



PROFILE SENSORS

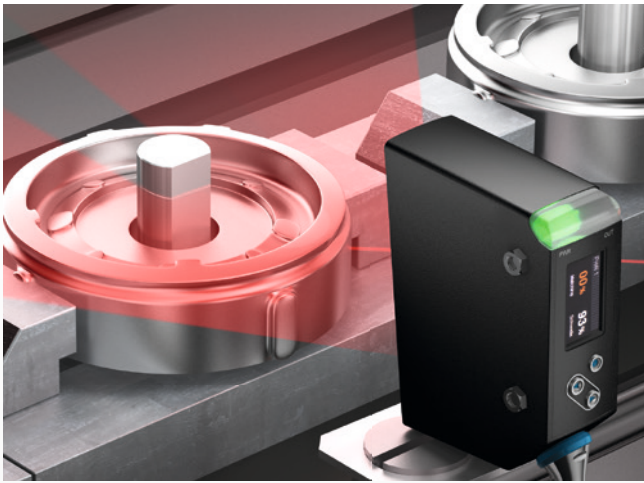
2D-LASER
PROFILE SENSORS
PS-30

 **di-soric**

INDUSTRY 4.0 – QUALITY INSPECTION IS A BASIC COMPONENT OF SMART PRODUCTION

FLEXIBLE PRODUCTION SYSTEMS

The efficient manufacture of small lot sizes up to individual production is made possible through flexible production systems that can be easily adapted to changing requirements or those that ideally are able to adapt themselves.



Automated exchange of information

This flexibility is achieved through the automated exchange of information between the individual production components, which make data for the optimization of the entire process available to the process control. This includes, for example, sensors networked via IO-Link or vision sensors or ID readers integrated via Profinet.

Through individual marking (coding), the product itself becomes an information carrier and is thus part of the production – in a quality-inspected and traceable manner.



Optimal application solutions with the di-soric profile sensors

2D-Laser profile sensors support flexible, automated quality inspections by immediately indicating quality fluctuations. They enable a reliable comparison of taught-in reference profiles with the live profiles of the test objects in real time.

With a differentiation accuracy of 0.5 mm, our sensors provide reliable data and status messages via IO-Link. Precise calibration ensures accurate position transmission in millimetres.

Application requirements for the selection of the optimal sensor

- Component size
- Working distance
- Resolution
- Ambient light
- Type of inspection
- Cycle time
- Communication interface



PROFILE SENSORS TO OPTIMIZE PRODUCT QUALITY AND INCREASE PRODUCTION EFFICIENCY

A flexible, automated quality inspection contributes decisively to the overall efficiency of a production process: It directly indicates quality fluctuations and ensures that only products manufactured within the defined parameters are further processed or packaged.



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PS-30 PROFILE SENSOR

PS-30 PROFILE SENSOR – UNCOMPLICATED AND FLEXIBLE FOR PRECISE MEASUREMENTS AND INSPECTION TASKS

The optoelectronic PS-30 Profile Sensor is ready to use in just a few steps and captures profiles of various objects per laser line scan with a differentiation accuracy of 0.5 mm. Up to 10 target profiles simplify the inspection and measurement of changing objects on the same production line. The PS-30 checks not only for the presence of an object, it also determines whether the actually intended component is used and correctly attached. Improve your product quality and increase your production efficiency with the PS-30 Profile Sensor.



Minimize costs and installation effort



Can be used out-of-the-box:
Quick start-up with teach buttons and a display on the sensor



Ambient light immunity:
no shielding or external illumination necessary



Distance- and color-independent measurement:
High tolerance with object positioning

Higher production efficiency

Up to 10 target profiles for simplified inspection of changing objects on the same production line can be stored

Sustained decrease in the rejection rate

Simplified error analysis via IO-Link

Improvement of your product quality

Ensuring correct and complete assembly and processing

Precise position transfer in mm

by calibrating the sensor

IO-Link

for efficient data and status messages



PS-30 APPLICATIONS

EFFICIENT AND FAST COMMISSIONING



Inspect reference distance and position between bearing and shaft

A journal and a bearing ring must be subjected to a type verification and position determination prior to final assembly.

With simple learning of the desired journal profile, both can be determined with the PS-30 profile sensor.

