SMART SENSORS

SUPPLIERS OF INFORMATION FOR INDUSTRY 4.0

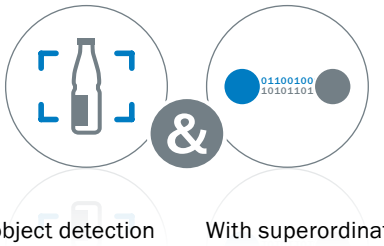
Efficient detection of machine reality

SICK
Sensor Intelligence.

SMART SENSORS FOR EFFICIENT MACHINE COMMUNICATION

Networked production and control processes in complex machine environments determine the industrial future and make Industry 4.0 possible in the first place. Smart Sensors already today support dynamic, real-time-optimized, and self-organized industry processes. They record real operational statuses, turn these into digital data, and share them automatically with the process controller.

The added value of sensor communication depends significantly on the quality and reliability of the delivered data. In order to create the best possible basis for a future-oriented automation system, SICK has equipped its Smart Sensors with four special properties.



Enhanced Sensing
Custom intelligence and performance

The highest possible level of reliability during object detection and recording of measured values is the basis for every Smart Sensor. Benefit from our experience spanning over 70 years in the development and application of groundbreaking sensor technology.

Smart Sensors recognize arising faults automatically during operation and actively counteract them. They actively help the fitter to find the ideal operating point as they are being installed. Many Smart Sensors even offer various operating modes including the entirely manual adjustment of detection or measurement parameters to enable them to be dynamically adapted to tasks as necessary.

Enhanced Sensing provides you with reliable detection and measurement results, which have a direct impact on your plant availability.

Efficient Communication
Smart communication between sensor and control

With superordinate control systems, Smart Sensors communicate via IO-Link: The reliable communication channel, which is used across the globe for sensors and actuators at field level, offers many practical advantages in day-to-day industrial operation.

Smart Sensors are diligent data collectors and intelligent analysts. They share this knowledge with their environment via their integrated IO-Link interface in real time. Smart Sensors are always responsive to all types of control commands. For example, they can receive new parameter sets within seconds – for flexible production up to batch size 1. Even if a device is defective, the most recently used parameter set can be automatically transferred to the replacement sensor via IO-Link.

Plug and play thus becomes a reality in your plants.

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Diagnostics

Efficient processes thanks to predictive maintenance

Depending on your needs, Smart Sensors can do even more: The optional Diagnostics functions comprise automated sensor self-monitoring or process parameter monitoring for predictive device and plant maintenance.

Smart Sensors will even send a notification independently if safe operation is at risk. Sensors with the “Diagnostics” option enable predictive maintenance with flexible, needs-based maintenance plans. If problems should arise, however, the cause can be easily determined thanks to the comprehensive visualization possibilities – this minimizes machine downtime.

With Smart Sensors, you always know the condition of your process and every single sensor.

Smart Tasks

The right information directly from the sensor

Smart Tasks offer intelligent additional sensor functions on the one hand, and direct networking of multiple sensors on the other in order to manage partial applications faster, more efficiently, and more cost-effectively.

Smart Tasks process the detection or measurement signals of a sensor and thus ease the burden on the machine developer when creating the control program and the control itself. Especially when it comes to fast, partial plant processes which take place close to the sensors, it is useful to carry out further processing on the detection signals remotely. This saves time during data evaluation in the control, accelerates machine processes, and makes high-performance, cost-intensive additional hardware unnecessary.

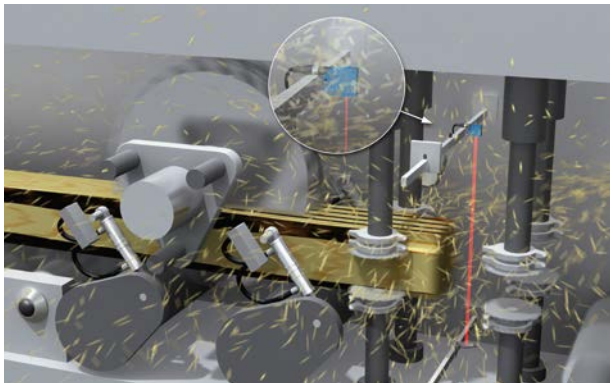
Smart Tasks increase the efficiency in your processes: They deliver just the right information at just the right time to your plant process.

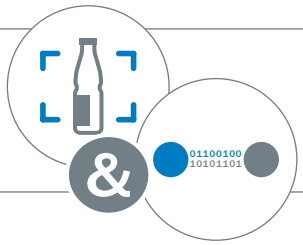
FOUR DIMENSIONS OF SMART SENSOR TECHNOLOGY

Smart Sensors generate and receive data and information which goes beyond traditional switching signals or measured process parameters. They therefore enable substantial increases in efficiency, more flexibility, and better planning security for predictive plant maintenance. Depending on the requirement, Smart Sensors cover up to four dimensions of Smart Sensor technology.

Enhanced Sensing

- Fault compensation for stable and reliable sensor signals
- Predefined detection modes for fast commissioning
- Advanced adjustments for reliable detection
- Manual adaptation of the detection parameters for individual application solutions
- Active installation and alignment aid by the sensor





Efficient Communication

- Dynamic recipe changes for highly flexible production systems and batch size 1 requirements
- Fast plug-and-play device replacement with automated download of the valid parameters into the sensor
- Integrated digital communication for signal transmission without loss
- Cost-effective wiring with IO-Link
- Electronic parts lists for convenient electronic plant documentation

IO-Link

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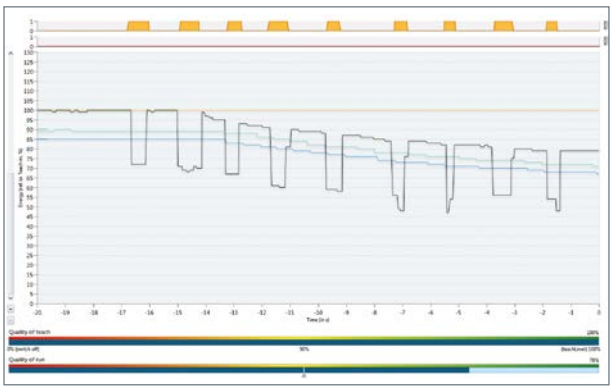
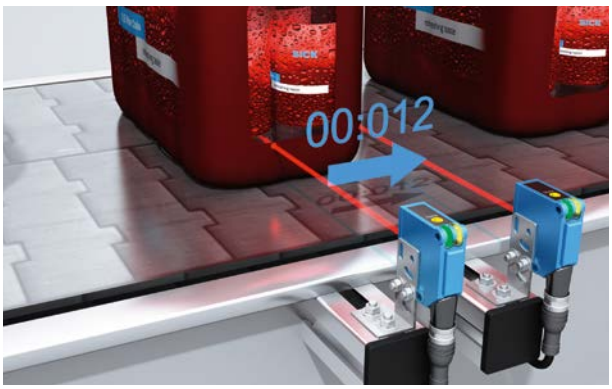
Diagnostics

- Sensor self-monitoring during setup and operation for complete transparency and pre-failure notifications
- Process monitoring for the prompt display of faults in the process flow
- Predictive maintenance reduces service costs and prevents unplanned downtime
- Reliable measurement results secure production quality



Smart Tasks

- Easing the burden on machine controllers via remote signal evaluation within the sensor
- Faster signal detection and processing as raw data does not need to be transmitted to the control
- Smart Tasks deliver the information that the plant process actually requires – no separate data preparation necessary in the control



For more information, simply enter the link or scan the QR code.

