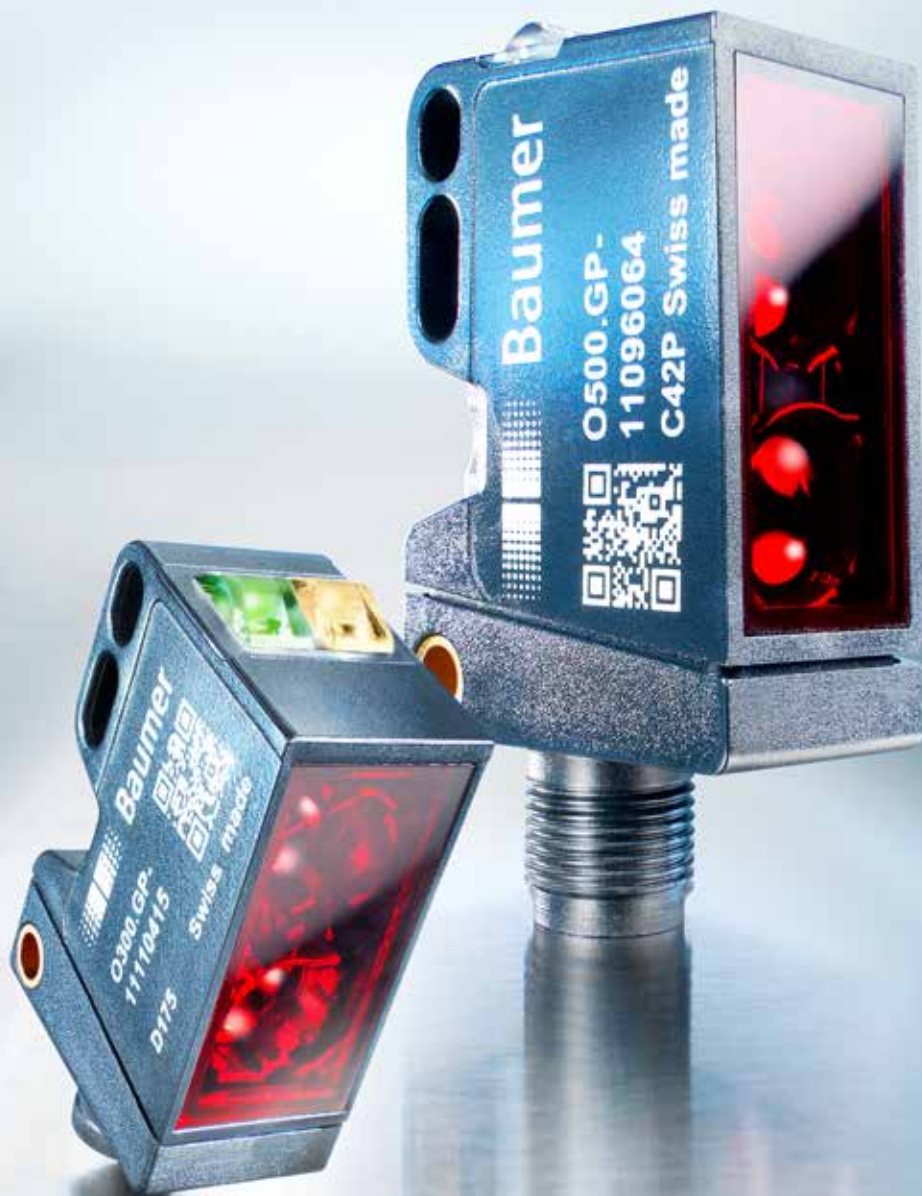# O500, O300

The new performance categories
in optical sensor technology

Top performance in two sizes.

NextGen O300/O500

The name Baumer has always stood for innovation. Our new optical sensors are part of this tradition and now available in two sizes: O500 followed by miniature O300. Both sensors provide the same performance level.

Miniaturized O300 is particularly conceived for tight spots, whereas O500 stands out in applications where extended range is required.

Maximum safety and comfort, minimum operating costs.

- Increased excess gain for reliable operation under demanding conditions
- High MTTF values

- Compared to their size, the sensors provide the largest sensing distance and range
- The most cost-efficient solution for optical sensor applications

Baumer *qTeach* – easy-to-operate, safe and wear-free

With *qTeach* we are introducing a new, convenient and wear-free teach procedure. Teaching of O500 sensors is just by a touch with any ferromagnetic tool. A blue LED light provides clear optical feedback. To prevent user errors, *qTeach* locks autonomously after 5 minutes.