2D-Laser profile sensor
PS30-05LL-500-500-IBS

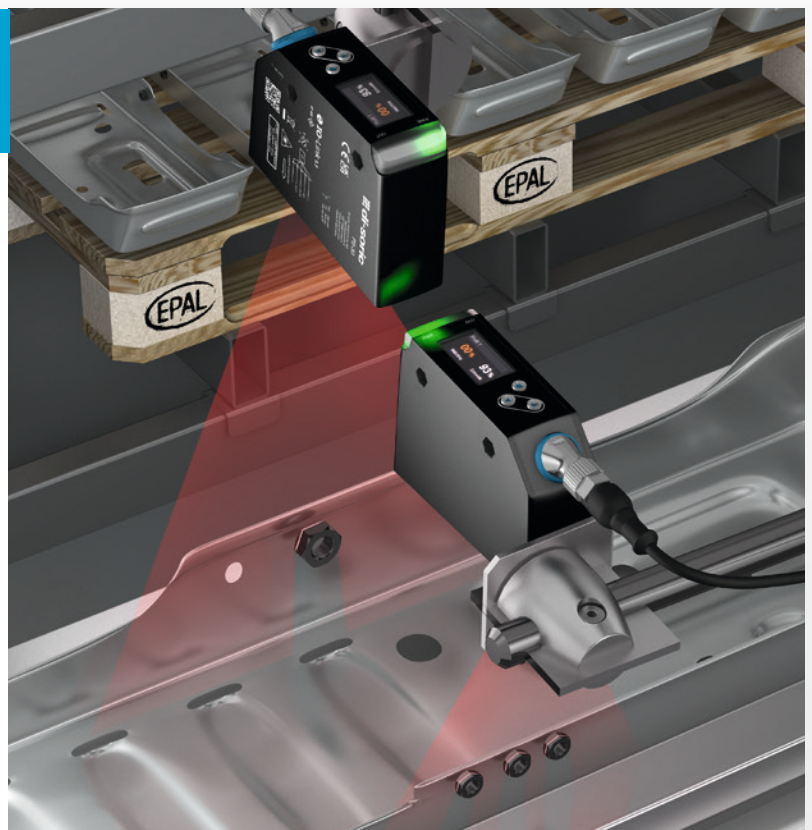
Welding nuts inspection

The nuts welded on to the profile carrier need to be checked for presence and position.

The PS-30 detects not only the presence of nuts, but also compares the position in the x and z directions with a previously learned pattern.

The results are transmitted numerically via IO-Link or the digital IO interface as an OK/not-OK result.