➜ www.sick.com/SmartSensors

DIGITAL DATA TRANSMISSION IN THE AUTOMATION NETWORK WITH IO-LINK

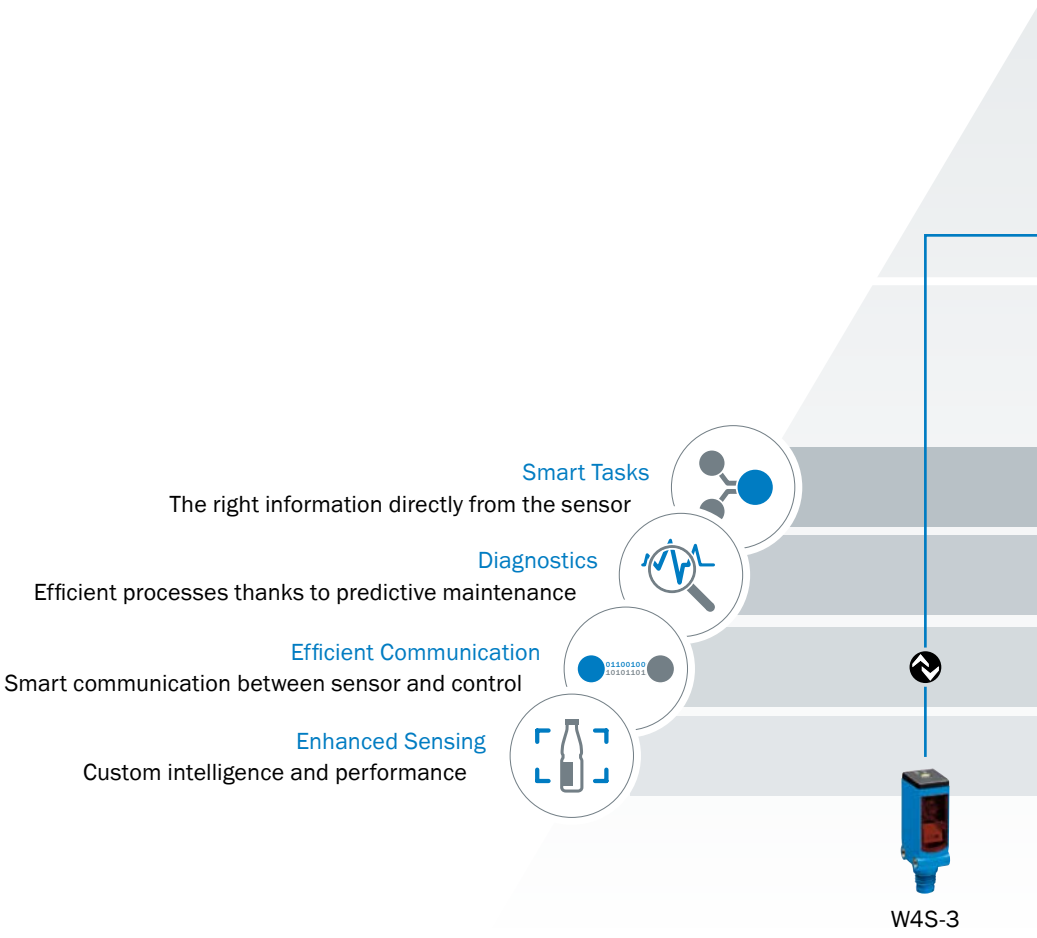
IO-Link

Smart Sensors offer additional utilization potential which extends far beyond straightforward binary 0/1 switching signals. A consistent communication concept right down to the lowest field level is crucial for exploiting the potential of state-of-the-art sensors and actuators and for making machines and plants more productive as a result. IO-Link has been used to define an open interface between sensors and actuators as well as input/output assemblies. IO-Link involves a point-to-point connection that may be located underneath any given network. A sensor produces and consumes signals (binary switching, analog, input, output) that are transmitted directly via IO-Link in a digitized format.

IO-Link

Integration of Smart Sensors into the machine network

Seamlessly integrated into an automation network, the various sensors enable direct communication with the control across various field levels, depending on their smart functionality. This direct link creates the ideal condition for increasing flexibility, reliability, and cost-efficiency in the automated production process.



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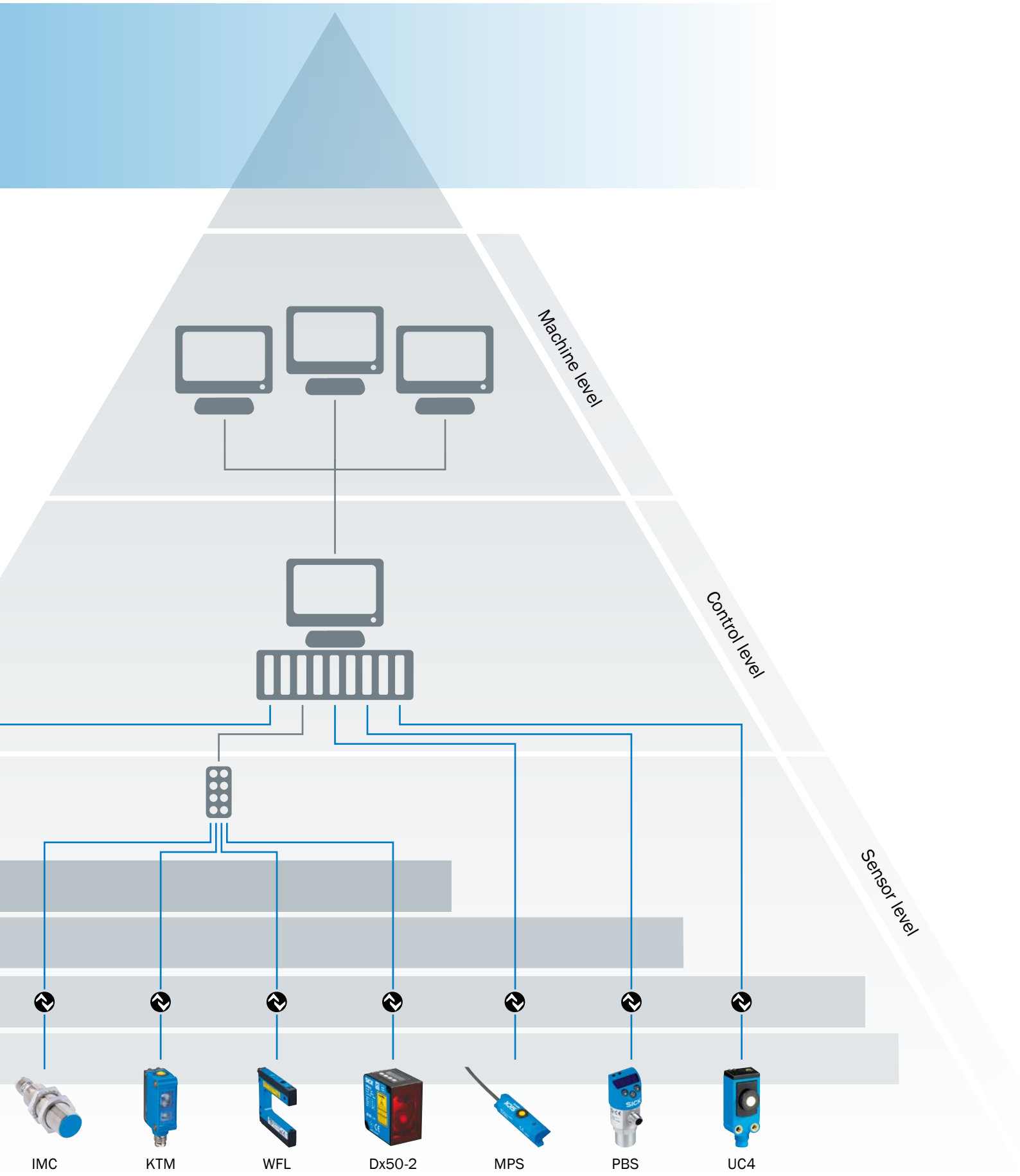
Machine level
Control level
Sensor level
IMC
KTM
WFL
Dx50-2
MPS
PBS
UC4

SMART SENSORS IN THE SICK PORTFOLIO

Smart Sensors provide the essential input for every process chain: information for the intelligent factory in Industry 4.0. All sensors include “Enhanced Sensing” and “Efficient Communication,” whereas “Diagnostics” and “Smart Tasks” are optional dimensions of Smart Sensor technology. We have summarized an overview of the most important Smart Sensor product families for you. The “Smart Tasks” shown here as examples can also be applied to other Smart Sensors or be complemented by tasks programmed according to customer specifications.

