



**W4S-3 Inox:
Smaller, stronger, better**

The most advanced photoelectric switch series in its class

Best-in-class for exacting requirements

W4S-3 Inox – simply unbeatable

SICK advances the development of food and beverage systems, with a new sensor range tailored to the trend for ever-shorter, more comprehensive cleaning regimes with ever more aggressive cleaning agents.

With the W4-3 series, SICK has developed a real benchmark and best-in-class solution among photoelectric switches, with an optimum mix of material and technical/design benefits. It has been created to provide many years of reliable and smooth operation in harsh daily food and beverage production.

IO-LINK

Do you want to adjust and monitor the sensor via your control system? No problem with IO-Link. With some minor modifications, communication can be established directly with the sensor, without the need for additional changes to your existing standard M8/M12 connecting cable.

More info: www.sick.com



FLUSH-MOUNTED DISPLAY LEDS

- No corners and joints
- Easy and safe to clean
- Bright and easily visible

EASE OF OPERATION

- Adjustment via cable, no controls on the sensor itself
- IO-Link
- Alternatively: almost flush teach-in button



UNCOMPROMISING HYGIENE

The W43-S Inox is smooth all around, largely free from corners/joints and constructed in V4A/316L stainless steel. Cleaning agents run off slowly. Further benefits: resistance up to 70 °C and, sealed beyond IP 69K using current test methods, and continuous performance under all known environmental and cleaning conditions.



W4S-3 INSIDE

FULLY SEALED AND
SPECIALLY COATED
LENS COVER

- Extremely resistant
- No dirty corners and joints

SMOOTH SURFACES

- Easy and safe to clean
- Cleaning agents run off slowly
- No breeding ground for bacteria

V4A/316L STAINLESS
STEEL

- Approved for contact with foods
- Highly resistant to chemicals

SMOOTH SEALABLE
M3 HOLES



SUPERIOR TECHNOLOGY

The W4S-3 Inox photoelectric reflex switch is based on proven W43-S technology. Its automatic switching threshold adjustment continuously adapts to environmental conditions. Pin-point sender LEDs simplify adjustment and can generate a light spot with laser-like precision.



BEST BACKGROUND
SUPPRESSION

The W4S-3 is the first background suppression sensor to be equipped with 2 sender LEDs, enabling it to see "spatially". The result: among all comparable sensors on the market, the W4S-3 Inox offers by far the most accurate background suppression. The sensor can distinguish clearly between object and background.



CONVENIENT
INSTALLATION

Using its easily visible light spot, the W4S-3 Inox can be aligned quickly and easily. Elaborate fixing is not required. Teach-in is just as straightforward and convenient, using an easy-to-sterilise teach-in button. Set-up, diagnostics and adjustment can be performed remotely via IO-Link, or cable.

Vanguard for the toughest applications

W4S-3 Inox – perfect in many industries

The W4S-3 Inox photoelectric switch sets the benchmark in terms of materials, design and technology. It withstands aggressive production and cleaning procedures for longer, detecting even difficult objects (e.g. PET bottles) under particularly critical conditions. Due to their compact construction, the sensors fit into machine environments where space is at a premium. Moving and reflective machine parts in the background do not adversely influence the sensor due to the precise background suppression.

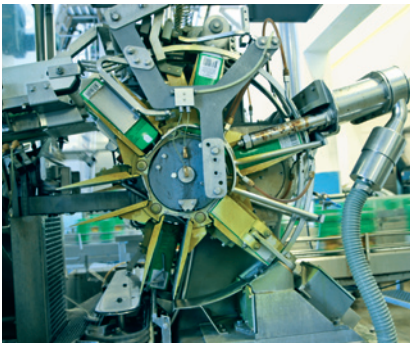
One of the most demanding requirements can be the production of fresh fruit juices in a hygienically sealed press or a bottling system where sensors must be remotely operated. The production and cleaning processes for such applications places enormous demands on the construction of sensors. The W4S-3 Inox photoelectric switch sets the benchmark in this application area and clearly demonstrates significant technical achievement.

