

The innovation in object measurement

PosCon light section sensors.



Object measurement made simple



Light section sensors by Baumer offer complex functions integrated in an easy-to-operate, compact sensor. Thanks to their intelligent evaluation, their standardized operating concept and robust metal housing, *PosCon* light section sensors are the ideal solution for:

- efficient object dimension measurements
- precise positioning of tools, robots etc.
- efficient check & sort functionality

Thanks to their excellent performance, *PosCon* light section sensors are the ideal alternative to tactile sensor solutions as well as complex 3D measuring systems – at significantly lower overall costs.

Fast commissioning

- Optimal design thanks to optical axis alignment (*qTarget*®)
- Fast sensor alignment thanks to the visible laser line and LED functions
- Flexible mounting up to $\pm 30^\circ$
- No reflector required

Easy parameterization

- Predefined measuring modes for specific applications
- Only a few parameters needed to optimize the measuring tasks
- No external software required
- Measured values displayed in millimeter thanks to factory-calibration

High Precision

- Precise measurements even on shiny, black and extremely coarse surfaces
- High measuring rates to measure fast moving objects
- High ambient light immunity

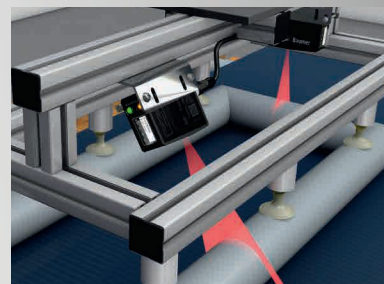
The *PosCon* light section sensor family



PosCon 3D – Efficient measurement of edge positions, width or gap

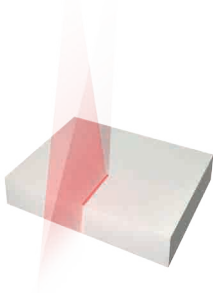


PosCon HM – Innovative height measurement/Check & Sort



PosCon CM – Measurement of round objects

Light section sensors from Baumer just offer more value.

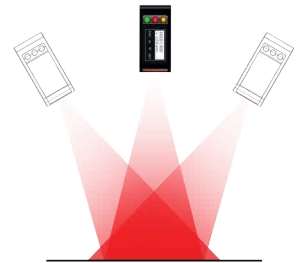


The *PosCon* light section sensors are based on the 3D light section principle. According to this, the projected laser line is reflected by the surface and projected onto a two-dimensional optical receiver in a triangulation process. The specially developed multiple lens system ensures the required optical mapping quality.

Different key figures are thus reliably obtained with the help of clever algorithms and powerful coordinate transformation functions. In the measurement mode in question, the measured result can be compared with configurable limit values, and is available in binary form at the switching output. Or the measured value can be output directly in mm on the display or at the interface.

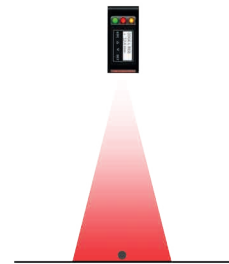
Integrated coordinate transformation

PosCon light section sensors can be installed in any position within a lateral angle of $\pm 30^\circ$ to bypass mounting obstacles and enhance application flexibility. The integrated coordinate transformation will correct any angle error right in the sensor and hence eliminates all time-consuming programming effort.