	W2S-2	W4-3	W4S-3	W9-3	W12-3	PowerProx	DeltaPac	IMC	IMB	IMF	MPA	MPS	MZ2Q
													
Enhanced Sensing	■	■	■	■	■	■	■	■	■	■	■	■	■
Efficient Communication	■	■	■	■	■	■	■	■	■	■	■	■	■
Diagnostics	■	■	■	■	■			■	■	■	■	■	
Smart Tasks	■	■	■	■	■			■					
Placement analysis					■								
Speed measurement													
Logic	■	■	■	■	■			■					
Object and gap monitor			■										
Profile detection													
Time stamp													
Time stamp and debouncing			■		■								
Counter													
Counter and debouncing		■	■	■	■			■					
Time measurement and debouncing		■	■	■	■			■					
Page	→ 10	→ 11	→ 12	→ 14	→ 16	→ 17	→ 17	→ 18	→ 18	→ 19	→ 19	→ 20	→ 21

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	KTM Prime	CSM	LUT9	LUTM	Glare	WF	WFL	WFS	Dx35	Dx50-2	UM18	UC4	UC30	TIM1xx	LFP Cubic	LFP Inox	PBS	PBS Hygienic	PAC50	TBS
																				
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W2S-2 – At a glance

- Sensor with background suppression and without any significant black/white shift
- PinPoint 2.0 LED with extended sensing distances and high operating reserves
- A variety of application possibilities thanks to clearly-defined laser-like or line-shaped light spots
- Detection of highly-transparent and reflective objects using sensors with V-optics
- Photoelectric retro-reflective sensor with autocollimation and a clearly visible light spot

Your benefits

- Machine design flexibility: the ultra-compact sensors offer above-average sensing ranges and provide space-saving installation
- Remote setup: sensors installed in confined spaces can be set and monitored remotely via IO-Link
- High operational safety: ultrablack objects are detected with a reflectance of 1%
- Maximum reliability during object detection and option of a space-saving machine design without reflectors or through-beam systems
- Quick and easy commissioning: the photoelectric retro-reflective sensor with autocollimation provides a clearly visible light spot for high process reliability
- Universal application possibility: wide range of models enclosed in a rugged housing
- Proven mounting and housing design

→ www.sick.com/W2S-2

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

W2SG-2 – At a glance

- Extremely high sensor size to sensing distance ratio
- High switching point accuracy
- Teach-in functions enable reliable settings
- Automatic switching threshold adaption
- Single-lens autocollimation for visibility through apertures and drill holes
- Flexible sensor settings, monitoring, advanced diagnostics, and display thanks to IO-Link

Your benefits

- Machine design flexibility: the ultra-compact sensors offer above-average sensing distances and provide space-saving installation
- Remote setup: sensors installed in confined spaces can be set and monitored remotely via IO-Link.
- High operational reliability and system throughput: all familiar, highly-transparent objects are reliably detected
- Precise switching characteristics and a high detection quality guarantee an universal object detecting
- Universal use: conventional mounting and housing design
- The precise light spot of the PinPoint 2.0 LED enables the use of very small reflectors and reflector surfaces

→ www.sick.com/W2SG-2

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W4-3 – At a glance

- Best background suppression sensor in its class
- Universal use of PinPoint technology in all variants
- BGS proximity sensor with laser-like light spot for precise detection tasks
- Reliable setting via 5-turn potentiometer, teach-in button, teach-in via cable or IO-Link
- Flexible sensor settings, monitoring, advanced diagnostics, and visualization thanks to IO-Link

Your benefits

- Low-cost integration due to optimal machine integration in areas with limited space
- Application versatility due to reliable detection of shiny or jet-black objects
- Rugged mounting system with M3 threaded metal inserts reduces maintenance costs due to a long service life
- High immunity to ambient light reduces downtime caused by false trips
- Clearly visible light spot simplifies alignment
- IO-Link provides easy data access from the PLC
- Quick and easy configuration
- Quick and easy integration using function blocks

→ **www.sick.com/W4-3**

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

W4-3 Glass – At a glance

- Fast and reliable setup via teach-in pushbutton
- Continuous threshold adjustment technology to detect objects in changing conditions such as temperature, contamination and reflector wear
- Versions without polarizing filters to better detect depolarizing objects such as PET bottles, CD sleeves and shrink-wrapped, glossy objects

Your benefits

- Reliable and quick setting via the push of a button
- Flat housing design eliminates alignment or mounting brackets, which saves time and money
- Low-cost machine integration due to small dimensions that enable mounting in areas with space restrictions
- Quick and easy setup due to highly visible intensive light spot
- The PinPoint LED's well-defined, intense light spot simplifies alignment
- Nearly all transparent objects can be reliably detected

→ **www.sick.com/W4-3_Glass**

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

W4S-3 – At a glance

- Best background suppression sensor in its class
- Universal use of PinPoint LED technology in all models
- BGS proximity sensor with laser-like light spot for precise detection tasks
- Reliable setting via 5-turn potentiometer, teach-in pushbutton, teach-in via cable or IO-Link
- Flexible sensor settings, monitoring, advanced diagnostics, and visualization thanks to IO-Link

Your benefits

- Application versatility due to reliable detection of shiny, transparent or jet-black objects
- Very quick and easy alignment due to the highly visible, intense PinPoint LED light spot
- Rugged mounting system with M3 threaded metal inserts reduces maintenance costs due to a long service life
- Background suppression sensors with a laser-like light spot reduce costs and installation of additional protective measures by replacing laser sensors
- IO-Link provides easy data access from the PLC
- Quick and easy configuration
- Quick and easy integration using function blocks

→ www.sick.com/W4S-3

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W4S-3 Glass – At a glance

- Continuous threshold adaption of the switching threshold compensates for environmental changes
- Single-lens autocollimation optics
- Simple setting either via teach-in pushbutton, cable or IO-Link
- PinPoint LED technology with a small, highly visible, well-defined light spot enables high reserve levels when using small reflectors
- Flexible sensor settings, monitoring, advanced diagnostics, and visualization thanks to IO-Link

Your benefits

- Optimal detection of any kind of transparent object
- Quick and easy operation via the push of a button – automatic setting of the correct switching threshold
- Less downtime due to a Continuous Threshold Adaption which compensates for changing environmental conditions, including temperature, dust and drift effects
- The well-defined, highly visible intense light spot provides quick and reliable alignment
- IO-Link provides easy data access from the PLC
- Quick and easy configuration
- Quick and easy integration using function blocks
- Easy device replacement and identification