When filling and packaging pharmaceuticals, the sensors must withstand toughest conditions within a sterile environment. Sterile boxes are increasingly cleaned with H₂O₂ steam – not a problem for the W4S-3 Inox.



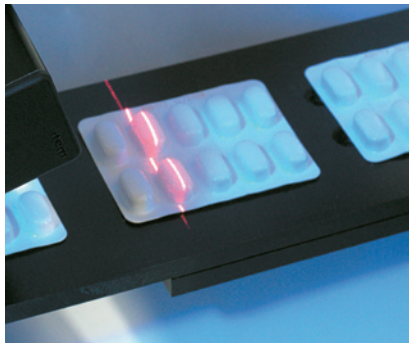
FOOD INDUSTRY

Machine parts which are in contact with foods must be cleaned effectively, presenting a challenge to sensor technology. The solution: easy-to-sterilise W4S-3 photoelectric switches with rounded housing on which no bacteria can settle. Although the housings are made of stainless steel, cleaning agents do not drip off too quickly and can take full effect.



BEVERAGE INDUSTRY

Reflective glass and PET bottles, wet conditions and aggressive cleaning procedures: the robust W4S-3 Inox photoelectric switch is tailor-made for bottling processes in the beverage industry. It proves to be reliable in all areas of production with automatic switching threshold adaptation and superior hygienic properties when used in splash zones.



PHARMACEUTICAL INDUSTRY

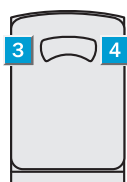
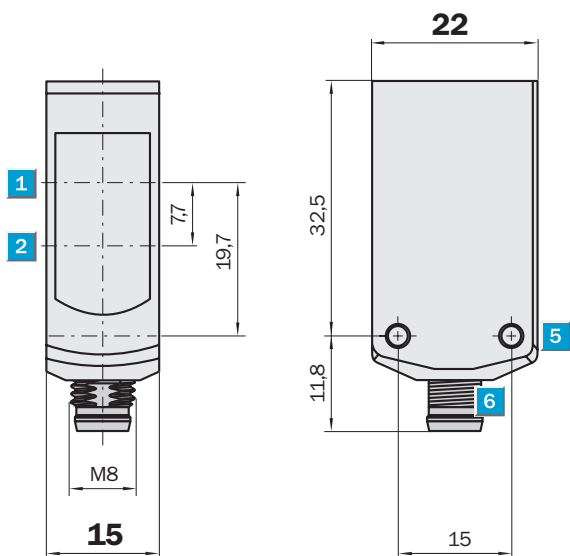
This is where strict requirements apply, similar to the food industry; however, machines are often small and compact. Not a problem for the W4S-3 Inox sensor. Compact design and different ranges make it the product of choice for many applications in pharmaceutical production and packaging.



SEMICONDUCTOR/SOLAR INDUSTRY

Speed and high resolution are required in electronic production. The machines must operate at high speed and the sensor technology must cope with fast-moving and reflective backgrounds. For wet chemical production parts, the sensors are exposed to corrosive spray mists or vapours. No problem for the W4S-3 Inox.

Technical strengths in robust housings



- 1 Optical axis, sender (all types) – receiver, through-beam and reflex type
- 2 Optical axis, receiver (BGS and FGS only)
- 3 Display LED green, operating voltage active
- 4 Display LED yellow, light received status
- 5 M3 internal thread, continuous
- 6 M8 plug 4-pin, 3-pin

General technical data	
Housing material	Stainless steel 14435, AISI 316L
Front screen	SiOx-coated PMMA
Size	44.0 x 22.0 x 15.0 mm
Supply voltage	10 ... 30 V DC
Ambient temperature	-40 ... +70 °C
Fixing hole	With M3 internal thread
Light sender, type of light	Red light, pin-point technology
Approvals	>> IP 69K, Ecolab+, UL, CE
Types of connection	M8 3-pin and 4-pin, cable 2 m, cable plug M8 and M12
Connections	PNP, NPN, light switching, dark switching, antivalent, external teach-in via cable, alarm, IO-Link
Adjustment types	Fixed adjustment, teach-in button, teach-in via cable, IO-Link