qTarget[®] – optical axis alignment by design

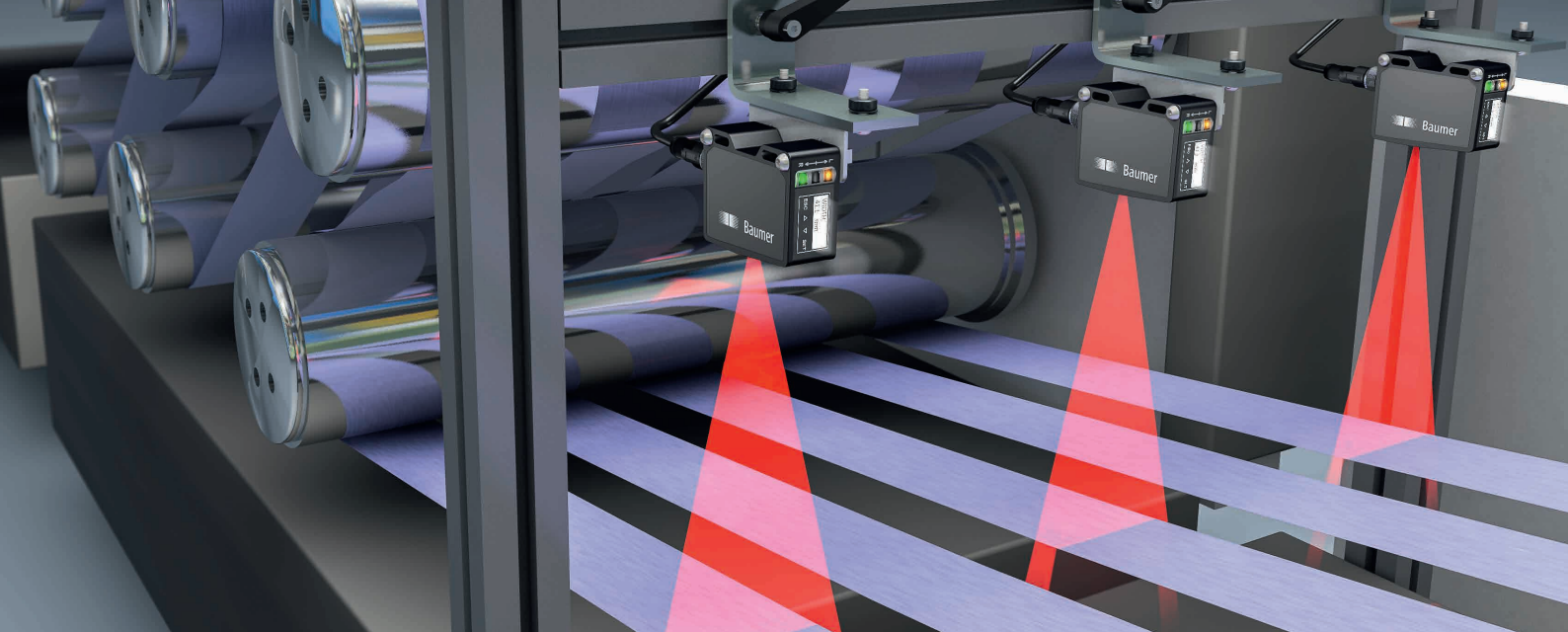
The *qTarget*[®] design of the *PosCon* light section sensors is referencing the optical axis to the mounting holes. This enables system integration already in the CAD stage. No later mechanical adjustments or alignments in the application are necessary.



Measurement independent of object position

An appropriate object can move within the measuring field without having any impact on the measurement. This absence of runout sensitivity makes a significant contribution to the reliable functioning of the sensor in the application.





PosCon 3D – Your edge specialist.

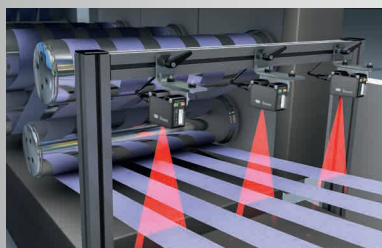
User benefits

- Measurement of edge positions, object width or gap dimensions as well as object center positions with one compact sensor
- Measurement independent of color, surface finish or even at radial or axial runout.
- Measurement of extremely dark objects
- Measurement of edge positions without a reflector
- Flexible mounting up to $\pm 30^\circ$