→ www.sick.com/W4S-3_Glass

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W4SL-3 – At a glance

- Precise laser light spot, laser class 1
- Teach-in pushbutton can be switched between detection of transparent and non-transparent objects
- Sensing ranges between 25 mm and 60 m
- Latest SICK proprietary ASIC and laser technologies with second emitter LED to provide outstanding background suppression and ambient light immunity
- Choice of adjustment via teach-in button, potentiometer, cable, or IO-Link

Your benefits

- Precise laser light spot for highly accurate switching behavior
- High optical ambient light immunity reduces incorrect switching and thus machine downtime, even when modern energy-saving lamps are used
- The highest degree of machine design flexibility BGS (background suppression) eliminates the effect of undesired background reflections. In addition, autocollimation allows detection through small drilled holes
- One device for detecting both transparent objects and the smallest non-transparent objects, thus reducing the variety of sensors and saving on storage costs
- IO-Link facilitates initial system performance diagnostics and uses additional sensor functions (optional) to reduce complex control programming

→ **www.sick.com/W4SL-3**

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

W4SLG-3 – At a glance

- Precise laser light spot, laser class 1
- Teach-in button can be switched between detection of transparent and smallest non-transparent objects
- Continuous threshold adaptation provides automated adjustment to changes in light conditions
- Sensing ranges up to 4.5 m
- Autocollimation optics prevent blind spots
- Choice of adjustment via teach-in button, potentiometer, cable, or IO-Link

Your benefits

- One device for detecting both transparent objects and the smallest non-transparent objects at sensing ranges up 4.5 m, thus reducing the variety of sensors and saving on storage costs.
- Highly visible, uniform laser light spot with a sharp contour to facilitate alignment
- The highest degree of machine design flexibility. Autocollimation permits detection even through small drilled holes.
- High-quality sensor manufacturing and testing reduce maintenance costs
- Established and proven housing design for easy installation
- IO-Link facilitates initial system performance diagnostics and uses additional sensor functions to reduce complex control programming

→ **www.sick.com/W4SLG-3**

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W9-3 – At a glance

- High-performance sensor in ultra-rugged VISTAL™ housing
- PinPoint LED for highly visible and precise light spot
- Two emitter LEDs for best-in-class background suppression
- Variable mounting with M3 or M4 hole pattern
- Wide range of connection options

Your benefits

- Robustness with the VISTAL™ housing
- Best in class performance
- Wide variance in connection, mounting and optic

→ www.sick.com/W9-3

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

W9-3 Glass – At a glance

- High-performance sensor in ultra-rugged VISTAL™ housing
- Best-in-class optical performance for transparent object detection
- Continuous threshold adaption
- PinPoint LED for highly visible and precise light spot
- Variable mounting with M3 or M4 hole pattern
- Wide range of connection options

Your benefits

- Tough VISTAL™ housing provides reliable installation and operation
- Best-in-class optical performance
- Wide variety of connection, mounting and optical possibilities to solve many different applications

→ www.sick.com/W9-3_Glass

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W9L-3 – At a glance

- Tough VISTAL™ housing
- Precise laser light spot
- Photoelectric proximity sensor in laser classes 1 and 2
- Photoelectric retro-reflective sensor with autocollimation optics and polarizing filter; models available for clear material detection
- Through-beam photoelectric sensors with sensing ranges of up to 60 m
- SIRIC technology
- Connections: M8 and M12 plugs, cable as well as cable with plug
- M3 and M4 hole pattern

Your benefits

- Precise detection of small objects and object features
- Detection of objects even through small openings
- Less machine downtime due to stable VISTAL™ housing as well as the suppression of optical interference
- The longest detection and sensing ranges in its class
- Best-in-class background suppression for photoelectric proximity sensors
- No blind spots, detection of shiny objects using photoelectric retro-reflective sensors
- A wide variety of connection and mounting options
- Highly visible light spot simplifies alignment

→ **www.sick.com/W9L-3**

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

W9LG-3 – At a glance

- Rugged VISTAL® housing
- Precise laser light spot, laser class 1
- Continuous adjustment of switching threshold (CTA)
- Autocollimation optics and polarizing filter
- Teach-in
- SIRIC technology by SICK
- Connections: M8 and M12 male connectors, cable as well as cable with male connector
- M3 and M4 hole pattern

Your benefits

- Precise detection of small objects and object features
- Detection of objects even through small openings
- Best-in-class for detecting transparent objects
- Less machine downtime thanks to the stable VISTAL™ housing
- No blind spots, also detects shiny objects
- Wide range of connection options
- Multiple mounting options
- Highly visible light spot simplifies alignment

→ **www.sick.com/W9LG-3**

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W12-3 – At a glance

- Best-in-class optical performance due to superior OES technology
- Autocollimation with retro-reflective sensors
- Background and foreground suppression with second emitter LED on proximity sensors
- Highly visible, precise light spot and high-energy IR transmitters
- Rugged die-cast zinc housing, optional with Teflon® coating
- Mounting options with through holes, base blind holes, oblong through holes and dovetail
- Flexible sensor settings, monitoring, advanced diagnostics, and visualization thanks to IO-Link

Your benefits

- Reliable detection due to superior ASIC (application-specific integrated circuit) technology and immunity to optical interference factors from the industrial environment
- PinPoint LED technology provides a bright, small and precise light spot that enables quick and easy sensor alignment
- Precise switching characteristics ensure reliable object detection, reducing downtime caused by re-adjusting sensors during recipe changes
- Wide range of products enclosed in a rugged metal housing enables application flexibility in a broad range of industrial environments
- Flexible mounting options reduce installation time
- IO-Link provides easy data access from the PLC
- Quick and easy configuration
- Quick and easy integration using function blocks

→ www.sick.com/W12-3

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

W12G – At a glance

- Rugged die-cast zinc housing with optional Teflon® coating
- Reliable detection of transparent objects
- Precise autocollimation optics
- Robust sensors for industrial use
- Precise PinPoint LED
- Dovetail mounting – mounting holes and oblong holes
- Highly visible status LEDs
- Flexible sensor settings, monitoring, advanced diagnostics, and visualization thanks to IO-Link

Your benefits

- Reliable detection of transparent objects, from PET bottles to transparent film, thanks to superior chip technology
- Resistance to interference from the industrial environment
- Easy and fast sensor alignment with bright, very small, and highly precise light spot thanks to PinPoint technology
- Precise switching characteristics, fast response times, and high detection quality for universal object detection
- Designed for industrial applications – maximum resistance to mechanical, thermal, chemical, and electromagnetic loads
- Flexible mounting and installation due to rotatable male connectors and versatile mounting options
- IO-Link provides easy data access from the PLC
- Quick and easy configuration

→ www.sick.com/W12G

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PowerProx – At a glance

- Time-of-flight technology
- Laser class 1
- Sensing range for object detection: 5 cm to 3.8 m
- Switching frequencies up to 1,000 Hz
- Smallest minimum distance between the object and background: 15 mm
- VISTAL™ housing
- 1 or 2 switching points which can be adjusted independently
- IO-Link available as an option (distance value, 8 switching points, Smart Sensor functions)

Your benefits

- Reliable object detection over large sensing ranges, e.g., even with shiny or jet-black surfaces and background reflections
- Highly visible light spot simplifies alignment of the photoelectric proximity sensor
- Precise and simple adjustment with potentiometer or teach-in button
- Eye-safe thanks to laser class 1
- Extremely reliable and durable. Rugged even under high mechanical loads thanks to VISTAL™ housing.
- Smallest housing of its kind worldwide offers great flexibility in terms of machine design
- IO-Link extends functionality

