Baumer
Passion for Sensors

A new definition of reliability

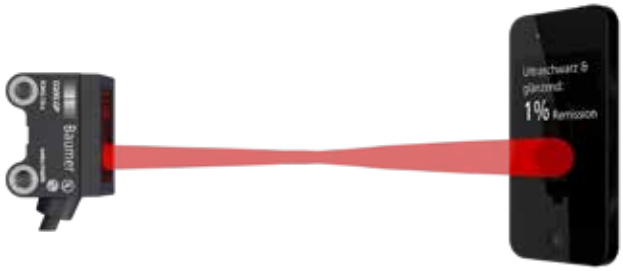
O200 miniature sensors – reliable, compact, simple and digital.

O200 – Object detection beyond the standard.

Extremely reliable

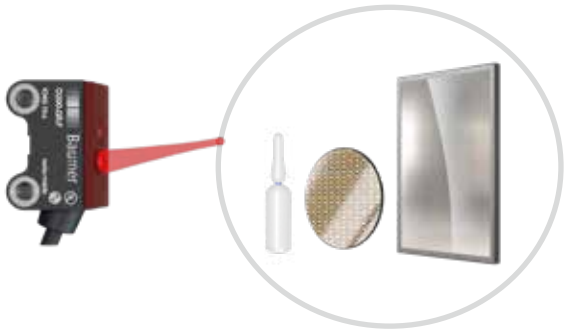
High-performant sensing principles

- *SmartReflect*® – the light barrier without reflector
- Best-in-Class diffuse sensor with background suppression and up to 120 mm sensing range even towards black objects



For complex tasks in object detection

- Unrivalled immunity against ambient light (e.g. LED lighting)
- Precise, reproducible and color-independent sensing distances
- Outstanding reliability even with transparent, reflective and reflecting objects



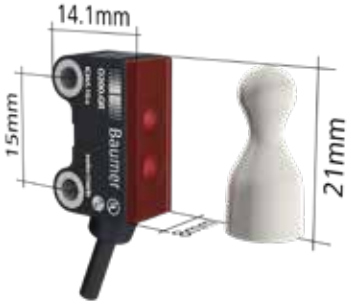
Beyond th

Reliable

Compact

Small and powerful

- Comprehensive portfolio with the right sensor for your application
- Extremely high performance in a miniature design



e Standard

Usability

Connected

So simple

Design-in, installation & setup

- 3D CAD with integrated beam path
- Aligned light beam (*qTarget*®) for reproducible sensor behavior throughout the entire series

- Easy installation using spacers or robust stainless steel insert nut with M3 thread
- Variants with versatile teaching features (*qTeach*®, line-teach, IO-Link) or default settings

qTeach® – reproducible, reliable and wear-free

More digital information IO-Link

Cost-effective & securely connected
- Smart sensor with Profile 1.1 Ed. 2 and COM 3
- Very short cycle time of 0.6 ms

Fast sensor exchange
- Parameter server featurefunction

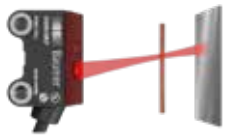
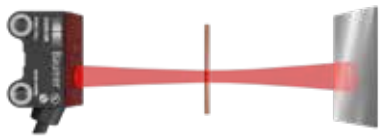
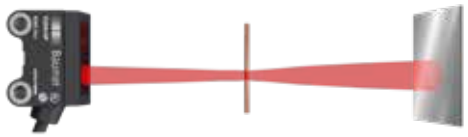
Extended setting options
- High-Speed and High-Power-Mode
- 1 point/ window teach-in

Increased flexibility
- Quick and easy format alignments
- Integrated counter

Simple & safe operability
- Dynamic / static teach-in feature
- *qTeach*® modes: Xpress / Xpert

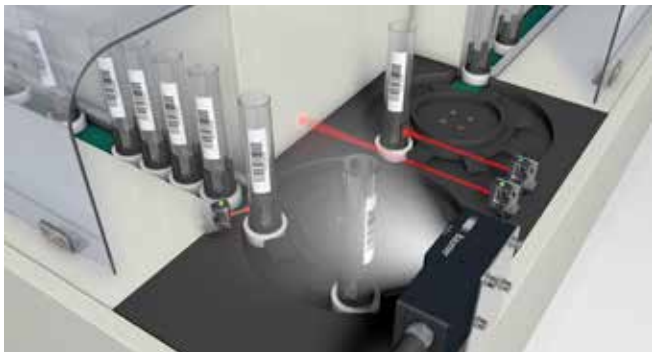
Additional Data
- Signal quality
- Device temperature, etc.

We have the right sensor for your application.

