

S8 UNIVERSAL PHOTOELECTRIC SENSORS



Excellent performances in small dimensions

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The new S8 series of compact sensors offers excellent detection performances, usually associated with sensors that have larger dimensions. 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.

Available models:

- **coaxial polarised Laser retroreflex**
- **mechanical Laser background suppression**
- **coaxial polarised LED retroreflex for transparent object detection**
- **contrast sensors with RGB emission, coaxial optic and very high resolution**

The Laser versions present an extremely focussed spot inferior to 1 mm and switching frequencies that are amongst the highest on the market reaching 10 kHz, that guarantee a very-high reading repeatability **(object always read in the same position!)**.

The coaxial retroreflex models with LED emission offer excellent resolution in the detection transparent objects that, combined with a 2 kHz switching frequency and an ALARM output for dirty lenses, ensure reliability and plant productivity.

The contrast sensor is the most compact sensor available today with RGB emission and coaxial optics, offering excellent detection resolution and depth of field typical of sensors with a higher price/dimension ratio.

All models have either M8 or M12 "pig-tail" connection.

The retroreflex modes offer an additional alarm signal for received signal problems or dirty lenses.

HIGHLIGHTS

- Compact dimensions (14x42x25 mm)
- 10 kHz switching frequency
- Extremely focussed spot, under 1 mm (Laser vers.)
- Very high resolutions
- Coaxial versions
- Alarm output
- M8 or M12 pig-tail versions



CHARACTERISTIC

ADVANTAGES

Switching frequency reaching 10 kHz and focussed spots	Excellent reading repeatability. The object is detected always in the same position guaranteeing precision to the application (great reliability and plant productivity).
Coaxial optics (RRX Laser, RRX for Transparents, Contrast)	Best installation flexibility and reading precision, excluding the "triangulation" effect typical of the bi-axial optics.
Multiturn trimmer for reading distance adjustment with clutch (BKGD Laser)	Calibrating precision and simplicity, drastic reduction of plant starting, clutch protection against trimmer damage (longer product lifecycle and plant productivity).
White/Black difference (BKGD Laser)	Excellent detection precision, independent from the colour or surface (great reliability and plant productivity).
MI2 pig-tail connector	Best installation flexibility and adaptability to the reduced machine dimensions, protection against connector damages in case of shocks (longer product lifecycle).
Alarm output (RRX Laser and RRX for Transparents)	Improved reliability and plant productivity, reduction of periodical maintenance and elimination of machine stops.
Dark/Light trimmer selection (RRX Laser, BKGD Laser and RRX for Transparents)	Best installation flexibility and adaptation to plant functioning, simplified "spare part" management (reduction of codes).
RGB emission (Contrast)	Excellent resolution, detection of particularly difficult contrasts (improved plant productivity).
REMOTE function (Contrast)	Best installation flexibility and adaptability to the reduced machine dimensions, possibility of calibrating the product also in applications where the button is difficult to reach.

APPLICATIONS

The detection performances of the S8 series are able to solve the most critical applications of the following sectors:

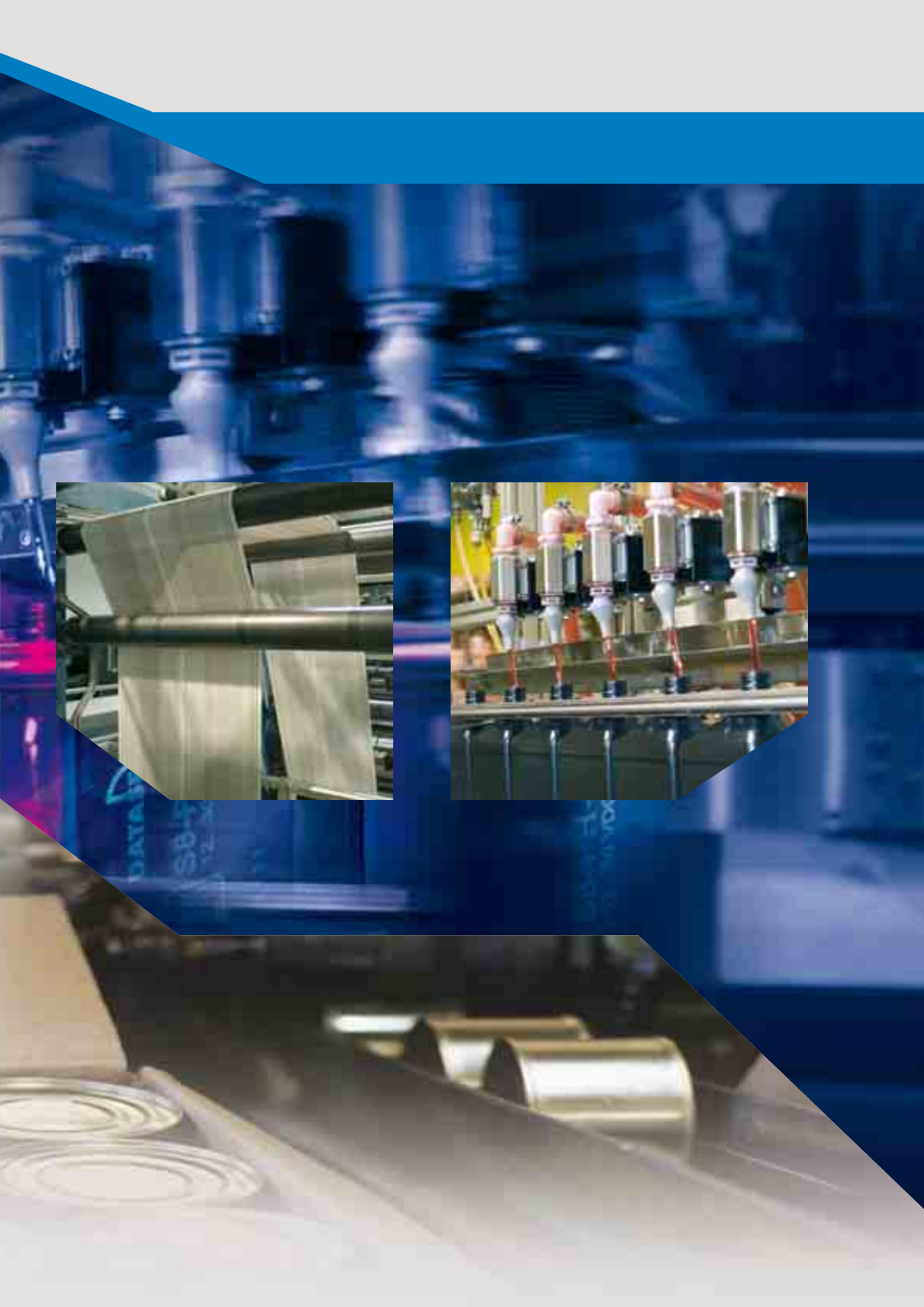
- **Test & assembling machines**
- **Tobacco / parcel post systems**
- **Automotive**
- **Metal and wood working machines**
- **Food and beverage**
- **Packaging**



SECTOR

ADVANTAGES

Packaging	The excellent reading repeatability of the Laser versions guarantee reliability and improved machine productivity. The compact housing of the contrast sensor simplifies and speeds-up installation in reduced spaces.
Test & assembling	The excellent reading repeatability of the Laser versions guarantee reliability and improved machine productivity.
Food, beverage & automotive	Reading precision and excellent resolution in the detection of transparent objects offer improved plant productivity. The alarm output drastically reduces maintenance, eliminating the "machine stop" problem.
Paper & printing	The compact housing of the contrast sensor simplifies and speeds-up installation in reduced spaces. The excellent reading resolution associated with coaxial optics guarantees precision and reading repeatability and thus improving reliability and improved machine productivity.
Tobacco, parcel post systems, metal and wood working machines	The excellent reading repeatability of the Laser versions guarantee reliability and improved machine productivity. The alarm output drastically reduces maintenance, eliminating the "machine stop" problem.