→ **www.sick.com/PowerProx**

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DeltaPac – At a glance

- Delta-S technology®, four PinPoint 2.0 LEDs and two energy scales, combined with SIRIC® and distance measurement technology
- Able to detect object contours with radii of up to 20 mm in any direction
- For belt speeds up to 3.0 m/s or production rates of up to 200,000 packages per hour
- Preconfigured sensors or custom setting of four operating modes via IO-Link
- Compact housing (42 mm x 42 mm x 45 mm) with an IP 67 enclosure rating

Your benefits

- Selective process optimization: information about the number of packages in the process enables better production monitoring
- Better space utilization: no mechanical devices are required to isolate packages, reducing the width of packaging systems and saving space
- Better time management: packages run in push-push mode, which prevents collisions and toppling, and reduces machine downtime
- Stable production for reduced energy consumption
- Fast and intuitive commissioning due to pre-configuration
- Maximum flexibility in the types of objects used thanks to the option of custom-setting four operating modes via IO-Link
- Space-saving mounting due to compact housing

→ **www.sick.com/DeltaPac**

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

IMC – At a glance

- Types: M8 to M30; IQ10 and IQ12
- Four programmable switching points or windows at an Sn of up to 20 mm
- Freely programmable output function
- Enclosure rating: IP 68, IP 69K
- Temperature range: –40 °C to +75 °C
- Rugged stainless-steel or VISTAL housing
- Logic, counter, time measurement, or temperature monitoring function
- IO-Link 1.1

Your benefits

- Advanced diagnostic options ensure stable processes
- Programmable switching thresholds and windows make predictive maintenance easier and reduce machine downtimes
- Switching point teaching enables precise object positioning without the need for time-consuming adjustment
- Reduced costs as fewer sensors or sensor variants are required
- Stable signals thanks to integrated debounce function
- Reduced project planning and cabling work as complex tasks are easy to implement directly in the process
- Future-proof thanks to IO-Link 1.1 communication

→ www.sick.com/IMC

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IMB – At a glance

- Types: M8 to M30
- Extended sensing ranges: 2 mm to 20 mm
- Electrical configuration: DC 3-/4-wire, DC 2-wire
- Enclosure rating: IP 68, IP 69K
- Temperature range: –40 °C to +100 °C
- Rugged stainless-steel housing; plastic sensing face
- Optical adjustment indicator, IO-Link-ready
- Resistant to oils and cooling lubricants; suitable for use outdoors

Your benefits

- Straightforward product selection as fewer sensor variants are required – one sensor suits a whole range of applications
- Stable processes thanks to extended, highly precise sensing ranges enabled through the use of the latest SICK ASIC technology
- Reduced machine downtimes thanks to longer sensor service life, even in harsh working conditions
- Quick and easy installation thanks to optical adjustment indicator and self-locking nuts
- High degree of flexibility and communication options thanks to IO-Link
- Easy to implement customer-specific variants within the standard product portfolio

→ www.sick.com/IMB

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

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IMF – At a glance

- Types: M8 to M30
- Extended sensing ranges: 2 mm to 20 mm
- Electrical configuration: DC 3-/4-wire
- Enclosure rating: IP 68, IP 69K
- Temperature range: –40 °C to +100 °C
- Food-compatible stainless-steel housing, plastic sensing face
- Optical adjustment indicator, IO-Link-ready
- Resistant to industrial cleaning agents, Ecolab-certified

Your benefits

- Reliable processes thanks to extended, highly accurate sensing ranges enabled through the use of SICK ASIC technology
- Reduced machine downtimes thanks to a longer service life, even when subjected to frequent cleaning cycles
- Quick and easy installation thanks to the optical adjustment indicator
- High degree of flexibility and communication options thanks to IO-Link
- Easy to implement customer-specific variants thanks to a modular concept

→ **www.sick.com/IMF**

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

MPA – At a glance

- Position sensor for use on pneumatic cylinders
- Sensor variants with measuring ranges of 107 mm to 1,007 mm
- Analog outputs (for current or voltage), switching output, and IO-Link
- Mounting with adapters on a multitude of cylinder types (tie-rod cylinders, round body cylinders, profile cylinders)

Your benefits

- Straightforward installation as no position elements or additional mechanical components are required for coupling with the piston rod
- Can be integrated into the machine at any time, as the sensor is attached to the cylinder externally
- Easy adjustment of sensor settings and parameters during operation using a teach pad or IO-Link
- More flexibility compared to conventional cylinder sensors, as it is possible to define multiple switching points in the smallest of spaces
- Maximum reliability thanks to the rugged aluminum housing and non-contact measurement principle
- Advanced diagnostic options thanks to data transmission via IO-Link

→ **www.sick.com/MPA**

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

MPS-T – At a glance

- Position sensor for direct mounting in T-slots on pneumatic cylinders
- Sensor variants with measuring ranges of 32 mm to 256 mm
- Analog outputs (for current or voltage), switching output, and IO-Link
- Mounting on other cylinder types (e.g., round body cylinders) is possible with adapters

Your benefits

- Rapid mounting and exchange of sensors with drop-in
- Straightforward installation as no additional mechanical components or position elements are required
- Can be integrated into the machine at any time, as the sensor is attached to the cylinder externally
- Easy adjustment of sensor settings and parameters during operation using a teach field or IO-Link
- More flexibility compared to conventional cylinder sensors, as it is possible to define multiple switching points in the smallest of spaces
- Long service life thanks to non-contact measurement principle
- Advanced diagnostic options thanks to data transmission via IO-Link

→ **www.sick.com/MPS-T**

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

MPS-C – At a glance

- Position sensor for direct mounting in C-slots on pneumatic cylinders and grippers
- Sensor variants with measuring ranges of 25 mm to 200 mm
- Analog outputs (for current or voltage), switching output, and IO-Link
- Mounting on other cylinder types (e.g., round body cylinders) is possible with adapters

Your benefits

- Rapid mounting and exchange of sensors with drop-in
- Straightforward installation as no additional mechanical components or position elements are required
- Can be integrated into the machine at any time, as the sensor is attached to the cylinder externally
- Easy adjustment of sensor settings and parameters during operation using a teach pad or IO-Link
- More flexibility compared to conventional cylinder sensors, as it is possible to define multiple switching points in the smallest of spaces
- Excellent reliability thanks to the rugged sensor design and non-contact measurement principle
- Advanced diagnostic options thanks to data transmission via IO-Link

→ **www.sick.com/MPS-C**

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

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MZ2Q-T – At a glance

- Can be used in all standard cylinders, linear slides, and grippers using the T-slot and – with the help of adapters – in round rod, tie-rod, and profile cylinders, and cylinders with a dovetail groove
- Drop-in mounting from above simplifies handling and assembly
- Easy adjustment of two switching points via teach-in pushbutton
- LEDs for indicating the two switching points
- Detection range up to 50 mm stroke

Your benefits

- One sensor, two switching points: Reduces commissioning time and costs
- Maximum flexibility thanks to a detection zone up to 50 mm
- Suitable for precise pneumatic applications due to intuitive and precise definition of two switching points
- Quick and easy installation and sensor replacement thanks to drop-in sensor mounting
- Flexible sensor settings, monitoring, advanced diagnostics and visualization through IO-Link (depending on type)

→ **www.sick.com/MZ2Q-T**

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

MZ2Q-C – At a glance

- Can be used in all standard cylinders, linear slides, and grippers using the C-slot and – with the help of adapters – in round rod, tie-rod, and profile cylinders
- Drop-in mounting from above simplifies handling and assembly
- Easy adjustment of two switching points via teach-in pushbutton
- LEDs for indicating the two switching points
- Detection range up to 50 mm stroke