		Sensing range
O200 GR.F Diffuse sensor with background suppression V-optics	Beamdiameter mm: 4 / 2.1 / 1.2 / 2.8 Distance mm: 0 / 5 / 10 / 15 	15 mm
O200.GR Diffuse sensor with background suppression	Beamdiameter mm: 5 / 3.5 / 2.8 / 4.4 / 7 Distance mm: 0 / 20 / 40 / 60 / 80 	30 mm 50 mm 80 mm
O200.GP Diffuse sensor with background suppression	Beamdiameter mm: 4.3 / 2.6 / 2.5 / 2.6 / 7 Distance mm: 0 / 40 / 50 / 60 / 120 	120 mm
O200.SP *SmartReflect*® – light barrier without reflector	Beamdiameter mm: 4.3 / 4.2 / 4.5 / 6 / 8.5 Distance mm: 0 / 40 / 80 / 120 / 180 	180 mm
O200.RR Retro-reflective sensor	Beamdiameter mm: 4 / 5 / 40 / 300 Distance mm: 0 / 50 / 500 / 4000 	4 m
O200.RP Retro-reflective sensor	Beamdiameter mm: 4 / 5 / 24 / 180 Distance mm: 0 / 50 / 500 / 4000 	4 m
O200.ER / TR Through-beam sensor	Beamdiameter mm: 5 / 6.5 / 40 / 370 Distance mm: 0 / 50 / 500 / 5000 	6 m

Light source		Minimum object size	Objects					Response time	Configurability			
Red-light LED	*PinPoint* LED		Standard objectcs	Glossy objects	Transparent objectse	Ultra-black objects	Inclined objectse		Preset sensing range	*qTeach*®	IO-Link	Line teach
		0.05 mm	■	■	■	■	■	< 1 ms	■			
								< 0.25 ms		■	■	■
		0.25 mm	■	■		■		< 1 ms	■			■
								< 0.25 ms		■	■	■
		0.25 mm	■	■		■	■	< 0.5 ms		■	■	■
		2.5 mm	■	■		■	■	< 0.25 ms		■	■	■
		5 mm	■	■		■	■	< 0.5 ms	■			■
		4 mm	■	■		■	■	< 0.25 ms		■	■	■
		5 mm (0.5 mm with aperture)	■	■		■	■	< 0.5 ms	■			■

Extremely versatile – from the semicon industry to robotics.

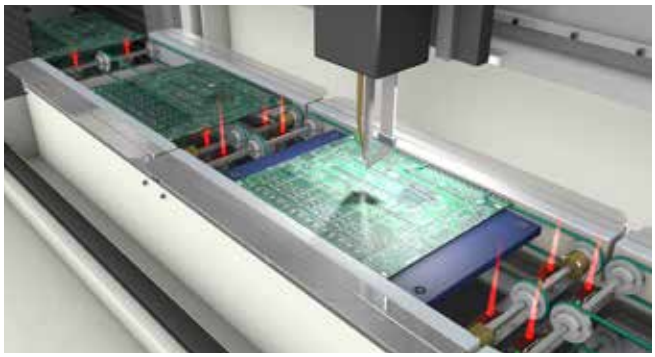


Lab Automation

O200 sensors with V-optics enable reliable presence detection of transparent objects such as ampoules *SmartReflect*® light barriers detect objects of all colors, shapes or surfaces without a reflector up to a distance of 180 mm. This makes installation even more compact.

Robotics – gripper arms

Thanks to their compact design and light weight, the O200 sensors are ideal for positioning tasks at gripper arms.



Microelectronics & semiconductors

No impairments by ambient light, neither by LED or camera illumination or interfering reflections caused by printed circuit boards.

Electronic devices

Extended functional reserve capacities ensure reliable detection of extremely dark and high-gloss objects without any loss of sensing range.