Baumer *qTarget* – Time-saving installation

The Baumer design aligns the sensor's light beam to the fixing holes. This will not only compensate tolerances between individual components but ensures consistent alignment accuracy within the complete sensor series.

Baumer *OneBox Design* – high level of planning flexibility

OneBox Design stands for a new Baumer housing design. Baumer *NextGen* sensors feature the same dimensions, through holes and control elements for all sensor principles and technologies within the series.

Light sources – for every application.

Standard LED

The diffuse light spot is especially suited for object detection during parts feeding.
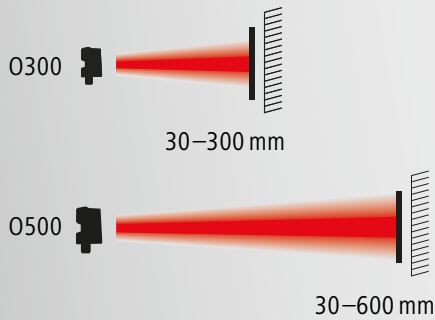
Baumer *PinPoint* LED

A small, homogenous light spot with a sharp focus makes *PinPoint* ideal for exact positioning and detection of small parts.
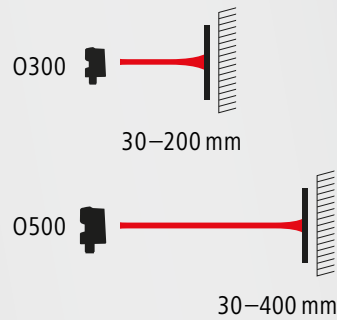
Infrared LED

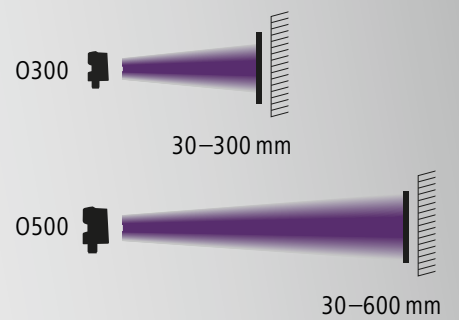Light spot is not visible to the human eye.

Standard LED

Diffuse sensor with background suppression

O300
30–300 mm

O500
30–600 mm

Light sensor with intensity difference
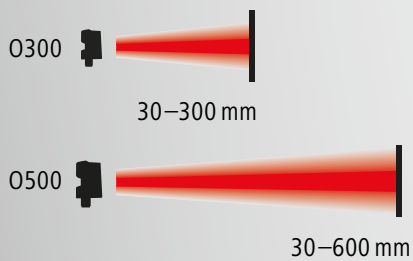
O300
30–300 mm

O500
30–600 mm

Retro-reflective sensor

O300
0–4000 mm

O500
0–8000 mm

Baumer *PinPoint* LED

Diffuse sensor with background suppression

O300
30–200 mm

O500
30–400 mm

Retro-reflective sensor

O300
0–5000 mm

O500
0–8000 mm

SmartReflect™ **light barrier**

O300
0–300 mm

O500
0–600 mm

Infrared LED

Diffuse sensor with background suppression
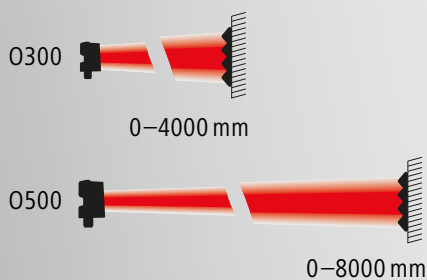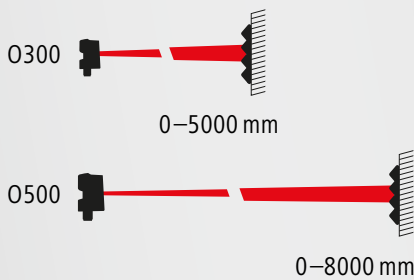
O300
30–300 mm
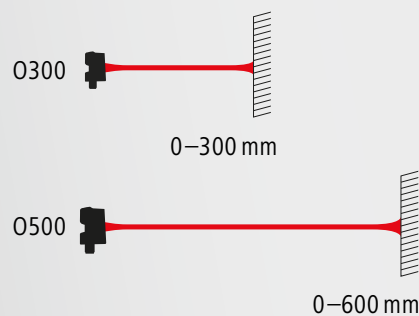
O500
30–600 mm

NextGen sensors – giving you a competitive edge.