Your benefits

- One sensor, two switching points: Reduces commissioning time and costs
- Maximum flexibility thanks to a detection zone up to 50 mm
- Suitable for precise pneumatic applications due to intuitive and precise definition of two switching points
- Quick and easy installation and sensor replacement thanks to drop-in sensor mounting
- Flexible sensor settings, monitoring, advanced diagnostics and visualization through IO-Link (depending on type)

→ **www.sick.com/MZ2Q-C**

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

KTM Prime – At a glance

- Small, tried-and-tested housing, also available in stainless steel
- High grayscale resolution
- Very large dynamic range means reliable detection of contrasts on glossy materials
- Static and dynamic teach-in in one variant
- Switching frequency: 15 kHz
- KTM Prime with IO-LInk functions

Your benefits

- Small housing allows installation even where space is limited
- Powerful, fast contrast sensor ensures high machine throughput
- Three-color LED technology allows a reliable process, with contrast marks detected even in conditions with weak contrast ratios
- Good contrast resolution and a very large dynamic range ensure good detection performance on glossy materials, thus increasing the range of application possibilities
- Various teach-in methods enable more flexible commissioning
- Long service life, even in harsh environments, thanks to stainless steel housing; as a result, excellent system throughput and low spare parts costs
- Enhanced diagnostics and visualization of sensor parameters, as well as quick and easy format changes, since parameter settings can be downloaded via IO-Link

→ www.sick.com/KTM_Prime

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

CSM – At a glance

- Color sensor in a new miniature housing
- Static and teach-in method for 1 color using control cable or control panel
- Over IO-Link up to 8 colors teachable
- Switching frequency: 1.7 kHz
- Sensing distance: 12.5 mm
- Compatibility with older color sensors thanks to cable with male connector M12

Your benefits

- Fast, seamless integration into existing applications thanks to a new miniature housing, saving time and money
- Increased switching frequency for improved machine productivity
- Flexible application possibilities thanks to a wide range of color tolerances
- Enhanced, intelligent diagnostics and visualization, as well as quick and easy format changes, thanks to IO-Link function
- Quick and easy installation cuts down on installation time
- Sorting processes are simplified by the distinction of up to 8 colors in one job

→ www.sick.com/CSM

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

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LUT9 – At a glance

- Simple teach-in
- Operating range up to 250 mm
- Version with IO-Link for remote monitoring
- Bar graph display provides information about the luminescence intensity
- High speed (6.5 kHz), standard (2.5 kHz), high resolution (500 Hz) models
- Additional optical filters suppress background luminescence
- Fiber-optic cable connection (with 20 mm lens)
- Switching and analog output

Your benefits

- Simple sensitivity adjustment via teach-in for optimum adaptation to the application
- Long sensing distance tolerance leads to less mechanical height adjustments of the sensor on the machine
- Using IO-Link, the sensor can be configured and monitored by the central control system, enabling simple, cost-effective diagnostics and data collection
- Bar graph display provides continual process control through easy visualization of the luminescence intensity
- Filters ensure that background luminescence is reliably suppressed, ensuring greater process reliability
- Interchangeable lenses for different sensing distances and the second light exit provide flexibility
- High detection reliability ensures the process and reduces downtime
- Select speed or high resolution, making it ideal for any application.

→ **www.sick.com/LUT9**

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

LUTM – At a glance

- Luminescence sensor in a miniature housing
- Static and dynamic teach-in methods in a single variant
- Reliable detection even at a low level luminescence
- Switching frequency: 6 kHz
- Operating range: 8 ... 20 mm
- IO-Link function
- Compatibility with older LUT sensors thanks to cable with male connector M12

Your benefits

- Miniature housing enables installation in small spaces
- Quick and easy commissioning saves time and costs
- Increased switching frequency for improved machine productivity
- Enhanced, intelligent diagnostics and visualization of sensor parameters, as well as quick and easy format changes, thanks to IO-Link function

→ **www.sick.com/LUTM**

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

Glare – At a glance

- Object detection and differentiation on the basis of surface gloss level
- Configurable in many different operating modes to meet the requirements of any application
- Integrated alignment aid
- Integrated automation functions
- Two digital push-pull outputs and one configurable input
- Sensitivity adjusts to object properties
- IO-Link provides easy data access from the PLC
- Quick and easy configuration

Your benefits

- Quick installation via alignment mode
- Integrated key lock reduces the risk of operating errors and tampering
- Sensitivity adjustments increase the system's operational safety
- Teach-in via the single teach-in button or SOPAS operating software facilitates quick and easy operation
- Reliable gloss identification regardless of color, labeling or structure increases operational safety
- State-of-the-art detection method makes it possible to conduct inspections at lower costs than with camera solutions
- Sensor's resistance to object fluctuations increases operational safety
- Flexible sensor settings, monitoring, advanced diagnostics, and visualization thanks to IO-Link

→ www.sick.com/Glare

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

WF – At a glance

- Infrared light source
- Simple and precise setting of the switching threshold via IO-Link, teach-in button, or plus/minus buttons
- Fast response time: 100 µs
- PNP and NPN switching output
- Light/dark switching function
- Stable aluminum housing with IP 65 enclosure rating
- Smart Sensor with integrated IO-Link interface

Your benefits

- Fast response time and fine resolution ensure reliable detection even at very high object speeds
- Infrared light source provides excellent ambient light immunity
- User-friendly setting via IO-Link, teach-in button, or plus/minus buttons
- A wide range of different fork sizes enables flexible installation
- Stable aluminum housing for use in harsh industrial environments
- Thanks to IO-Link or external teach-in, the switching threshold can be adapted while the process is running, increasing process reliability
- Easy to access data from the PLC via IO-Link

→ www.sick.com/WF

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

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WFL – At a glance

- Very precise Class 1 laser
- Simple and precise setting of the switching threshold via IO-Link, teach-in button, or plus/minus buttons
- Fast response time: 100 µs
- PNP and NPN switching output
- Light/dark switching function
- Stable aluminum housing with IP 65 enclosure rating
- Smart Sensor with integrated IO-Link interface

Your benefits

- A highly precise laser beam ensures consistent measurement accuracy along the entire measuring range and reliable detection of extremely small objects
- A visible laser beam enables easy alignment and fast adjustment
- Reliable and simple setting via teach-in button ensures high process reliability
- A wide range of different fork sizes increases mounting flexibility
- Stable aluminum housing for use in harsh industrial environments
- Thanks to IO-Link or external teach-in, the switching threshold can be adapted while the process is running, increasing process reliability
- Easy to access data from the PLC via IO-Link

➜ **www.sick.com/WFL**

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

WFS – At a glance

- Housing with slim forked shape
- Simple and precise setting of the switching threshold via IO-Link, teach-in button, or plus/minus buttons
- Light/dark switching function
- Fast response time: 50 µs
- PNP or NPN switching output
- Plastic housing with IP 65 enclosure rating
- Smart Sensor with integrated IO-Link interface

Your benefits

- Flexible and simple mounting directly on the edge of a label dispenser ensures a high level of accuracy in the process
- Small housing allows simple installation even where space is limited
- User-friendly adjustment allows easy and quick commissioning
- Fast response times enable precise detection – even at very high track speeds
- Thanks to IO-Link or external teach-in, the switching threshold can be adapted while the process is running, increasing process reliability
- Easy to access data from the PLC via IO-Link

➜ **www.sick.com/WFS**

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

Dx35 – At a glance

- Maximum reliability, immunity to ambient light, and best price/performance ratio thanks to HDDM™ technology
- Measuring range of 0.05 m to 12 m for natural objects or 0.2 m to 35 m on reflective tape
- Devices with analog and switching output, or just switching
- Infrared or red laser in class 1 or class 2
- Repeatability: 0.5 mm to 5 mm
- Small housing size
- IO-Link

