+12...30 VDC (BROWN)   −0V (BLUE)

DETECTION DIAGRAM

White 90% / Black 4%

White 90% / Grey 18%

Difference %

Setting distance

mm

Laser background suppression

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

	S8-PH-5-M53-PP	S8-MH-5-M53-PP
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:	5 mm @ 150 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	IP69K
Protection devices:	A, B [2]	
Housing material:	ABS	INOX AISI 316L
Lens material:	window in PMMA	
	lenses in PC	
Weight:	12 g max.	70 g max.
Operating temperature:	-10 ... +55°C	
Storage temperature:	-20 ... +70°C	
Reference standard:	EN 60947-5-2	

TECHNICAL NOTES

[1] Average life of 50.000 h with TA = +25 °C
[2] A - reverse polarity protection
  B - overload and short-circuit protection

CE c(UL)us LISTED

MODEL SELECTION AND ORDER INFORMATION

MODEL	DESCRIPTION	CONNECTION	OUTPUT	ORDER N°
S8-PH-5-M53-PP	Background Suppression Clear Object Detection Plastic housing	M8	PNP	950801380
S8-MH-5-M53-PP	Background Suppression Clear Object Detection Stainless Steels housing	M8	PNP	950801450

ACCESSORY SELECTION AND ORDER INFORMATION

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

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