Measuring modes

Edge left	Edge right	Width	Object centering	Gap

Areas of application



Width measurement of tapes



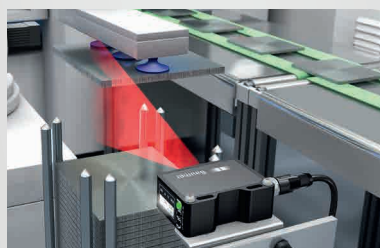
Object centering



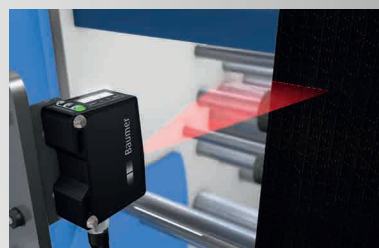
Gap Control



Positioning/alignment



Determination of sheet metal thickness



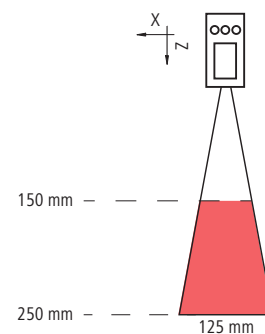
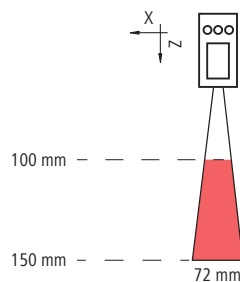
Web edge control

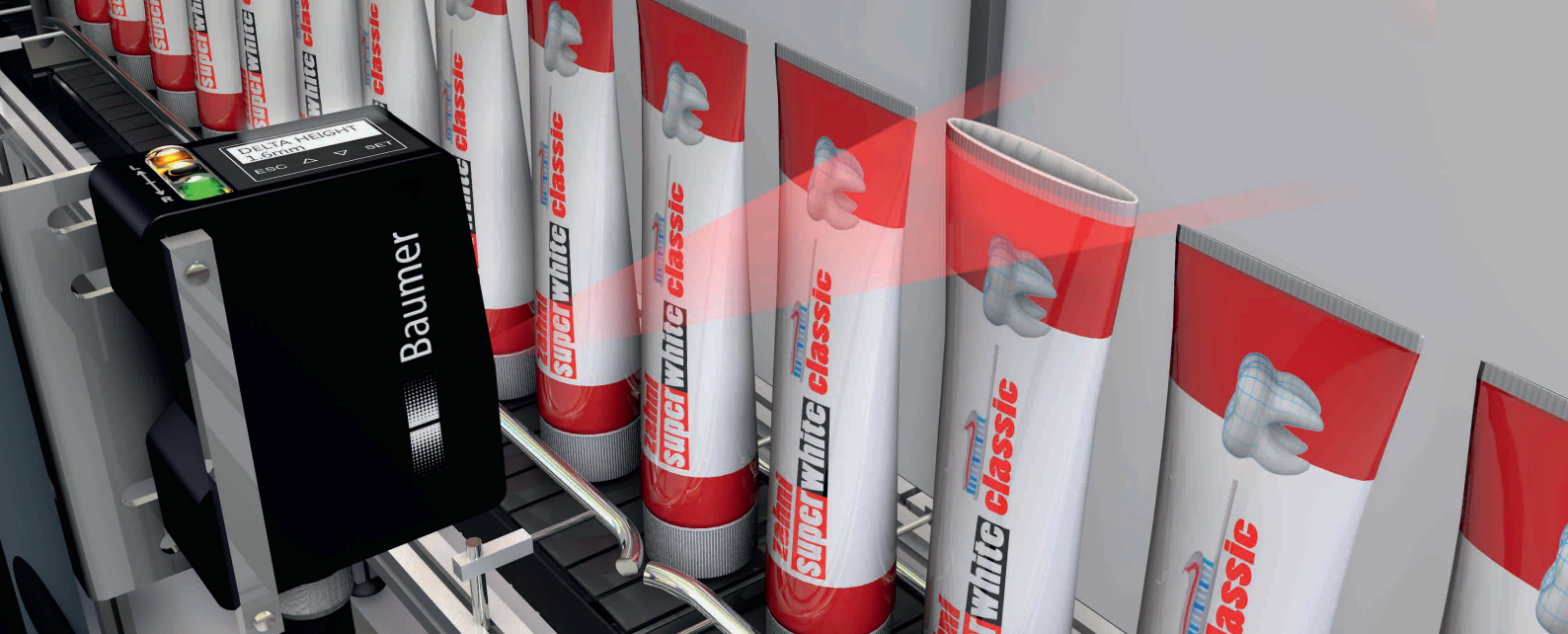
Product data.



