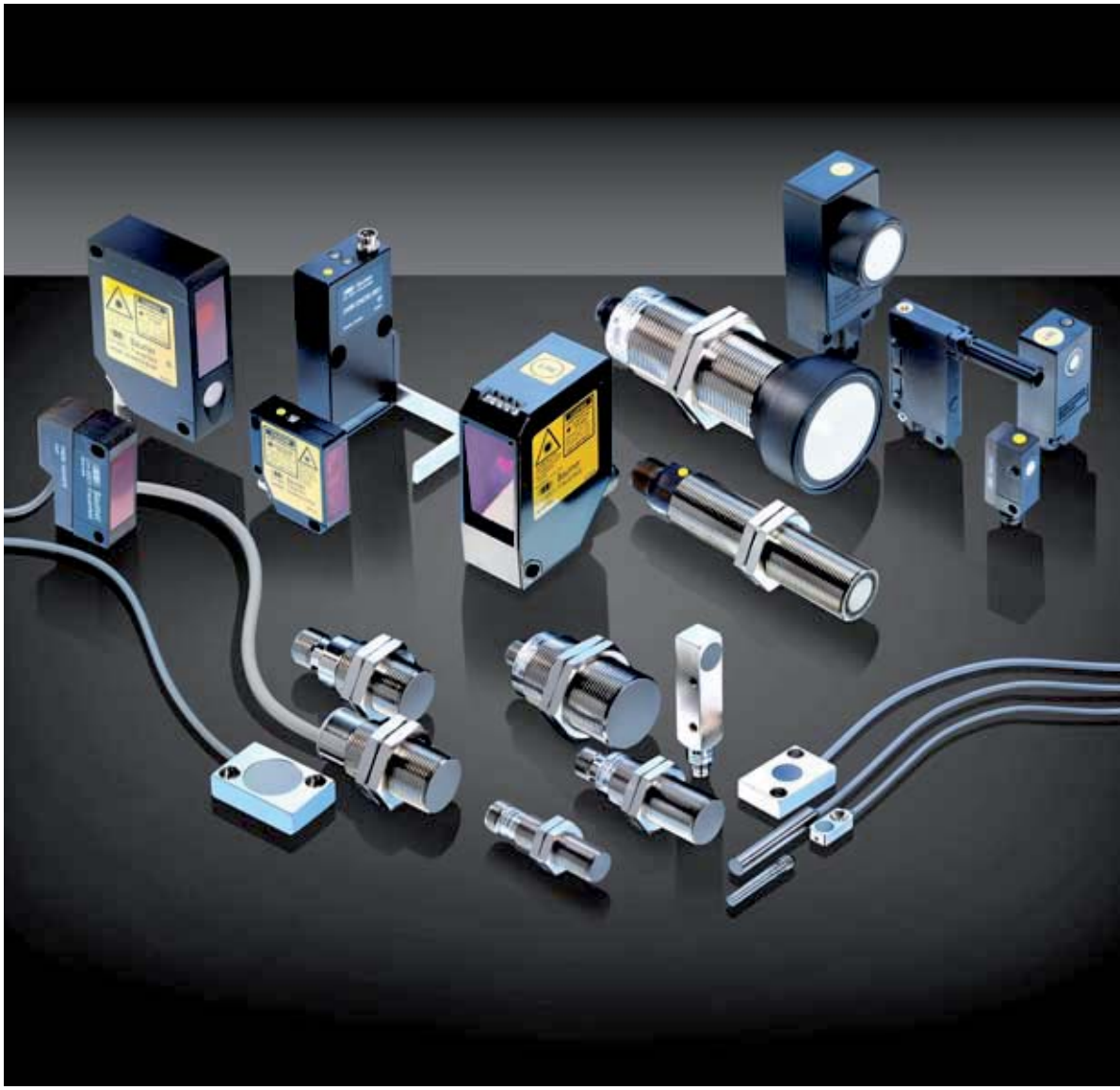
Baumer



Measurably better

Measuring sensors for factory automation

Sensor Solutions
Motion Control
Vision Technologies
Process Instrumentation

Expertise for your application

Our competent development, production and application know-how spans all of the sensor technologies. Consequently, outstanding strengths in the areas of portfolio, precision and capacity are the result for the range of measuring sensors.

