



Stay in Position Ax20 Array Sensor

The New Sensor for Web Guidance and Positioning

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SICK
Sensor Intelligence.

Ax20 Array Sensor: the new benchmark for edge detection

For fast web edge and line tracking

The printing, paper and textile industries now demand faster automation solutions. This is why SICK has developed the Ax20 Array Sensor. It detects the lateral position of webs using the web edge. As a scanning opto-electronic system, the Ax20 scans the web from one side only and therefore works more flexibly and reliably than conventional fork sensors.

As a scanning line sensor, the Ax20 also detects the web position, irrespective of the edge. A line on the web is taken through the sensor light spot. The white light illumination ensures very good contrast resolution resulting in reliable performance results.

Ax20 Array Sensor: diameter detection with unprecedented accuracy

Efficient width, diameter and small part detection

Typical applications covering a wide range of manufacturing industries include the measurement and positional control of parameters such as thickness, gap and diameter. The Ax20 Array Sensor sets the bench mark by offering application related functionality to produce high levels of resolution and reproducibility.

The result: new opportunities in laterally detecting stacks of material, measuring adhesive beads and small part detection.



Ax20 – unique advantages...

Highly flexible

- smallest housing on the market
- practical rotary plug
- no reflector required
- IP 67 protection

Very easy setup

- self-adaptive parameter selection
- automatic teach-in
- easily visible light spot
- requiring no fine adjustment of the web

... through a scanning system

Improved detection possibilities

- 0.05 mm reproducibility
- automatic ambient light adjustment
- fast measuring speeds
- immune to scanning variations
- high contrast resolution

Superior technology

- analogue output 4-20 mA
- scanning distance 25-100 mm
- measuring range up to 30 mm

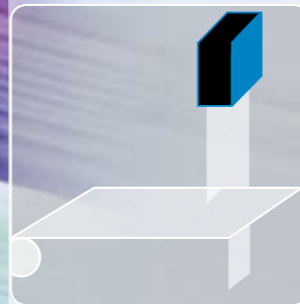


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Edge



Web edge detection

The Ax20 freely scans the web, has a wide measuring range and thus is particularly flexible.

When high-pressure operation is required

The Ax20 tracks web edges and detects the lateral position of the paper web or foil web. Principle of operation: The sensor always detects the first edge in its field of vision, from the left.

Advantages:

- scanning system, thus flexible installation (no fork configuration)
- very high repeat accuracy
- visible light spot enabling accurate alignment
- wide measuring range up to 30 mm, requiring no fine adjustment

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Edge



Line detection

With its high contrast resolution, the Ax20 proves to be a reliable "line follower".

And your production gains momentum!

The Ax20 also controls the web position irrespective of the edge, by using a line.

Advantages:

- very good contrast resolution due to white light
- easy positioning/alignment
- high repeat accuracy

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Ax20 Array Sensor: Where highest precision counts

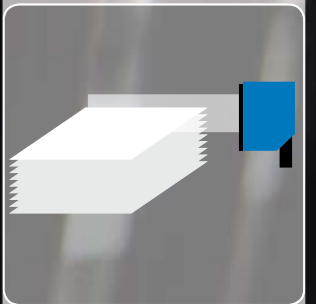
The Ax20 monitors the height of stacked materials particularly reliably and guarantees that a grabber can safely lift off the next paper sheet.

Advantages:

- small housing – easy integration into any machine
- precise functionality even with different web materials
- wide measuring range
- insensitive to ambient light



Diameter



Monitoring the height of stacked materials

The Ax20 is attached laterally to the stack and detects even the thinnest material edge.

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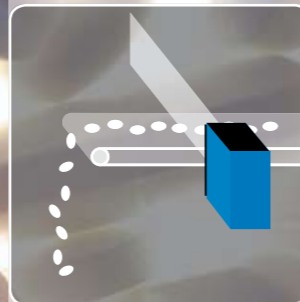
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Edge



Small part detection

The Ax20 has a particularly impressive field of view, for easy and flexible installation.

Driving your output!

Pills, screws, small parts in the automotive industry – an Ax20 used for detecting and counting small parts, misses none.

Advantages:

- detection of small parts, even less than 1 mm
- high switching frequency for fast web travel speeds
- independent of colour and shape

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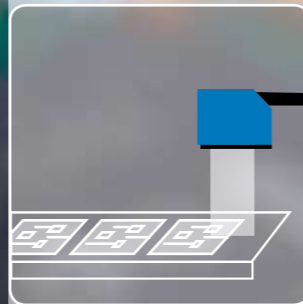


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Edge



Object positioning

The powerful Ax20 is a clever, non-contact alternative to mechanical solutions.

Smarter positioning

The Ax20 achieves quick, accurate and non-contact detection of the leading edge of an object such as a printed circuit board and thus enables reliable positioning and assembly operations at high speeds.

Advantages:

- accurate positioning
- replacement of mechanical stops with optical stops, avoiding mechanical damage
- different positioning tasks achieved cost-effectively