Your benefits

- Precise and reliable measurement regardless of object color extends run time and process quality
- A small size and blind zone make flexible mounting possible when space is limited
- Optimum solution thanks to flexible settings for speed, range and repeatability
- Flexible interface use: 4 mA to 20 mA, 0 V to 10 V, PNP output, NPN output, or IO-Link – making machine integration simple
- Offering easy alignment, optimal performance or inconspicuous measurement, versatile light senders make it an ideal solution for all scenarios
- Low investment costs and high performance levels guarantee a quick return on investment
- IO-Link offers full process control, from commissioning to service
- A wide variety of control options ensures rapid commissioning and fast batch changes

→ www.sick.com/Dx35

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

Dx50-2 – At a glance

- Measuring range up to 10 m on black targets and up to 30 m on white targets within a compact housing
- Output rate up to 3,000/s
- Repeatability: 0.5 mm to 5 mm
- Reliable, patented HDDM™ time-of-flight technology
- Withstands extreme temperatures from –40 °C to +65 °C thanks to rugged metal housing
- Shape comparison integrated in sensor
- IO-Link, analog and switching output
- Display with intuitive menu structure and easy teach option or Wireless LAN for configuration with the SOPAS-Air app
- Enclosure rating IP 65 and IP 67

Your benefits

- A wide measuring range and a compact housing increase the number of application possibilities
- Very high throughput thanks to a high measuring frequency
- Precise and reliable measurement regardless of object color improves uptime and process quality
- Withstands harsh ambient conditions thanks to ruggedness, a wide temperature range, and ambient light immunity
- Integrated shape comparison for straightforward checking and sorting of objects
- Fast and easy commissioning via intuitive display menu structure, easy-teach option, Wireless LAN, multifunctional input, or IO-Link saves time
- Full process control with IO-Link from commissioning to maintenance
- Three switching modes provide a simple solution for demanding applications

→ www.sick.com/Dx50-2

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

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UM18 – At a glance

- Reliable measurement independent of material color, transparency, gloss and ambient light
- Four ranges up to 1,300 mm
- Short metal or plastic M18 housing with a length of 41 mm
- Straight or right-angle version
- High immunity to dirt, dust, humidity and fog
- PNP/NPN switching output, analog output or push-pull switching output with IO-Link
- Synchronization and multiplex modes are available

Your benefits

- Four sensing ranges up to 1,300 mm provide a range of flexible mounting options
- Easy machine integration due to short M18 housing available in straight or right-angle versions
- Intelligent measurement filters and versions with temperature compensation guarantee reliable measurement results for maximum process reliability
- Solid, one-piece housing secures highest machine availability
- Synchronization or multiplex mode enables simultaneous operation of up to 10 sensors, improving application flexibility and process reliability
- Easy system integration due to a wide range of available output signals
- Unintentional adjustments to sensor settings are eliminated since teach-in process is done with an external wire
- Variety of application solutions due to insensitivity and reliability of ultrasound technology

→ **www.sick.com/UM18**

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

UC4 – At a glance

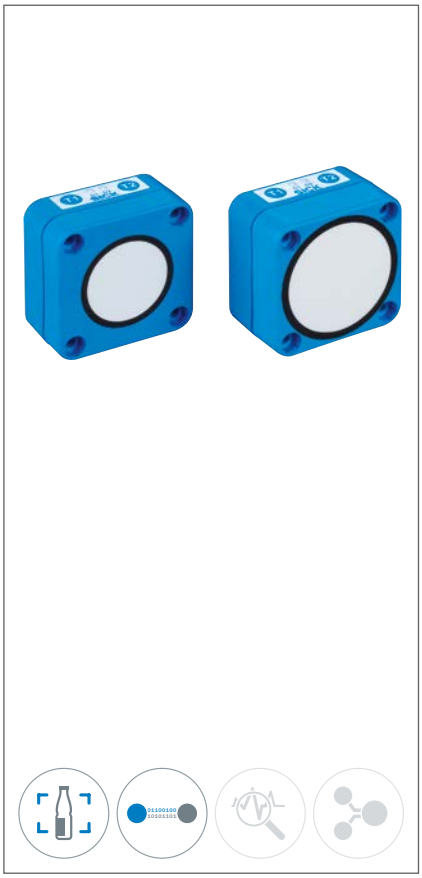
- Reliable measurement, regardless of material color, transparency, gloss, or ambient light
- Ultrasonic technology in a small housing
- Detection, measurement, and positioning with ultrasonic technology
- Variants with PNP/NPN switching output, analog output or push-pull output with IO-Link
- Teach-in button
- Precise background suppression
- Immune to dirt, dust, humidity, and fog

Your benefits

- Mini housing allows for quick and easy integration, even in the most confined spaces
- Teach-in button for fast and easy commissioning
- Integrated temperature compensation ensures high measurement accuracy at all times for optimum process quality
- Various operating modes provide optimal application flexibility and solutions, which increase reliability and productivity
- Full mechanical compatibility to photoelectric sensors allows for the use of the suitable technology for every application without machine modification
- The sensor's immunity to optically difficult environment enables it to take accurate measurements even in dirty, dusty, humid, and foggy conditions

→ **www.sick.com/UC4**

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.



UC30 – At a glance

- Reliable operation, regardless of material color, transparency, gloss, and ambient light
- Rugged rectangular housing with teach-in buttons
- Range up to 8,000 mm
- Variants with analog output, push-pull output with IO-Link or two PNP/NPN switching outputs
- Immune to dirt, dust, humidity, and fog
- Detection, measurement, and positioning with ultrasonic technology
- Adjustable sensitivity

Your benefits

- Compact rectangular housing for straightforward machine integration
- Rugged plastic housing ensures highest machine uptimes
- Various output options provide solutions for complex applications
- IO-Link with advanced diagnostic possibilities for optimized operation and straightforward maintenance
- Teach-in buttons for fast and easy commissioning
- The sensor's immunity to optically difficult environment enables it to take accurate measurements even in dirty, dusty, humid, and foggy conditions
- Integrated temperature compensation ensures high measurement accuracy at all times for optimum process quality

→ www.sick.com/UC30

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

TiM1xx – At a glance

- Small, simple, and cost-effective sensor for area monitoring
- Monitoring of an area of up to 15.7 m²
- Low weight of just 90 g
- Field evaluation using integrated software algorithms
- Low power consumption of typically 2.2 W
- Configuration and cloning using IO-Link
- Industrial design

Your benefits

- Low installation effort thanks to monitoring of a 200° field of view
- Low overall operating costs
- Low space requirements thanks to compact dimensions
- Rapid commissioning thanks to simple configuration of the detection zone with teach-in or software
- Low installation costs and rapid replacement thanks to rotatable connector, IO-Link, and parameter cloning
- Particularly suitable for use in battery-operated vehicles thanks to low power consumption

→ www.sick.com/TiM1xx

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LFP Cubic – At a glance

- Level sensor for liquids
- No mechanical moving parts
- Interchangeable and retractable probe from 200 mm to 2,000 mm and cable probe up to 4,000 mm
- Resistant to deposit formation
- Process temperature up to 100 °C; process pressure up to 10 bar
- 3-in-1: combined display, analog output (according to NAMUR NE 43), and binary output
- High enclosure rating of IP67, rotatable housing and remote amplifier
- IO-Link 1.1