Portfolio

The measuring sensors' broad product range encompasses all of the sensor technologies. Additionally, many sensor variants in the different technologies also result in a great depth. Thus, the appropriate sensor performance is available for each task, which results in an optimal cost-benefit ratio in the application.

Measuring Sensors

Precision

Very high resolutions down to the nanometer range and a high repeatability guarantee extremely precise measurements. Thanks to robust sensor versions, these are also achieved in challenging applications. As a result you profit from continuously precise measurement results, which provide for a very high process quality.

Capacity

As a pioneer in terms of miniaturization Baumer offers the smallest and at the same time most powerful sensors in its measuring sensors' portfolio. The very compact sensors have large sensing ranges and measure at short response times with high precision. These combinations create new solutions for applications where sensors could not be used up to now.

Solutions for every measuring task

Measuring linear motion

Inductive sensors
Measure contact-free axial movement or rotation angle of rotating shafts.

Measuring distances

Photoelectric sensors
Precise measurement upon distances up to 4 m with resolutions down to 2 µm. The sensors operate extensively independent of material and color.

Measuring fill levels

Ultrasonic sensors
Measure fill levels independent of media color and tranparency, even in the smallest containers and in aggressive environments.

Measuring angles

Magnetic sensors
Bearingless, wear-free measurement of angles of rotation with up to 0.09° resolution. Very flat housings allow use with only 9 mm mounting depth.

Measuring movement

Inductive sensors
Suitable for distances up to 16 mm upon metal. They feature high resolution, repeat accuracy and linearity.

Measuring widths

Photoelectric line sensors
The compact sensors measure object widths or determine edge positons precisely and quickly.

Measuring sensors for specific industry requirements

Large temperature range

suitable for outdoor applications
(-40 ... +85 °C)

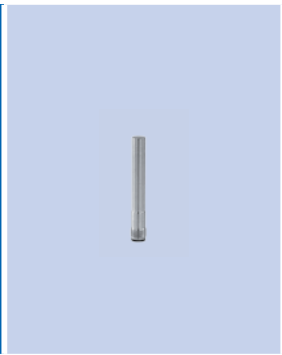
Miniature sensors

designed for use in the confined spaces in automation of handling, robotics and toolbuilding

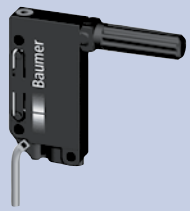
Hygienic design

for food and pharmaceutical applications

Inductive sensors

			IO-Link 	
Product family	IWRM 04	IWRM 06/08	IWRM 12/IPRM 12	IWRM 18
Characteristics	- Smallest measuring inductive sensor - Fully integrated electronics, 0 … 10 V output	- Large measuring distance in a small housing - Fully integrated electronics	- Measuring range definable via teach-in - Linearized output signal - Additional teachable switching output	- Measuring range definable via teach-in - Linearized output signal - Additional teachable switching output
Measuring distance	0 … 1 mm	0 … 2 mm	0 … 4 mm	0 … 8 mm
Response time	< 0.5 ms	< 0.7/< 0.5 ms	< 2 ms	< 2 ms
Resolution	< 1 µm	< 1 µm	< 0.1 µm	< 5 µm
Dimension	ø 4 mm	ø 6.5 mm/M8	M12 x 1	M18 x 1