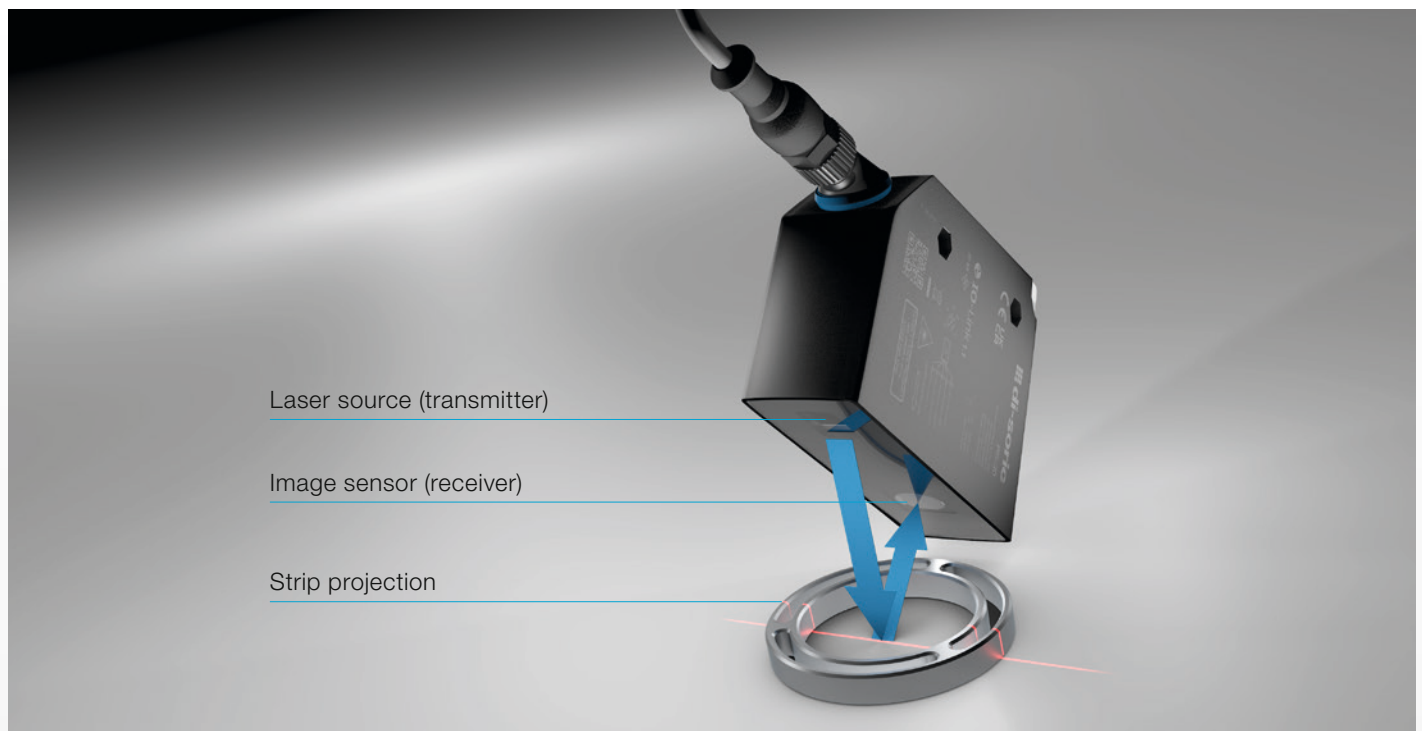
2D-Laser profile sensor
PS30-05LL-500-500-IBS



INLINE QUALITY INSPECTION WITH THE PS-30

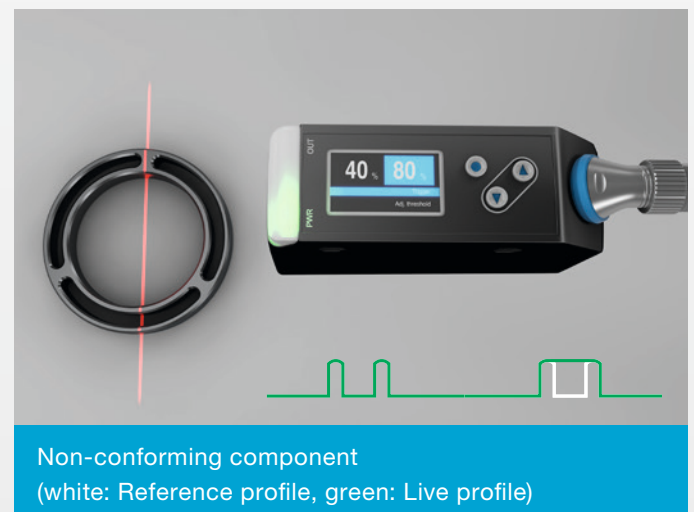
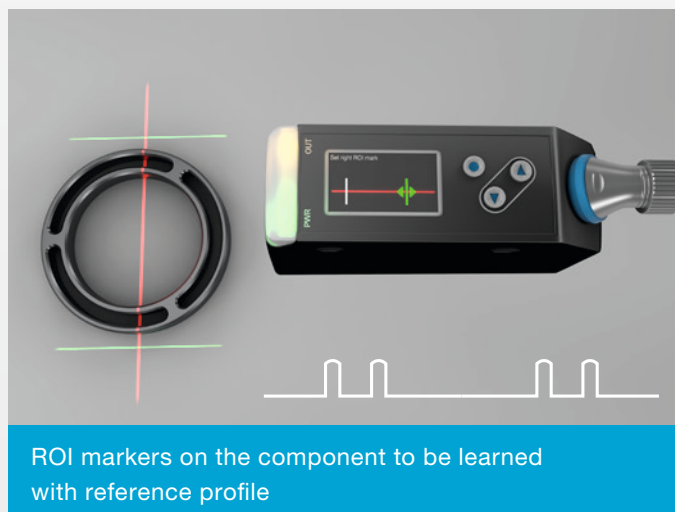
THE PS-30 WILL MEET YOUR DIFFICULT CHALLENGES

By means of the light section method, it reliably detects the profile of objects and determines differences from 0.5 mm. Through the comparison of the actual height profile with the pre-defined height profile, a correct assembly, use, orientation and processing of the component can be checked.