Assembly & Handling

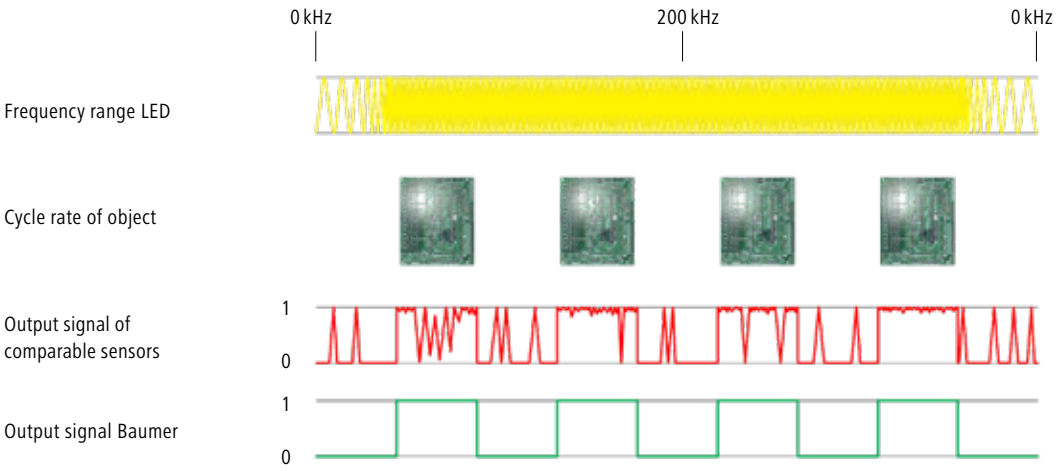
O200 sensors with V-optics allow the reliable detection of small shiny or transparent objects with ultimate accuracy.

Extreme ambient light immunity.

Unaffected by LED light and reflections

Typically, LED light is modulated at high frequencies up to 150 kHz. Depending on the upstream device, LED light has different properties (ripple, center frequency, frequency fluctuations and signal pattern) and therefore is a potential source of interference for light barriers and optical sensors.

The O200 sensors with innovative ambient light algorithm ensure maximum detection reliability in any lighting situation. The interfering sources identified by the algorithm are suppressed and a consistently high measurement speed is ensured.



The O200s – Miniature optical sensors with unique live performance

How well someone knows their stuff in theory is one thing. But what counts is how well they actually perform when it really matters. The O200s are miniature optical sensors whose talents really shine when they perform live, no matter what the location. So let yourself be swept away by the impressive live show of the O200s – enjoy!
www.baumer.com/o200-beyond

Photoelectric miniature sensors from Baumer

	Sensor	Size	Diffuse sensors with background suppression	Diffuse sensors with intensity difference	*SmartReflect*®	Retro-reflective sensor	Through-beam sensor	Laser	*PinPoint* LED	Red-light LED	Infrared LED	Response time	Line teach	*q Teqch*®	IO-Link	Preset sensing range	Teach button / Poti
Subminiature	FHDK 04	4 × 44.8 × 6.2 mm	50 mm							■		< 0.5 ms				■	
	FxDK 07 FxCK 07	8 × 16.2 × 10.8 mm	60 mm	150 mm	45 mm	800 mm	2.5 m					< 0.5 ms					■
Miniature rectangular	FxDM 08	8 × 58 × 12 mm		80 mm FZDM 08			3 m FSDM 08			■	■	< 1 ms				■	
	FxDK 10	10.4 × 27 × 14 mm	120 mm FHDK 10	200 mm FZDK 10		4 m FPDK 10	6 m FSDK 10			■		< 0.5 ms				■	■
	OxDK 10		130 mm OHDK 10	200 mm OZDK 10			10 m OSDK 10	■				< 0.05 ms					■
	O200.x	8 × 21 × 14.1 mm	120 mm O200.G		180 mm O200.S	4 m O200.R	6 m O200.T		■	■		< 0.25 ms	■	■	■	■	
	FxDM 12	12.4 × 35 × 35 mm	300 mm FHDM 12			8 m FPDM 12	7.5 m FSDM 12			■		< 1 ms					■
	OxDM 12		300 mm OHDM 12			8 m OPDM 12		■				< 0.5 ms					■
	O300.x	12.9 × 32.3 × 23 mm	300 mm O300.G	400 mm O300.Z	300 mm O300.S	6 m O300.R	15 m O300.T	■	■	■	■	< 0.1 ms	■	■	■		
	OHDM 13	13.4 × 48.2 × 40 mm	550 mm					■				< 5 ms					■
Miniature cylindrical	FxAM 08	M8 × 56 mm	80 mm FZAM 08								■	< 1 ms				■	
	FZAM 12	M12 × 70.5 mm	200 mm								■	< 1 ms					
Distance sensors	OADM 12	12.4 × 37 × 34.5 mm	Distance measurement with analog output					■				< 0.9 ms					■
	OADM 13	13.4 × 48.2 × 40 mm	Distance measurement with analog output					■				< 0.9 ms					■
	O300.Dx	12.9 × 32.3 × 23 mm	Distance measurement via IO-Link					■				< 0.25 ms			■		

More information about our O200 miniature sensors can be found at:
www.baumer.com/O200

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

Baumer
Passion for Sensors

Baumer Group
International Sales
P.O. Box · Hummelstrasse 17 · CH-8501 Frauenfeld
Phone +41 (0)52 728 1122 · Fax +41 (0)52 728 1144
sales@baumer.com · www.baumer.com

02/19 No. 11214200