TECHNICAL DATA

Coaxial polarised LED / Coaxial RGB contrast

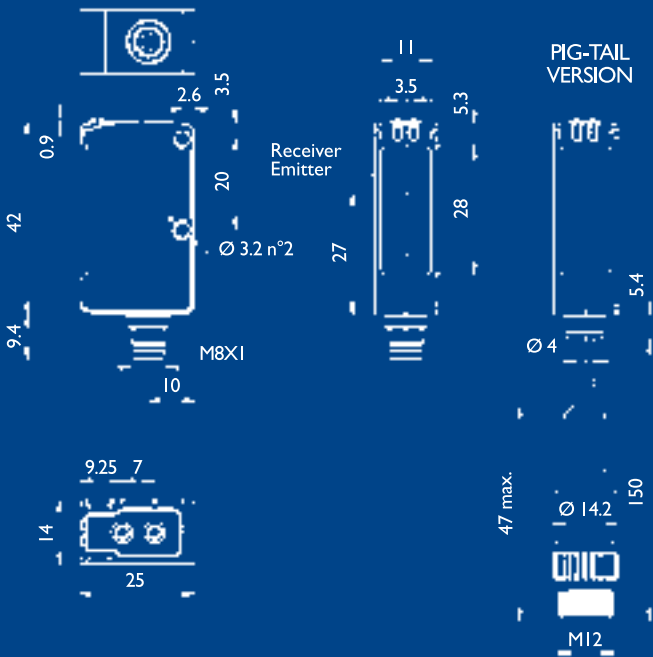
	S8VV	S8T
Power supply:	10 ... 30Vdc	
Ripple:	2Vpp max.	
Consumption (output current excluded):	30 mA max	15 mA max
Outputs:	PNP or NPN N.O.; 30Vdc max (short-circuit protection)	
Output current:	100 mA (overload protection)	
Output saturation voltage:	≤ 2V	
Response time:	50 μs	250 μs
Switching frequency:	10 kHz	2 kHz
Emission type:	blue (465 nm) / green (520 nm) / red (630 nm) with automatic selection	red (660 nm)
Spot dimension:	3x1 mm ²	-
Operating distance (typical values):	9 mm	0.8 m (EG2); 1 m (EG1) on R2 reflector
Depth of field:	±2 mm	-
LIGHT/DARK selection:	Automatic	Monoturn Trimmer
Delay OFF 20msec selection:	Trimmer DELAY monogiro	-
Indicators:	OUTPUT LED (yellow) / READY LED (green)	OUTPUT LED (yellow) / POWER ON LED (green)
Operating temperature:	-10 ... 55 °C	
Housing material:	ABS	
Lens material:	Window in glass; lenses in PC	
Mechanical protection:	IP67	
Connections:	M8 4-pole connector / 150 mm ∅ 4 mm cable with M12 4-pole connector (pig-tail)	

Coaxial polarised Laser / Laser background suppression

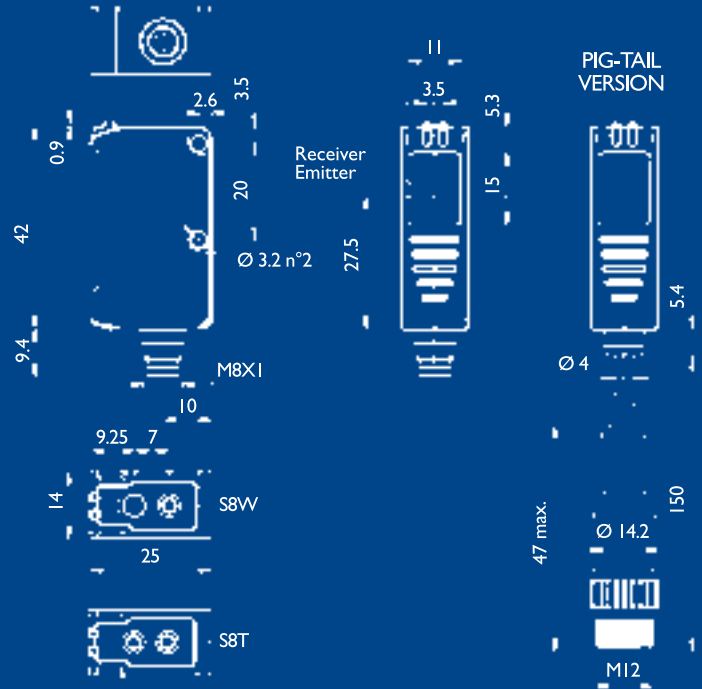
	S8B	S8M
Power supply:	10 ... 30Vdc	
Ripple:	2Vpp max.	
Consumption (output current excluded):	30 mA max	
Outputs:	PNP or NPN N.O.; 30Vdc max. (short-circuit protection)	
Output current:	100 mA (overload protection)	
Output saturation voltage:	≤ 2V	
Response time:	50 μs	100 μs
Switching frequency:	10 kHz	5 kHz
Emission type:	RED LASER (λ= 645...665nm); Class 2 EN 60825-1 Class II CDRH 21 CFR PART 1040.10	
Focalisation point:	500 mm	110 mm
Spot dimension:	< 0.5 mm (at 500 mm)	< 0.2 mm (at 110 mm)
Operating distance (typical values):	10 m on R2	20...200 mm
Setting:	Monoturn sensitivity adjustment trimmer	8-turn distance adjustment trimmer
LIGHT/DARK selection:	Monoturn trimmer	
White-black difference (90% / 4%)	-	< 5 % (refer to DETECTION DIAGRAMS)
Hysteresis on white 90%	-	< 1 %
Indicators:	OUTPUT LED (YELLOW) / POWER ON LED (GREEN)	
Operating temperature:	-10 ... 55 °C	
Housing material:	ABS	
Lens material:	Window in glass; lenses in PC	
Mechanical protection:	IP67	
Connections:	M8 4-pole connector / 150 mm ∅ 4 mm cable with M12 4-pole connector (pig-tail)	