The W4S-3 Inox series

BGS photoelectric proximity switch 180 mm

- Smaller light spot of Ø 6 mm approx., homogenous across the entire scanning distance
- Best BGS sensor in its class

BGS photoelectric proximity switch 120 mm laser-like

- With laser-like light spot < 2 mm between 50 and 80 mm
- Ideally suited to positioning tasks and tasks requiring high reproducibility

FGS sensor 200 mm

- If no reflector can be mounted, backgrounds up to 300 mm serve as reflector alternative.
- Smaller spot of Ø 6 mm approx., homogenous across the entire scanning distance

Photoelectric switch for transparent objects

- Autocollimated optics reduces the space required by sensor and reflector, thereby offering advantages when installed on small machines where space is limited.
- Automatic switching threshold adaptation compensates for dirt/temperature/drift effects.
- Easy adjustment, range up to 5 m

Photoelectric reflex switch 4 m

- Autocollimated optics reduces the space required by sensor and reflector, thereby offering advantages when installed on small machines where space is limited.
- Detects even very small gaps between objects thanks to a small light spot
- Without external adjustment

Through-beam photoelectric switch

- Small precise light spot enables the mounting of several photoelectric switches in close proximity without mutual interference

Order information				
Sensor	Order no.	Description	Adjustment	Connection/output
WTB4S-3P2265V	1045091	BGS sensor 180 mm	Teach-in via cable	Plug M8 4-pin, PNP, light-switching
WTB4S-3P2235V	1045093	BGS sensor 120 mm laser-like	Teach-in via cable	Plug M8 4-pin, PNP, light-switching
WTF4S-3P2265V	1045094	FGS scanner 300 mm	Teach-in via cable	Plug M8 4-pin, PNP, dark-switching
WLG4S-3F2235V	1045098	Glass photoelectric switch 5 m Switching threshold adaptation	Teach-in via cable	Plug M8 4-pin, PNP, dark-switching
WL4S-3P2230V	1045095	Autocollimation photoelectric switch 4 m	none	Plug M8, 4-pin, PNP, antivalent
WL4S-3F2130V	1045096	Autocollimation photoelectric switch 4 m	none	Plug M8, 3-pin, PNP, dark-switching
WL4S-3E2130V	1045097	Autocollimation photoelectric switch 4 m	none	Plug M8, 3-pin, NPN, dark-switching
WSE4S-3F2130	1045099	Through-beam photoelectric switch 5 m	none	Plug M8, 3-pin, PNP, dark-switching

Available soon

IO-Link	Monitoring and adjusting via controller
HygTeach	Adjustment directly on the sensor without compromise to IP rating and hygiene requirements
Cable connection	2 m cable and a pigtail option with inline M8 or M12 connector
Flush type	Via a threaded connector, connects the sensor whilst maintaining hygiene compliance: <ul style="list-style-type: none"> • Integrated cable with protection • No threads, edges or joints
Accessories	Field mounted module enabling easy remote teach-in via cable
Food grade connection cables	IP 69K connection cable M8 3-pin or 4-pin



FACTORY AUTOMATION

With its intelligent sensors, safety systems, and auto idet applications, SICK realises comprehensive solutions for factory automation.

- Non-contact detecting, counting, classifying, and positioning of any types of object
- Accident protection and personal safety using sensors, as well as safety software and services



LOGISTICS AUTOMATION

Sensors made by SICK form the basis for automating material flows and the optimisation of sorting and warehousing processes.

- Automated identification with bar code and RFID reading devices for the purpose of sorting and target control in industrial material flow
- Detecting volume, position, and contours of objects and surroundings with laser measurement systems



PROCESS AUTOMATION

Analyzers and Process Instrumentation by SICK MAIHAK provides for the best possible acquisition of environmental and process data.

- Complete systems solutions for gas analysis, dust measurement, flow rate measurement, water analysis or, respectively, liquid analysis, and level measurement as well as other tasks



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