The inspection region can be delimited to relevant sections thanks to the region-of-interest function (ROI). Two green markers visualize the selected ROI on the laser line.

By means of the ROI function, minimal gap deviations (e.g. in the case of unplugged plug connection) are also detected in addition to the presence or absence of the smallest components.

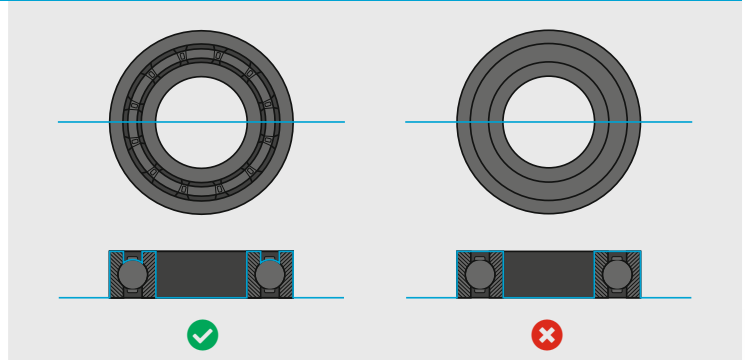


SORTING AND ORIENTATION

The PS-30 differentiates parts which can barely be distinguished from one another. The correct position of the objects is checked in the continuous process. Bad parts can thus be safely detected and sorted out.

Your advantages

- Detect error sources early on and eliminate them
- Minimize rejection rate in the long term
- Prevent consequential damage due to installed bad parts

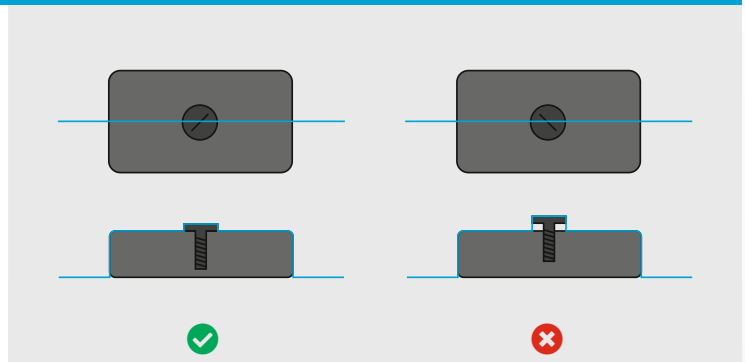


COMPLETE AND CORRECT ASSEMBLY

The correct and complete assembly of, for example, seal rings or screw-in depth of screws is reliably checked by the PS-30 Profile Sensor.

Your advantages

- Detect incomplete components and add on if necessary
- Readjust or sort out incorrectly assembled components
- Prevent leaks or instabilities

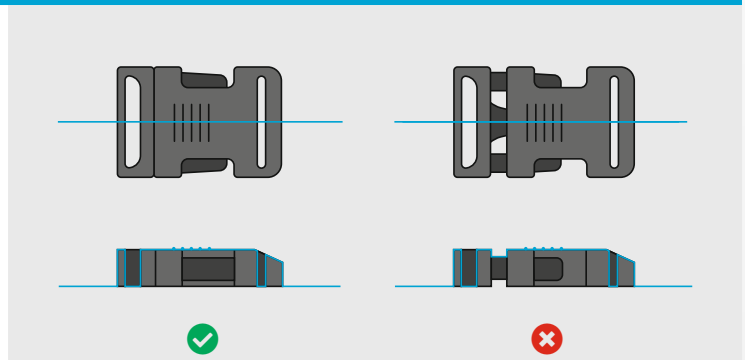


GAP CHECKING

The PS-30 checks whether seals are fastened through a focused contour comparison for the relevant profile section.