Ultrasonic sensors

	IO-Link 			
Product family	UNxK 09	UNDK 10	UNDK 20	UNDK 30
Characteristics	- Sonic beam angle for very small openings - Narrow housing - Parameterization via RS232 - Various installation options	- Smallest ultrasonic sensor - Narrow sonic beam angle - Very low weight (4 g)	- Flat housing design - Narrow and wide sonic beam angles	- Large sensing range - Narrow and wide sonic beam angles - Cable and connector versions
Measuring distance	3 … 150 mm/30 ... 200 mm	20 ... 200 mm	20 ... 1000 mm	30 ... 2000 mm
Response time	< 7 ms	< 60 ms	< 30 ms	< 50 ms
Resolution	< 0.1 mm	< 0.3 mm	< 0.3 mm	< 0.3 mm
Dimension	8.6 x 48.8 x 57.7 mm	10.4 x 27 x 14 mm	20 x 42 x 15 mm	30 x 65 x 31 mm

				
IWRM 30 - Measuring range definable via teach-in - Linearized output signal - Additional teachable switching output	**IWFM 08** - Compact housing - Fully integrated electronics - Robust metal housing	**IWFM 12** - Integrated current and voltage output	**IWFM 18/20** - Integrated current and voltage output - Small linearity tolerance	**IWFK 20** - Measuring range definable via teach-in - Teach-in button integrated in the housing - Additional teachable switching output
0 … 16 mm	0 … 2 mm	0 … 4 mm	0 … 4 mm	0 … 10 mm
< 2 ms	< 1 ms	< 2 ms	< 0,5 ms	< 2,5 ms
< 5 µm	< 1 µm	< 1 µm	< 1 µm	< 10 µm
M30 x 1,5	8 x 16 x 4,7 mm	12 x 60 x 12 mm	18 x 30 x 10 mm	20 x 42 x 15 mm

				
UNAM 12 - Narrow and wide sonic beam angles - Current and voltage output	**UNAM 12** - Beam columnator for very narrow sonic beam angles - Robust metal housing	**UNAM 18/UNAR 18** - Large sensing range - Increased chemical resistance	**UNAM 30** - Internal and external teach-in - Cable and connector versions	**UNAM 50** - Large sensing range - Internal and external teach-in - Wide sonic beam angle
20 ... 400 mm	2 ... 82 mm	60 ... 1000 mm	100 ... 1000 mm	400 ... 2500 mm
< 30 ms	< 30 ms	< 25 ms	< 80 ms	< 160 ms
< 0.3 mm	< 0.3 mm	< 0.3 mm	< 0.3 mm	< 0.3 mm
M12 x 1	M12 x 1	M18 x 1	M30 x 1	M50 x 1

Photoelectric sensors

		IO-Link 		
Product family	OADM 12	FADK 14	OADM 13	OADM 20
Characteristics	- Smallest laser distance sensor - Measuring range teach-able - Highest resolution	- Small beam spot due to point source LED - Measuring range teach-able - Adjustable via IO-Link	- Large measuring distance in a small housing - Measuring range teach-able - Spot or line laser beam	- Measuring range teach-able - Spot or line laser beam - Input for synchronizing measurements
Measuring distance	16 … 120 mm	50 … 400 mm	50 … 550 mm	30 … 1000 mm
Response time	< 0.9 ms	< 3 ms	< 0.9 ms	< 0.9 ms
Resolution	2 µm	0.1 mm	10 µm	4 µm
Dimension	12.4 x 37 x 34.5 mm	14.8 x 43 x 31 mm	13.4 x 48.2 x 40 mm	20.6 x 65 x 50 mm

Photoelectric line sensors

		
Product family	ZADM 023	ZADM 034
Characteristics	- Measurement of edge positions, object widths and object center positions - Integrated filter for detecting transparent objects - Interface RS485	- Measurement of edge positions and object widths - Very short response time - Parallel light beams
Measuring distance	30 ... 870 mm	24 mm
Response time	< 2 ms	< 1 ms
Resolution	< 30 µm	< 50 µm
Dimension	22.9 x 50 x 50 mm	34 x 67 x 16.5 mm