Your benefits

- Rugged design increases service life
- High flexibility due to cutable and exchangable monoprobe or rope probe
- Cost savings due to multiple output signals: one system for both level detection and continuous level monitoring
- Time and cost savings due to low maintenance and quick commissioning without calibration
- Titanium process connection brings high chemical resistance
- Compact and rotatable housing or remote amplifier ensures flexible installation
- No crosstalk when several sensors are mounted next to each other
- Advanced technology enables adjustment-free measurement

→ **www.sick.com/LFP_Cubic**

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

LFP Inox – At a glance

- Level measurement in hygienic applications
- Manually retractable monoprobe up to 4,000 mm long with Ra ≤ 0.8 µm
- Process temperature up to 180 °C, process pressure up to 16 bar
- CIP/SIP-resistant
- High enclosure rating: IP67 and IP69K, autoclavable
- Interchangeable hygienic process connections
- 3-in-1: combined display, analog output, and binary output
- Remote amplifier with process connection
- IO-Link 1.1

Your benefits

- Robust design increases service life
- High flexibility due to cutable probe and interchangeable connection concept
- Cost savings due to multiple output signals: one system for both level detection and continuous level monitoring
- Time and cost savings due to low maintenance without any calibration and quick commissioning Remote display of the measured value and space savings

→ **www.sick.com/LFP_Inox**

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

PBS – At a glance

- Electronic pressure switch with display for monitoring pressure in liquids and gases
- Precise sensor technology with stainless steel membrane
- Integrated process connections manufactured from high-quality stainless steel
- Pressure values indicated on display. Output states are indicated separately via wide-angle LEDs.
- Unit of pressure value in display can be switched
- Min/max memory
- Password protection
- IO-Link

Your benefits

- Quick and easy setup and operation due to three large pushbuttons and clear display
- Perfect display readability and optimal cable routing due to rotatable housing
- No compromises: Individual solutions through a variety of configurations
- Universal application due to fully welded, highly durable stainless steel membrane
- Saves space and costs: no adapters required due to broad range of standard process connections
- Highly reliable due to application of proven technologies and high-quality materials, water resistance according to IP 65 and IP 67 as well as excellent overpressure safety
- Ultimate system availability: IO-Link enables fast, reliable parameter setting when changing over products

→ **www.sick.com/PBS**

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

PBS Hygienic – At a glance

- Hygienically-graded pressure switch with display for the food and beverage industry
- Wetted parts are made from stainless steel 1.4435
- Individually programmable switching outputs and analog output
- Pressure values are indicated on the display
- Unit of pressure value in the display can be switched
- Output states are indicated separately via large LEDs
- IO-Link

Your benefits

- Safe hygienic operation due to flush-mounted, highly resistant stainless steel membrane and hygienic process connections
- Suitability for CIP and SIP ensures high system availability
- Safe and easy setup with three large pushbuttons and legible, rotatable display
- Rotatable housing for optimum cable routing
- Wide range of available configurations enable customer-specific solutions
- High reliability: Corrosion-resistant design of wetted parts and housing with IP 65 and IP 67 enclosure ratings
- Ultimate system availability: IO-Link enables fast, reliable parameter setting when changing over products

→ **www.sick.com/PBS_Hygienic**

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PAC50 – At a glance

- Electronic pressure switch for pneumatic applications
- Large display shows system pressure, output states and set switching points
- Three large function keys and intuitive menu navigation
- Measuring range for gauge pressure (vacuum and overpressure)
- Individually programmable switching outputs and optional analog output
- Installation on a mounting rail, wall or in a control panel
- IO-Link

Your benefits

- Bi-color display (green/red) clearly shows the output state to recognize whether the pressure is within the target range
- Quick overview of important system parameters due to advanced display functions
- Intuitive operation allows simple and quick commissioning
- Pressure connections on the back and bottom, various mounting options and configurable output signals provide installation flexibility
- High reliability due to the rugged design (IP 65/IP 67 enclosure rating) and proven technology
- Low storage costs since a few product variants are able to meet a broad range of application requirements
- Reduced downtime when changing the format or replacing the sensor thanks to IO-Link

→ **www.sick.com/PAC50**

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

TBS – At a glance

- Large display
- Individually programmable transistor outputs PNP or NPN, optional analog output 4 mA ... 20 mA or 0 V ... 10 V
- Round connector M12 x 1
- Measuring ranges –20 °C ... +80 °C
- Pt1000 element, accuracy class A (IEC 60751)
- Various insertion lengths and connection threads
- Wetted parts made from corrosion-resistant stainless steel 1.4571
- Enclosure rating IP 65 and IP 67, IO-Link 1.1

Your benefits

- Quick and safe set-up through superior ease of use
- Compact dimensions and rotatable housing facilitate integration
- Very reliable: splash-proof housing, high-grade materials, rugged design, and field-proven technology
- Very good long-term stability, accuracy and linearity
- Quick response time
- Versatile configuration allows for optimal solutions for specific requirements

→ **www.sick.com/TBS**

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Accessories

Connection systems

Modules and gateways

Cloning module

	Brief description	Type	Part no.
	IO-Link version V1.1, Port class 2, PIN 2, 4, 5 galvanically connected, Supply voltage 18 V DC ... 32 V DC (limit values, operation in short-circuit protected network max. 8 A)	IOLP2ZZ-M3201 (SICK Memory Stick)	1064290

Connection modules

	Brief description	Type	Part no.
	IO-Link (V1.1) Device with Automation Function Counter and Debouncing. Connectors: M12, 5-pin, Operating Voltage: 18-32V DC, Tranfer: COM 2 (38,4 kBaud)	AKS-IXD1CXD15KXA71 (Counter Stick)	1082625
	IO-Link V1.1 Class A port, USB2.0 port, optional external power supply 24V / 1A	IOLA2US-01101 (SiLink2 Master)	1061790

Fieldbus modules

	Brief description	Type	Part no.
 Illustration may differ	EtherCAT IO-Link Master, IO-Link V1.1, power supply via 7/8'' cable 24 V / 8 A, fieldbus connection via M12 cable	IOLG2EC-03208R01 (IO-Link Master)	6053254
 Illustration may differ	EtherNet/IP IO-Link Master, IO-Link V1.1, power supply via 7/8'' cable 24 V / 8 A, fieldbus connection via M12-cable	IOLG2EI-03208R01 (IO-Link Master)	6053255
	PROFINET IO-Link Master, IO-Link V1.1, Class A port, power supply via 7/8'' cable 24 V / 8 A, fieldbus connection via M12 cable	IOLG2PN-03208R01 (IO-Link Master)	6053253

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- ☑ Easily repeat previous orders.
- ☑ Conveniently export quotations and orders to work with your systems.

SERVICES FOR MACHINES AND SYSTEMS: SICK LifeTime Services

Our comprehensive and versatile LifeTime Services are the perfect addition to the comprehensive range of products from SICK. The services range from product-independent consulting to traditional product services.

Consulting and design
Safe and professional

Product and system support
Reliable, fast and on-site

Verification and optimization
Safe and regularly inspected

Upgrade and retrofits
Easy, safe and economical

Training and education
Practical, focused and professional

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SICK AT A GLANCE

SICK is a leading manufacturer of intelligent sensors and sensor solutions for industrial applications. With more than 7,400 employees and over 50 subsidiaries and equity investments as well as numerous agencies worldwide, we are always close to our customers. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in various industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services round out our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is "Sensor Intelligence."

Worldwide presence:

Australia, Austria, Belgium, Brazil, Canada, Chile, China, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Hungary, India, Israel, Italy, Japan, Malaysia, Mexico, Netherlands, New Zealand, Norway, Poland, Romania, Russia, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Arab Emirates, USA, Vietnam.

Detailed addresses and further locations ➜ www.sick.com

SICK
Sensor Intelligence.