Your advantages

- Detect and rework incorrectly assembled components

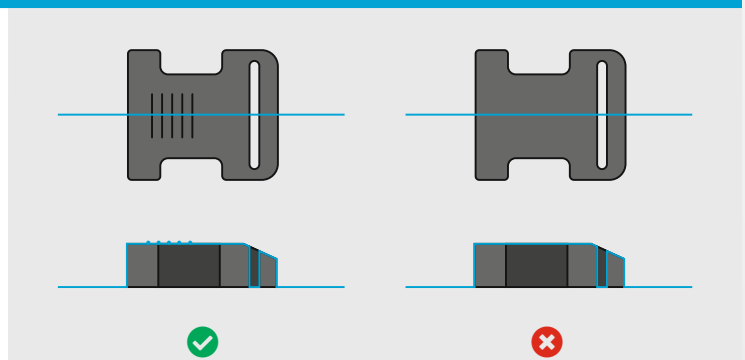


PROCESSING CHECKING

Using the contour, the PS-30 distinguishes processed and unprocessed parts.

Your advantages

- Surface structure makes possible conclusions concerning possible errors in the system (e.g. unprocessed workpieces due to a machine error)



TECHNICAL DATA

PS-30



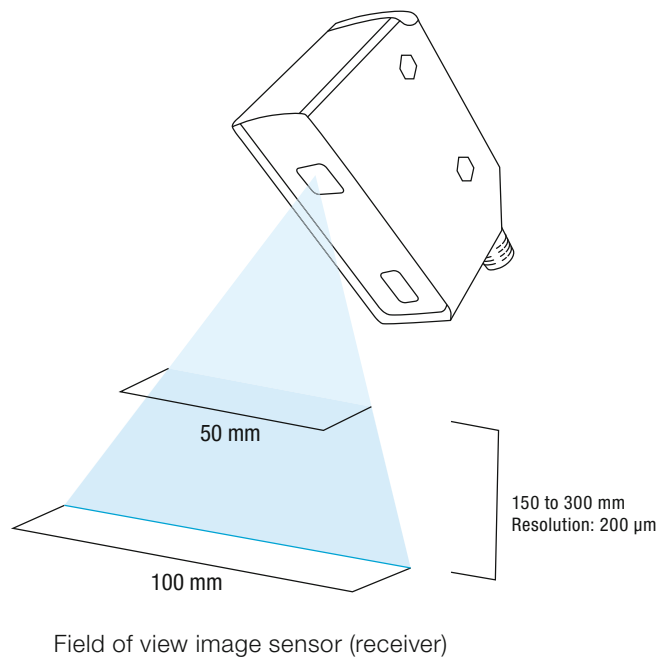
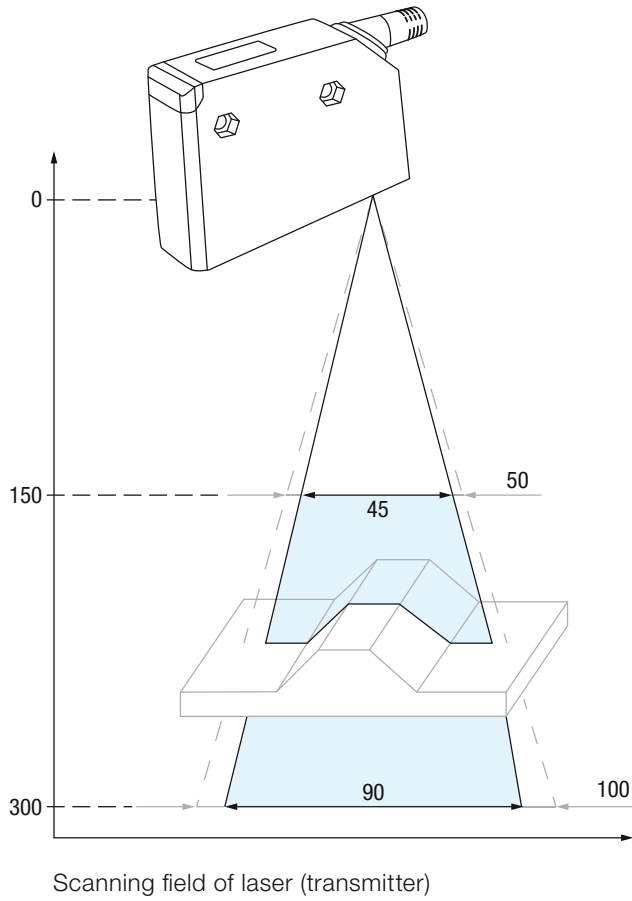
2D-Laser profile sensor
PS-30