PosCon 3D	OXE7.E15T-11148276	OXE7.E15T-1117353	OXE7.E25T-1111452	OXE7.E25T-11174280
Characteristics	<ul style="list-style-type: none"> 72 mm measuring range For very precise measurements 	<ul style="list-style-type: none"> 72 mm measuring range For very precise measurements For very dark objects 	<ul style="list-style-type: none"> 125 mm measuring range 	<ul style="list-style-type: none"> 125 mm measuring range For very dark objects
Dimensions	26 × 74 × 55 mm	26 × 74 × 55 mm	26 × 74 × 55 mm	26 × 74 × 55 mm
Measuring distance to	100 ... 150 mm	100 ... 150 mm	150 ... 250 mm	150 ... 250 mm
Measuring field size	48 ... 72 mm	48 ... 72 mm	75 ... 125 mm	75 ... 125 mm
Resolution	> 20 μm	> 20 μm	> 30 μm	> 30 μm
Linearity error	± 50 ... ± 75 μm	± 50 ... ± 75 μm	± 80 ... ± 120 μm	± 80 ... ± 120 μm
Repeat accuracy	> 10 μm	> 10 μm	> 15 μm	> 15 μm
Measurement frequency	160 ... 550 Hz	115 ... 320 Hz	125 ... 500 Hz	90 ... 250 Hz
Ambient light immunity	≤ 35 kLux	≤ 35 kLux	≤ 25 kLux	≤ 35 kLux
Output	4 ... 20 mA 0 ... 10 VDC RS 485	4 ... 20 mA 0 ... 10 VDC RS 485	4 ... 20 mA 0 ... 10 VDC RS 485	4 ... 20 mA 0 ... 10 VDC RS 485
Connection types	Connector M12	Connector M12	Connector M12	Connector M12
Housing material	Aluminium	Aluminium	Aluminium	Aluminium
Operating temperature	-20 ... +50 °C	-20 ... +50 °C	-20 ... +50 °C	-20 ... +50 °C
Protection class	IP 67	IP 67	IP 67	IP 67
Wave length	660 nm	660 nm	660 nm	660 nm
Additional functions	<ul style="list-style-type: none"> Adjustable edge height Precision mode selectable Measuring field can be narrowed Adjustable thresholds 	<ul style="list-style-type: none"> Adjustable edge height Precision mode selectable Measuring field can be narrowed Adjustable thresholds 	<ul style="list-style-type: none"> Adjustable edge height Precision mode selectable Measuring field can be narrowed Adjustable thresholds 	<ul style="list-style-type: none"> Adjustable edge height Precision mode selectable Measuring field can be narrowed Adjustable thresholds

Measuring field PosCon 3D





PosCon HM – Clever height measurement.

User benefits

- Height measurement of objects, with 5 key figures
- Reliable measuring without exact positioning of the objects to be measured
- High measuring accuracy up to 2 µm even under varying ambient light conditions
- Easy solution for critical check & sort applications