LEDs visible from all around

Flexible fastening

Aline – powerful CMOS Opto-ASIC for diffuse sensors with background suppression

Innovative *qTeach* operation

Identical position of the optical axis within a sensor principle

1 Inch

qTarget Aligned optical axis

Metal sleeve for sturdy fastening

QR code for easy access to operating instructions and data sheets on the internet

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FROST & SULLIVAN

2012 BEST PRACTICES AWARD

EUROPEAN LIGHT BARRIERS NEW PRODUCT INNOVATION AWARD

SmartReflect
The light barrier without a reflector.

The new shining star in sensor technology

O300 and O500 sensors are available with varied sensing principles, such as a retro-reflective or diffuse sensor with background suppression – and also with *SmartReflect* technique. Thanks to this outstanding Baumer technology, there is no more need for a reflector in object detection which will significantly cut down on costs.

- No separate receiver/reflector required
- Highly reliable object detection thanks to the barrier principle
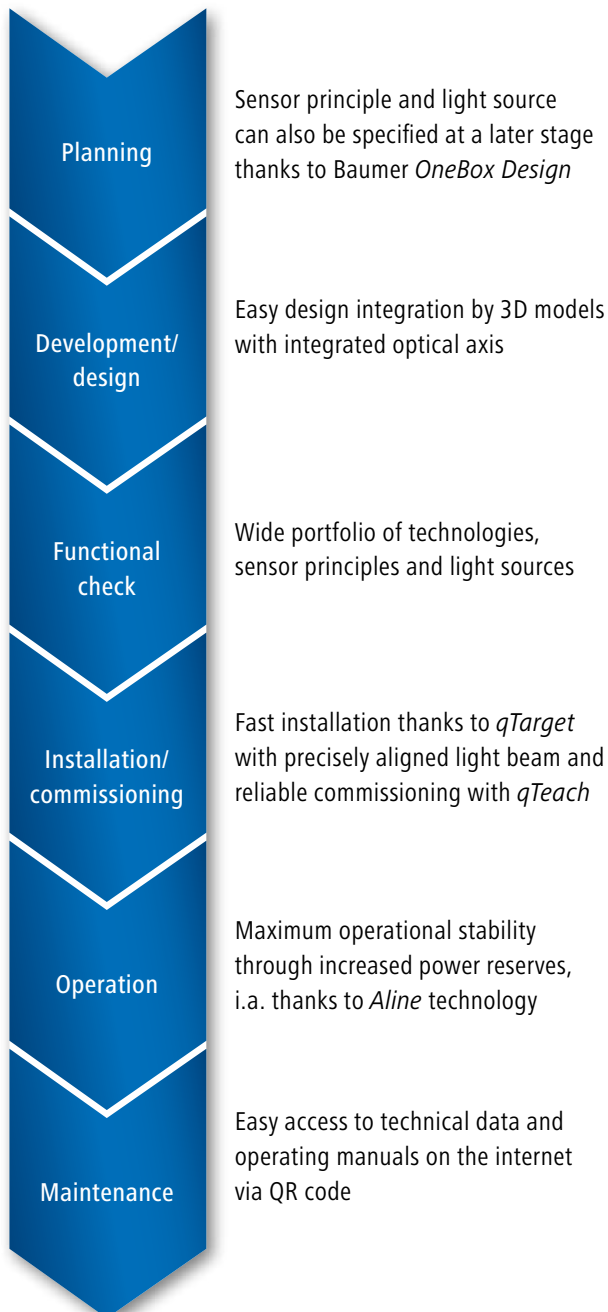
Your benefit:
No downtimes as a result of dirty or defective reflectors.

From conception to maintenance.

Baumer takes the effective approach

Stage	Description
Planning	Sensor principle and light source can also be specified at a later stage thanks to Baumer *OneBox Design*
Development/ design	Easy design integration by 3D models with integrated optical axis
Functional check	Wide portfolio of technologies, sensor principles and light sources
Installation/ commissioning	Fast installation thanks to *qTarget* with precisely aligned light beam and reliable commissioning with *qTeach*
Operation	Maximum operational stability through increased power reserves, i.a. thanks to *Aline* technology
Maintenance	Easy access to technical data and operating manuals on the internet via QR code