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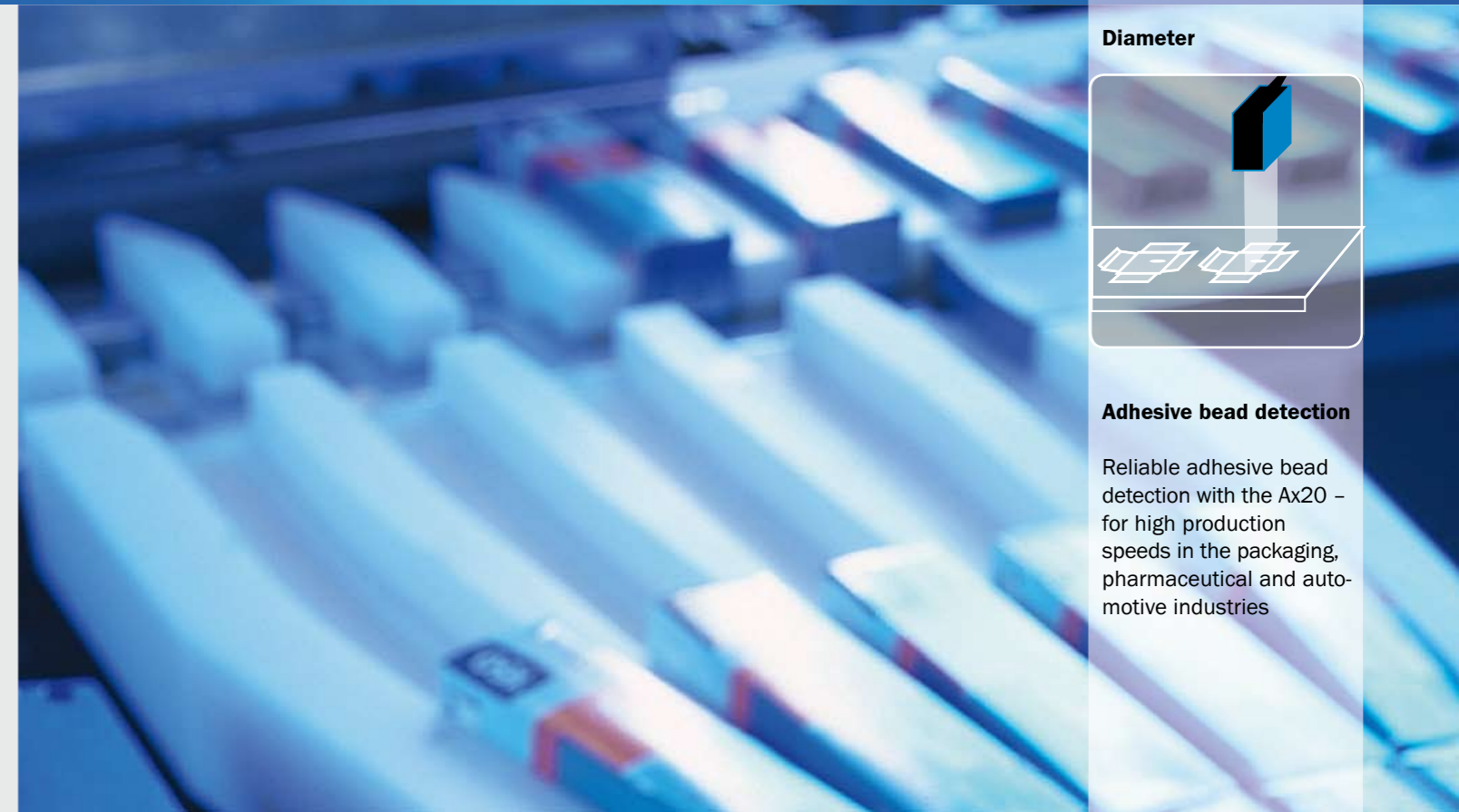


Tracking performance

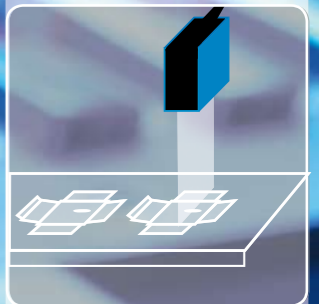
In the packaging industry, high throughput and high production speeds really matter – a task tailor-made for the Ax20, which has proved itself in the toughest environments for quantity control of adhesive and glue.

Advantages:

- safe detection of the adhesive quantity by using the bead thickness
- very good contrast resolution (e.g. white, transparent glue on carton)
- fast -designed for fast travel speeds
- long scanning distances permit flexible installation
- IP 67



Diameter



Adhesive bead detection

Reliable adhesive bead detection with the Ax20 – for high production speeds in the packaging, pharmaceutical and automotive industries

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Controlling even reflective surfaces

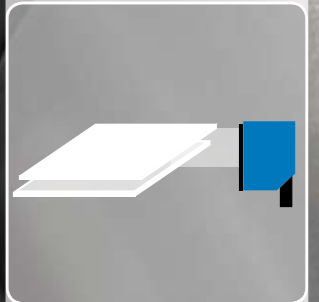
The infeed of sheet steel into a stamping machine requires reliable detection to ensure that only one sheet at a time is selected – one of the Ax20's many applications in sheet metal processing.

Advantages:

- detection of the thinnest sheets
- fast measurement/high reliability
- no mechanical measurement
- smallest housing for easy integration
- even reflective surfaces/materials can be measured



Diameter



Sheet metal processing

Small housing for flexible installation onto the stamping machine – the robust Ax20 proves itself in sheet metal processing.

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Technical data

AX20 ARRAY SENSOR		
Edge (Ax20E, E=EDGE)		Diameter (Ax20D, D=Diameter)
Scanning system (AT20 E)	Reflector (AL20 E)	Scanning system (AT20 E)

Technical data

- Analogue output 4–20 mA
- Repeat accuracy up to 0.05 mm
- Scanning distance 25–100 mm
- Measuring range up to 30 mm
- Customer specific adaptations

Accessories

- Reflector
- Mounting Bracket

Industrial automation puts ever higher requirements on performance and reliability of its control systems. Those producing at high speeds require precise, fast, flexible and reliable sensor technology.

With the Ax20 Array Sensor, SICK introduce a new dimension. The sensor combines and exceeds the strengths of conventional detection solutions, but without their limitations.

The result: noticeably higher system performance, substantially greater reliability for machinery and equipment.

www.sick.com/arraysensor

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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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- Polska
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