Reference parameters	+20°C, 24 VDC
Power consumption	< 200 mA
Housing dimensions H/W/D	88 / 65 / 28.5 mm
Housing material	Die-cast zinc (black)
Weight	535 g
Protection class	III, operation on protective low voltage
Storable profiles	10
Number of inputs/outputs	1 (digital) / 2 (digital)
Switching output	pnp/npn, 100 mA, NO/NC parameterizable
Interface	IO-Link V1.1, COM3
Profiles	Smart Sensor: Process Data Variable, Device Identification, Device Diagnosis
Light source	Laser
Light color	Red
Wavelength	650 nm
Laser class	1 (IEC 60825-1)
Ambient light immunity	20 kLx
Measuring range	150 to 300 mm
Measured value resolution	X-axis 0.25 mm, Z-axis 0.2 mm
Measuring frequency	5 Hz
Protection type	IP65
Connection	Connector, M12, 5-pin

MEASURING RANGE

PS-30

Working and lateral detection region



ACCESSORIES

PROFILE SENSORS

Customized accessories

It is not only the quality of the sensors that plays a major role in the process-reliable detection of parts and objects. The accessories are also very important. They can ensure flexible, stable mounting, secure signal transmission and much more.



ID READERS

FIXED-MOUNTED OR HANDHELD



Identification solutions

In a smart factory, production logistics is an important factor. Identification solutions are required for the detection and localization of parts, product carriers, products, packaging, etc. from incoming goods to final shipping. di-soric offers fixed-mounted or mobile code readers for reading 1D and 2D codes in its portfolio.

VISION SENSORS

CS-60

Even for more demanding applications

Our vision sensors are intuitive to use and can be up and running in just a few minutes without training. They can be used out-of-the-box and have extensive software tools and standardized interfaces for communication with peripherals.



YOU WANT MORE?

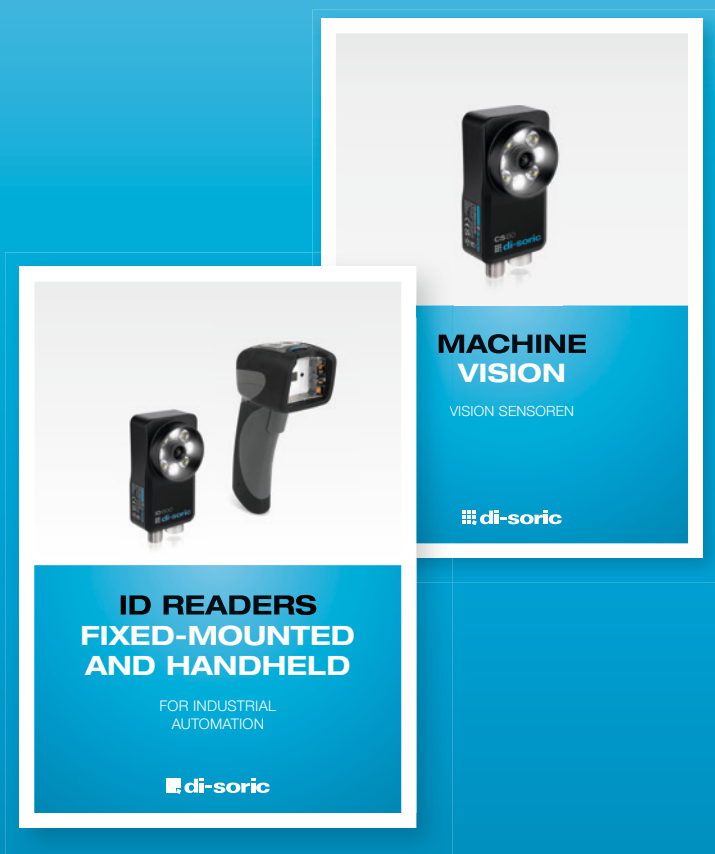
Further information can be found in our brochures "Machine Vision" and "ID readers – Fixed-mounted and Handheld" as well as on our website: www.di-soric.com

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