Solutions for demanding applications.
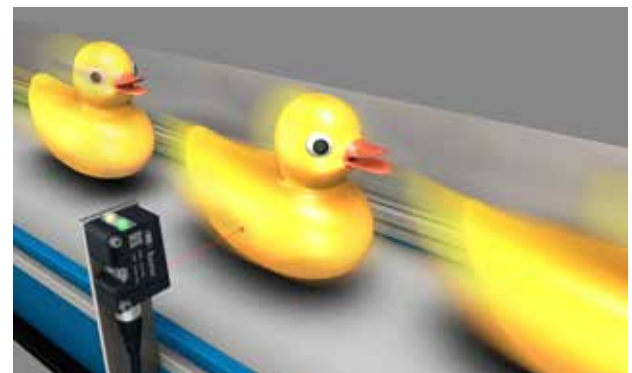

Cascading*
- Prevents mutual interference of sensors positioned next to each other
- Reliable object detection in the most confined spaces

* Applies to *SmartReflect* and background suppression

Fast
- Reliability by fast response
- All technologies with a mere 0.5 ms response time

Keyhole Optic*
- Reliable detection through smallest openings: Minimum diameter 4 mm at close range
- Consistently high excess gain even at close range

* Applies to retro-reflective sensor

The new performance category – the ideal solution for many industries.

O300 und O500 stand for maximum precision, reliability and speed and set new benchmarks with respect to safety and comfort. No matter whether limited space or large ranges, thanks to identical and comprehensive versatility in two sizes, they are the ideal solution for numerous applications in different industries.
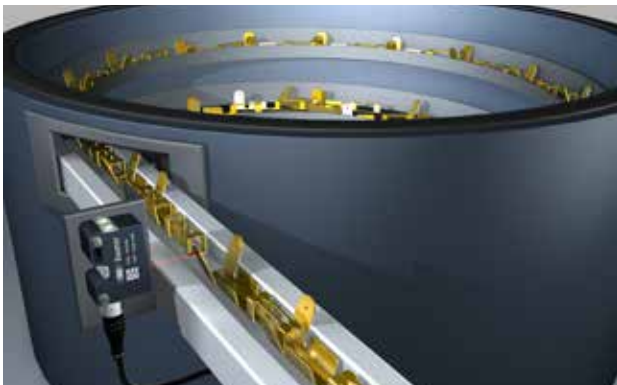

Packaging   Logistics   Food industry

Industry   Handling   Pharmaceutical industry

Areas of application O300:
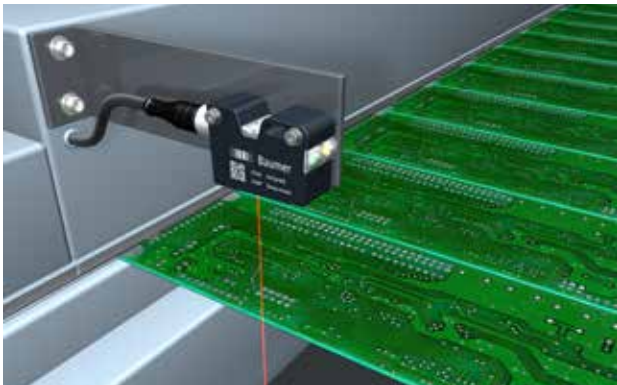
Semiconductor industry
- Compact design for use in tight spaces
- Precise, reliable object recognition

Assembly/handling
- Accuracy thanks to speed
- Reliable recognition even with small objects

Areas of application O500:

Packaging industry
- Convenience when changing format thanks to *qTeach*
- Reliability thanks to high reserve capacity and speed
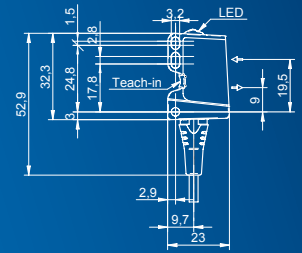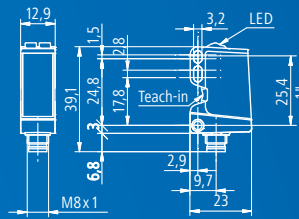

Installation and automation
- Precision and reliability
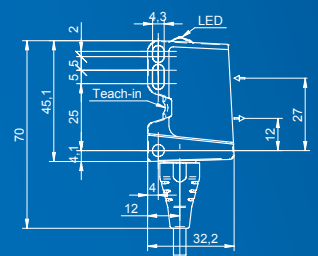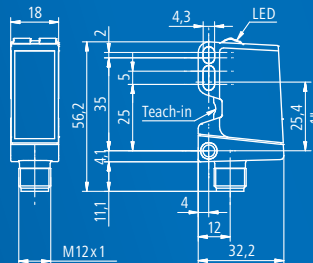- Ideal for object recognition and positioning