			
OADM 20	OADR 20	OADM 21	OADM 250
- Increased vibration immunity - Increased ambient light immunity 100 kLux - Suitable for outdoor applications	- Stainless steel housing - Protection class IP 69K - Measuring range teach-able	- Measuring range teach-able - Spot or line laser beam - High resolution	- Color-independent measurement up to 4 m - Alarm output - Measuring range teach-able - Very compact housing
50 … 600 mm	30 … 600 mm	100 … 1000 mm	0.2 … 4 m
< 2.5 ms	< 0,9 ms	< 4 ms	< 10 ms
10 µm	5 µm	10 µm	1.2 mm
20.6 x 65 x 50 mm	20.3 x 65 x 50 mm	20.4 x 135 x 45 mm	25.4 x 65 x 51 mm

Magnetic sensors

			
Product family	MDRM 18	MDRM 18	MDFM 20
Characteristics	- Absolute output signal over 360° of rotation - Robust metal housing	- Absolute output signal over 160° of rotation - Robust metal housing	- Absolute output signal over 360° of rotation - Very shallow mounting depth (9 mm) - Robust metal housing
Angle of rotation	360° linear	160° linear	360° linear
Response time	< 2 ms	< 0,7 ms	< 3 ms
Resolution	0.09°	0.36°	0.09°
Dimension	M18 x 1	M18 x 1	20 x 30 x 8 mm

Measuring sensors at www.baumer.com/measuring

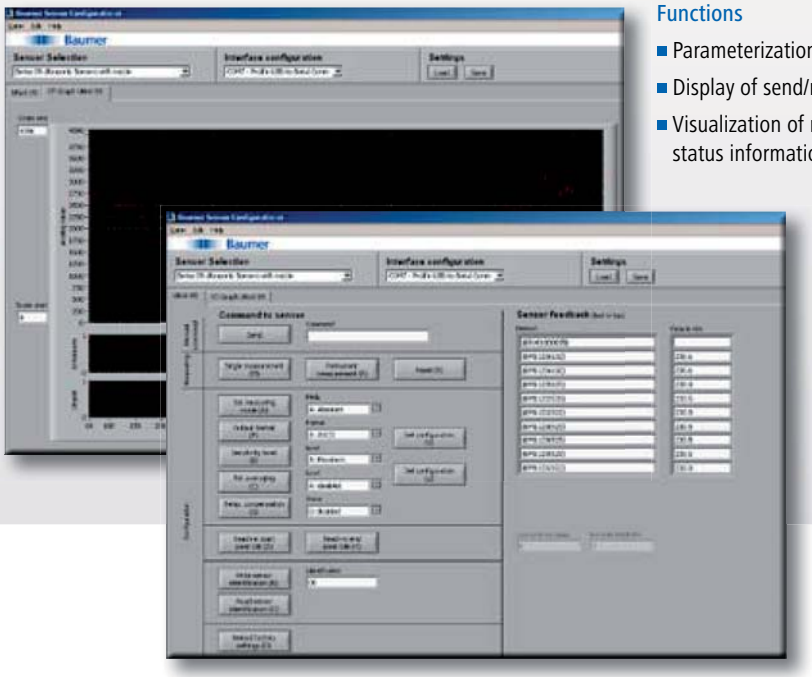
Find out more about

Product data
- Data sheets
- 3D drawings
- Manuals

Knowledge & Technology
- Interfaces
- Measurement technologies

Industries
- The right solutions for your applications in your industry

Baumer Sensor Configurator – Parameterizing and visualizing software for sensors with serial interface



Functions
- Parameterization of sensors
- Display of send/receive protocols
- Visualization of measured values and status information

Your benefit
- Reduced parameterization time, due to easy operation on the computer
- Convenient management of sensor configurations
- Graphic user interface for monitoring the analog signals and switching states
- Standardized user interface facilitates operation

Request your configurator software at sales@baumer.com.

Baumer

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