DIMENSIONS

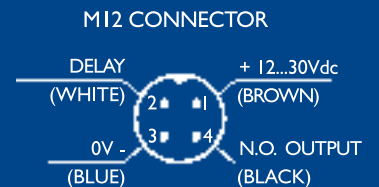
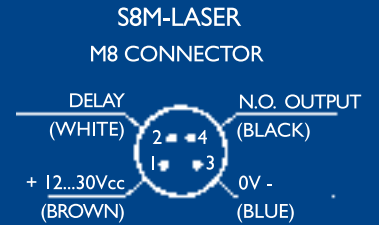
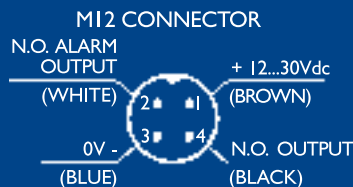
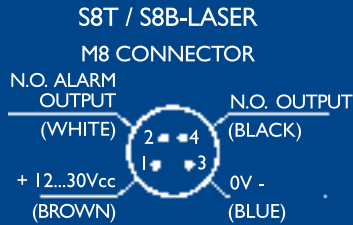
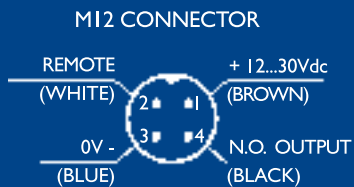
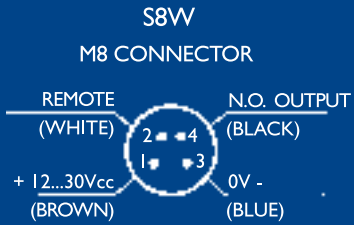
LASER B / M VERSIONS



T / W VERSIONS



CONNECTIONS



AVAILABLE MODELS



MODEL	DESCRIPTION	ORDER N°
S8-PH-5-B51-PP	Laser coaxial retroreflex 10m, PNP, M8	950801000
S8-PH-5-B51-NN	Laser coaxial retroreflex 10m, NPN, M8	950801010
S8-PH-5-M01-PP	Laser background suppression 20cm, PNP, M8	950801020
S8-PH-5-M01-NN	Laser background suppression 20cm, NPN, M8	950801030
S8-PR-5-T51-PP	Retroreflex for transparents 1m, PNP, M8	950801040
S8-PR-5-T51-NN	Retroreflex for transparents 1m, NPN, M8	950801050
S8-PR-5-V03-PP	Contrast sensor, RGB, PNP, M8	950801060
S8-PR-5-V03-NN	Contrast sensor, RGB, NPN, M8	950801070
S8-PH-3-B51-PP	Laser coaxial retroreflex 10m, PNP, pig-tail M12	950801080
S8-PH-3-B51-NN	Laser coaxial retroreflex 10m, NPN, pig-tail M12	950801090
S8-PH-3-M01-PP	Laser background suppression 20cm, PNP, pig-tail M12	950801100
S8-PH-3-M01-NN	Laser background suppression 20cm, pig-tail M12	950801110
S8-PR-3-T51-PP	Retroreflex for transparents 1m, PNP, pig-tail M12	950801120
S8-PR-3-T51-NN	Retroreflex for transparents 1m, NPN, pig-tail M12	950801130
S8-PR-3-V03-PP	Contrast sensor, RGB, PNP, pig-tail M12	950801140
S8-PR-3-V03-NN	Contrast sensor, RGB, NPN pig-tail M12	950801150

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