



Baumer inductive sensors  
Quality you can rely on

Sensor Solutions  
Motion Control  
Vision Technologies

# Baumer inductive sensors meet all your requirements.

## The strengths of inductive sensor technology

- Contactless, maintenance free detection principle
- Short response times permit high process cycle rates
- Extremely precise and stable switching and measuring behavior
- Mechanically durable and extremely resistant to dirt and vibration

## What characterizes Baumer's inductive sensors?

- Highest degree of operational security through compliance with the specified values
- Easiest possible installation thanks to repeatable, narrow tolerance switching points
- High temperature stability
- Minimal failure rates through maximum reduction of components
- Application of the latest technologies such as ASIC, Controller, etc.
- High electromagnetic compatibility (EMC)

## Baumer inductive sensors: Reliable for your application

Baumer places the greatest value in the quality of its products and in reducing their failure probability to a minimum. In keeping with this objective, an ASIC was employed in the design of the inductive sensors in order to reduce the number of components and solder points to an absolute minimum, something which has a very positive effect on the MTBF (Mean Time Between Failures).

## Quality through process security

Aside from the design, the manufacturing process contributes greatly to the creation of a high quality product. Manufacturing takes place in accordance with the «Baumer Operations System» at specially developed manufacturing islands. On this «Lean Six Sigma» methodical basis we are able to ensure the highest possible level of product quality for our customers. Each sensor is individually programmed at the end of the assembly stage and therefore also undergoes a total functional inspection.



# The right sensor for every task.



## Standard sensors

- Dimensions 3 mm ... M30
- Sensing distance 0,8 ... 15 mm
- Switching frequency up to 5 kHz
- Accurate, reproducible specifications
- Minimal temperature drift

- The right housing for each installation situation
- Detection of fast moving objects
- Easiest possible installation with no fine adjustment
- Maximum service life



## AlphaProx – Analog sensors

- Dimensions 4 mm ... M30
- Measuring ranges 1 ... 16 mm
- Fully integrated electronics
- High linearity: resolution 0,1  $\mu\text{m}$
- Minimal temperature drift

- Can be installed in the smallest locations
- Measures even minute object movements
- Very high measuring accuracy
- No temperature compensation required



## Miniaturization

In order to react to the trend towards further miniaturization of machinery and equipment, Baumer has developed the world's smallest inductive sensors. A complete line, comprising sensors of various dimensions and housing forms, is a perfect match for these ultra-compact applications.



### GammaProx – Increased sensing distance

- Dimensions 6,5 mm ... M12
- Up to 10 mm sensing distance
- Non-shielded and quasi-shielded versions

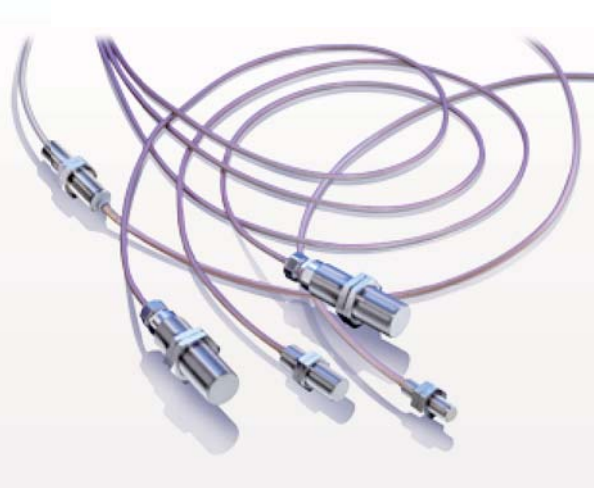
- Reliable detection of nonferrous metals
- Large installation tolerances possible
- Reliable detection where object distance varies



### DuroProx – Full metal sensors

- Dimensions 6,5 mm ... M18
- Active surface area and housing made of V4A stainless steel, IP 69K
- Sensing distance 2 ... 6 mm

- Food industry
- Chemically resistant
- High pressure cleaning possible
- High abrasion resistance



### High temperature sensors

- Dimensions M8 ... M18
- Temperature resistant up to +180 °C
- Sensing distance 2 ... 5 mm
- External electronics

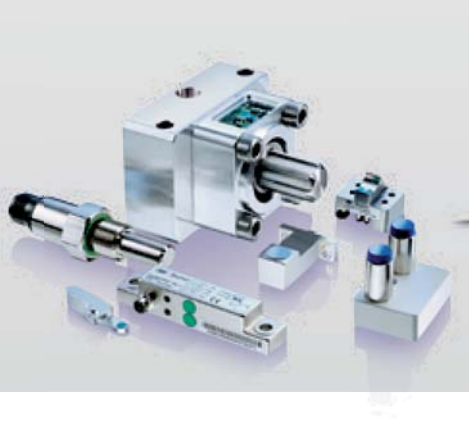
- Suitable for applications with high operating temperatures
- Application in process and soldering technologies



### High pressure resistant sensors

- Dimensions M12 ... M18
- Pressure resistant up to 500 bar
- Active surface area made of ceramic
- Sensing distance 2 mm

- Installation in hydraulic cylinders
- Pneumatic applications
- High level of chemical and mechanical resistance



### Customer-specific adaptations

- Adaptation of standard sensors to customer specifications (semi-custom solutions)

- Optimal integration in the application
- Best price/performance ratio
- Exploiting Baumer's technological expertise



### Special designs

- Special designs developed according to customer specifications (full custom)

- Ideal adaptation to the application requirements
- Reduction of system costs
- Combination of technological expertise and application know-how

# Inductive sensors in action

## For positioning

### Miniature sensors

- Minimum space requirements
- High repeatability
- High switching frequencies
- Extremely precise switching



## For measuring and regulation

### AlphaProx – Analog sensors

- Measuring range up to 16 mm
- High linearity
- Resolution: 0,1  $\mu\text{m}$
- Outstanding temperature behavior
- Short response times



## For process monitoring

### GammaProx – Sensors with increased sensing distance

- Reliable detection in applications where object distances vary greatly
- Reliable detection of nonferrous metals



## In harsh environments

### DuroProx – full metal sensors

- High IP 69K protection class
- Application temperatures up to +100 °C
- Resistant to aggressive media
- Pressure resistant



## Application fields

- Graphics industry
- Handling, assembly, robots
- Machine engineering industry
- Special machinery and equipment
- Measuring instruments and instrument engineering
- Laboratory equipment and automation
- Packaging machinery
- Machine tool engineering
- Textile, clothing, leather industries

# Baumer sensor competence also includes...

## Sensor Solutions

- Photoelectric sensors
- Inductive sensors
- Capacitive sensors
- Ultrasonic sensors
- Magnetic sensors
- Force and strain sensors
- Precision switches
- Fiber-optics and fiber-optic sensors
- Vision sensors
- Color sensors
- OEM custom developments



## Motion Control

- Encoders
- Counters
- Process displays
- Spindle positioning systems
- Actuators and positioning drives
- Resolvers
- Speed switches
- Tachogenerators
- Angle measuring systems



## Vision Technologies

- Digital cameras
- Intelligent cameras
- Smart vision sensors
- OEM camera modules
- Optical inspection systems
- Surface inspection
- Parts inspection
- OCR- and code identification



## Process Instrumentation

- Pressure measurement
- Temperature measurement
- Level measurement
- Process analysis



The quick way to further information – [www.baumergroup.com](http://www.baumergroup.com)

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