Product overview

O300

Sensor principle	Light source	Range	Output function	External teach	Connection	Order code
Diffuse sensor with background suppression	Standard LED	300 mm	Push-Pull		M8, 4-pin cable	O300.GR-11110414 O300.GR-11120104
Diffuse sensor with background suppression	Baumer *PinPoint* LED	200 mm	Push-Pull	Yes	M8, 4-pin cable	O300.GP-11110415 O300.GP-11120101
Light sensor with background suppression	Infrared LED	300 mm	Push-Pull	Yes	M8, 4-pin cable	O300.GI-11121712 O300.GI-11128081
Retro-reflective sensor	Standard LED	4000 mm	Push-Pull		M8, 4-pin cable	O300.RR-11110443 O300.RR-11120114
Retro-reflective sensor	Baumer *PinPoint* LED	5000 mm	Push-Pull	Yes	M8, 4-pin cable	O300.RP-11110449 O300.RP-11120107
SmartReflect Light barrier	Baumer *PinPoint* LED	300 mm	Push-Pull	Yes	M8, 4-pin cable	O300.SP-11110450 O300.SP-11120122
Energetic scanner	Standard LED	300 mm	Push-Pull		M8, 4-pin cable	O300.ZR-11128014 O300.ZR-11128017

Various types also available with PNP-/NPN-outputs.
Mounting and connection accessories under www.baumer.com/accessories

O500

Sensor principle	Light source	Range	Output function	External teach	Connection	Order code
Diffuse sensor with background suppression	Standard LED	600 mm	Push-Pull		M12, 3-pin cable	O500.GR-11096062 O500.GR-11096063
Diffuse sensor with background suppression	Baumer *PinPoint* LED	400 mm	Push-Pull	Yes	M12, 4-pin cable	O500.GP-11096064 O500.GP-11096067
Light sensor with background suppression	Infrared LED	600 mm	Push-Pull	Yes	M12, 4-pin cable	O500.GI-11120203 O500.GI-11128082
Retro-reflective sensor	Standard LED	8000 mm	Push-Pull		M12, 3-pin cable	O500.RR-11096090 O500.RR-11096092
Retro-reflective sensor	Baumer *PinPoint* LED	8000 mm	Push-Pull	Yes	M12, 4-pin cable	O500.RP-11096098 O500.RP-11096103
SmartReflect Light barrier	Baumer *PinPoint* LED	600 mm	Push-Pull	Yes	M12, 4-pin cable	O500.SP-11096080 O500.SP-11096085
Energetic scanner	Standard LED	600 mm	Push-Pull		M12, 4-pin cable	O500.ZR-11128018 O500.ZR-11128020

Various types also available with PNP-/NPN-outputs.
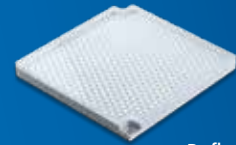Mounting and connection accessories under www.baumer.com/accessories

Accessories

Sensofix-mounting	Mounting angle	Connectors	Reflector

Mounting accessories	Sensor type		Order number
Sensofix mounting	O300		11104963
Sensofix mounting	O500		11099942

Mounting accessories	Sensor type	Design	Order number
Mounting angle	O300	L-shaped	11102423
Mounting angle	O500	L-shaped	11092246
Mounting angle	O300	For wall mounting	11124807
Mounting angle	O500	For wall mounting	11111164

Connection accessories	Sensor type	Linear dimensions	Order number
M8 connector, 4-pole, straight	O300	2 m	ESG 32AH0200
M8 connector, 4-pole, straight	O300	5 m	ESG 32AH0500
M8 connector, 4-pole, straight	O300	10 m	ESG 32AH1000
M8 connector, 4-pole, angled	O300	2 m	ESW 31AH0200
M8 connector, 4-pole, angled	O300	5 m	ESW 31AH0500
M8 connector, 4-pole, angled	O300	10 m	ESW 31AH1000
M12 connector, 4-pole, straight	O500	2 m	ESG 34AH0200
M12 connector, 4-pole, straight	O500	5 m	ESG 34AH0500
M12 connector, 4-pole, straight	O500	10 m	ESG 34AH1000
M12 connector, 4-pole, angled	O500	2 m	ESW 33AH0200
M12 connector, 4-pole, angled	O500	5 m	ESW 33AH0500
M12 connector, 4-pole, angled	O500	10 m	ESW 33AH1000

Other accessories	Sensor type	Dimensions	Order number
Rectangular reflector	O300/O500	84 x 84 mm	FTDR 084A084

The new perfomance category in compact optical sensor technology.
For more information go to:

www.baumer.com/O300

www.baumer.com/O500