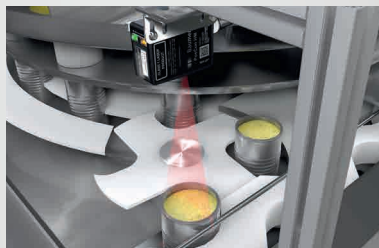
Measuring modes

Maximum height	Minimum height	Average height	Delta	Standard deviation

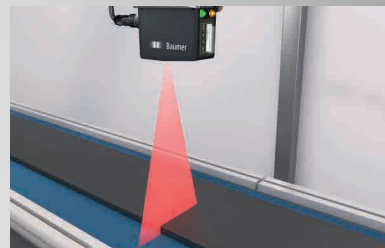
Areas of application



Measurement of the maximum height of a rubber seal



Precise measurement of the fullness level of solids



Height measurement of rubber bands



Check & sort: Convexity of yogurt cups



Quality inspection: controlling an ultrasonic weld



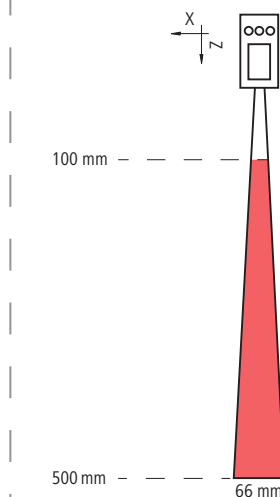
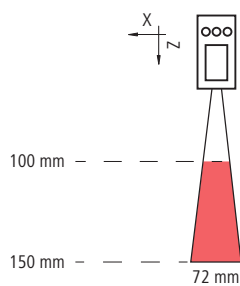
Check & sort: deformation of capsules

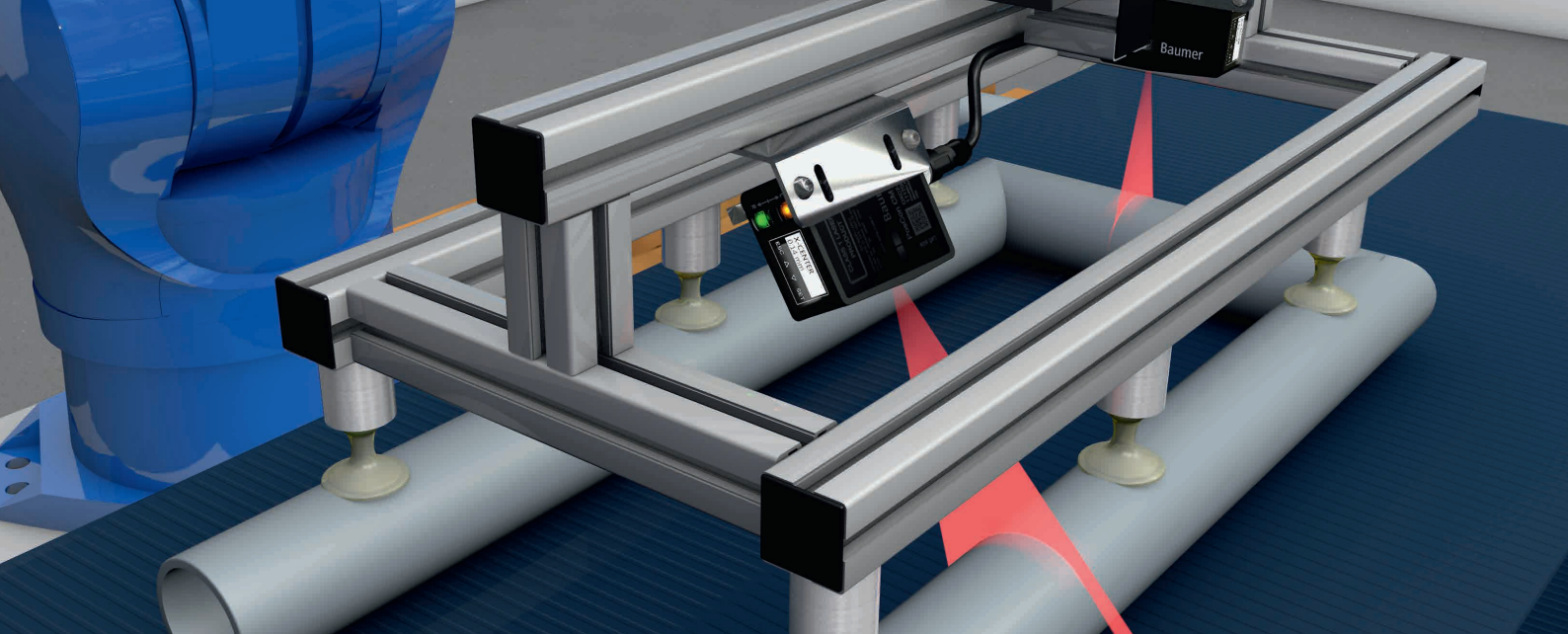
Product data.



<i>PosConHM</i>	OXH7-11159406	OXH7-11161809
Characteristics	<ul style="list-style-type: none"> ■ Measuring height 50 mm ■ For very precise measurements 	<ul style="list-style-type: none"> ■ Measuring height 400 mm ■ Fast moving objects
Dimensions	26 × 74 × 55 mm	26 × 74 × 55 mm
Measuring distance to	100 ... 150 mm	100 ... 500 mm
Measuring field size	48 ... 72 mm	13 mm ... 66 mm
Resolution	> 2 μm	> 4 μm
Linearity error	± 20 μm	± 100 μm
Repeat accuracy	> 2 μm	> 4 μm
Measurement frequency	192 ... 570 Hz	340 ... 1540 Hz
Ambient light immunity	≤ 35 kLux	≤ 35 kLux
Output	4 ... 20 mA 0 ... 10 VDC RS 485	4 ... 20 mA 0 ... 10 VDC RS 485
Connection types	Connector M12	Connector M12
Housing material	Aluminium	Aluminium
Operating temperature	-10 ... +50 °C	-10 ... +50 °C
Protection class	IP 67	IP 67
Additional functions	<ul style="list-style-type: none"> ■ Measuring field can be narrowed ■ Adjustable thresholds ■ Scalable analog output ■ Synch-In/trigger 	<ul style="list-style-type: none"> ■ Measuring field can be narrowed ■ Adjustable thresholds ■ Scalable analog output ■ Synch-In/trigger

Measuring field *PosConHM*










PosCon CM – Measurement of round objects.

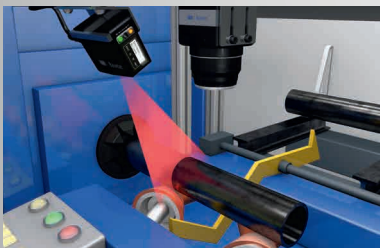
User benefits

- Measurement of center positions, diameters, and outer positions of round objects
- No reflector required
- Measured values displayed in millimeter thanks to factory calibration
- Suitable for outer diameters up to 130 mm

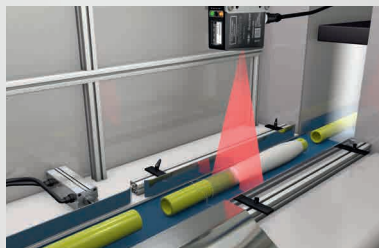
Measuring modes

Center position	Diameter	Top position	Outer position right	Outer position left
				

Areas of application



Precise measurement of center position for surface inspections



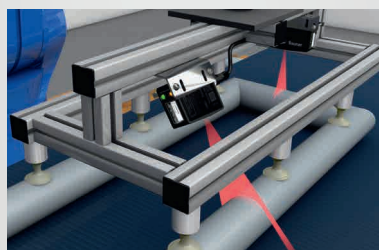
Diameter measurement of bobbins to identify remaining garn quantities



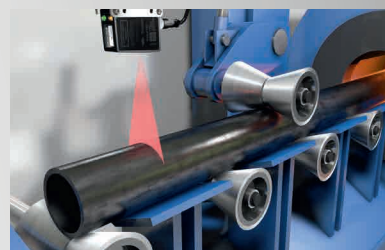
Positioning of yogurt cups during filling process



Object orientation check during production



Center position measurement for vacuum lifters



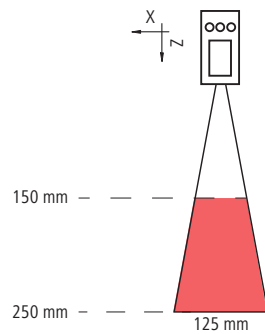
Measurement of the diameter of steel pipes

Product data.



<i>PosCon CM</i>	OXC7-11170024
Characteristics	Diameters from 30 to 130 mm
Dimensions	26 × 74 × 55 mm
Measuring distance to	150 ... 250 mm
Measuring field size	75 ... 125 mm
Resolution	> 30 μm
Linearity error	± 35 ... ± 150 μm
Repeat accuracy	> 15 μm
Measurement frequency	100 ... 290 Hz
Ambient light immunity	≤ 25 kLux
Output	4 ... 20 mA 0 ... 10 VDC RS 485
Connection types	Connector M12
Housing material	Aluminium
Operating temperature	-10 ... +50 °C
Protection class	IP 67
Additional functions	<ul style="list-style-type: none">■ Measuring field can be narrowed■ Adjustable thresholds■ Precision mode selectable■ Automatic object recognition

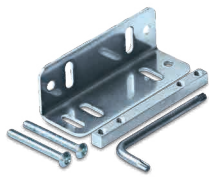
Measuring field *PosCon CM*



Accessories



Complete list of accessories on: www.baumer.com



Mounting kits

**Mounting kit
X7 90°**
Art. No. 11120705

**Mounting kit
X7 30° horizontal**
Art. No. 11126836

**Mounting kit
X7 30° vertical**
Art. No. 11126837

Characteristics

- Mounting kit for standard installation at an angle of 90° to the reference surface
- Mounting kit for ±30° angled installation with horizontal mounting
- Mounting kit for ±30° angled installation with vertical mounting



Cables & adapters

ESG 34FH0200G
Cable socket
Art. No. 10127844

ESW 33FH0200G
Cable socket
Art. No. 11053961

**Sensor test equipment
digital & analog**
Art. No. 11084376

**Power supply for sensor
test unit**
Art. No. 11087165

Characteristics

- Connection cable 2 m shielded with female connector M12, 8-pin, straight
- Connection cable 2 m shielded with female connector M12, 8-pin, angled
- Display (V or mA) or. LED (PNP/NPN) reading
- Teach-in of sensors with integrated Teach-button

PosCon Starter Kits

Convince yourself of the many advantages of our *PosCon* sensors and order an comprehensive StarterKit.

PosCon 3D StarterKit

For precise and accurate measurement of edge positions

- *PosCon 3D* sensor (OXE7.E25T-11111452)
- Mounting set
- Power supply and a connection cable
- USB stick with all necessary documentation on it
- Order number: 11127853



PosCon HM StarterKit

For object height measurement and efficient check & sort applications

- *PosCon HM* sensor (OXH7-11159406)
- Mounting set
- Power supply and a connection cable
- USB stick with all necessary documentation on it
- Order number: 11156856



PosCon CM StarterKit

For the measurement of round objects without a reflector

- *PosCon CM* sensor (OXC7-11170024)
- Mounting set
- Power supply and a connection cable
- USB stick with all necessary documentation on it
- Order number: 11178040



Optical measuring systems from Baumer – always the best choice.



PosCon light section sensors

Light section sensors by Baumer offer complex functions integrated in an easy-to-operate, compact sensor.



MESAX laser distance sensors

The unique portfolio of laser distance-measurement sensors for accurate and reliable measurements even on demanding surfaces.



ParCon light band sensors

Distance-independent measurement of edge position and object width even on round and fast moving objects.



VeriSens® Vision Sensors

The compact image processing system in the shape of a sensor for automation technology.



For further information on our innovative *PosCon* portfolio, please visit www.baumer.com/poscon

Find your local partner: www.baumer.com/worldwide

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Passion for Sensors

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