

# Motion Control

## Encoders for precision movement



# Baumer Motion Control

## R&D and fabrication sites



### Baumer IVO

- Villingen-Schwenningen, GERMANY



### Baumer Hübner

- Berlin, GERMANY



### Baumer

- Frauenfeld, SWITZERLAND



### Baumer Thalheim

- Eschwege, GERMANY

# Motion Control Branche know-how

## Precise motor feedback and positioning





# Motion Control Branche know-how Baumer No. 1 in HeavyDuty Encoder



# Motion Control

## The broadest product portfolio worldwide



- Incremental and absolute encoders (industrial duty & HeavyDuty)
- Speed switches
- Tachogenerators
- Combinations
- Bearingless encoders
- Inclination sensors
- Cable-pull encoders
  
- ATEX & SIL certified products
- Corrosion resistant products
  
- Counters and process displays
- Spindle positioning systems
- Actuators and positioning drives
- Signal processing and accessories

# Motion Control

## Absolute encoders – innovative and flexible







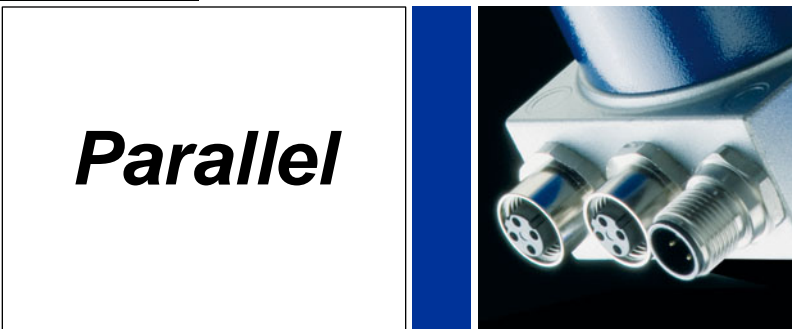
Baumer encoders offer solutions with highest functionality

- Miniature encoders from 30 mm housing diameter
  - HeavyDuty versions with up to 70 mm hollow shaft
  - Magnetic or optical sensing
  - Resolutions up to 18 bits singleturn and 18 bits multiturn
- 
- All common interfaces



# Motion Control

## Highest competence for serial interfaces

			<p><b>RS485</b></p>
		<p><b>Analog</b> <b>0...10 V</b> <b>4...20 mA</b></p>	
		<p><b>Parallel</b></p>	

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## Highest competence for fieldbus & profiles





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## Highest competence for Realtime Ethernet



# Motion Control

## Incremental encoders – manifold and precise



Baumer products are characterized by a large range of ppr values and designs

- Miniature encoders from 24 mm housing diameter
- HeavyDuty encoders with up to 150 mm hollow shaft
- Optical or magnetic sensing
- Resolution up to 1.3 million ppr
- Purest LowHarmonics sine-wave signals - for better process control and reduced drive heating



# Motion Control

## HeavyDuty encoders – tough & precise



From the world leading pioneer and expert



- More than 56 years of experience in design and application
- Products unbeatable in toughness, reliability and precision
- Enhanced Monitoring System EMS for fast error tracking and increased machine up-time





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## HeavyDuty speed switches – safety by design



Baumer offers reliable switching devices for maximum safety

- Mechanical centrifugal switching – mechanically safe
- Electronic speed switches – adjustable by PC



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## HeavyDuty tachogenerators – unbeatable lifetime



Tachogenerators –  
precise and maintenance-free

- Highest accuracy over the entire speed range
  - Outstanding service life
  - Real time measurement
- 
- Patented LongLife commutator with embedded silver track



# Motion Control

## HeavyDuty combinations – with added value



Flexible combination – for safe and durable operation

- Encoders with redundant signals
- Double encoder
- Encoder + tachogenerator
- Encoder + speed switch
- Encoder + tacho + speed switch
- ...

- All the signals for different drive control and supervision units in one combination





# Motion Control

## Bearingless encoders – robust and compact



Space restrictions, dirt, vibrations – optimum conditions for Baumer bearingless encoders

- Absolute & incremental, rotary and linear versions
  - For large shaft diameters up to 740 mm
  - Space saving design
  - Wear-free operation
  - Unlimited lifetime
- 
- High definition magnetic sensing up to 524'288 ppr

**HDmag<sup>®</sup>**

# Motion Control

## Encoders for functional safety



Speed up realization of safety applications with Baumer experience

- Incremental and absolute versions
- Certified products (IEC 62061)
- Safety functions (IEC 61800-5-2)
  - Safe position and safe speed



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## Inclination sensors



Easy-to-use sensor for accurate angle measurement

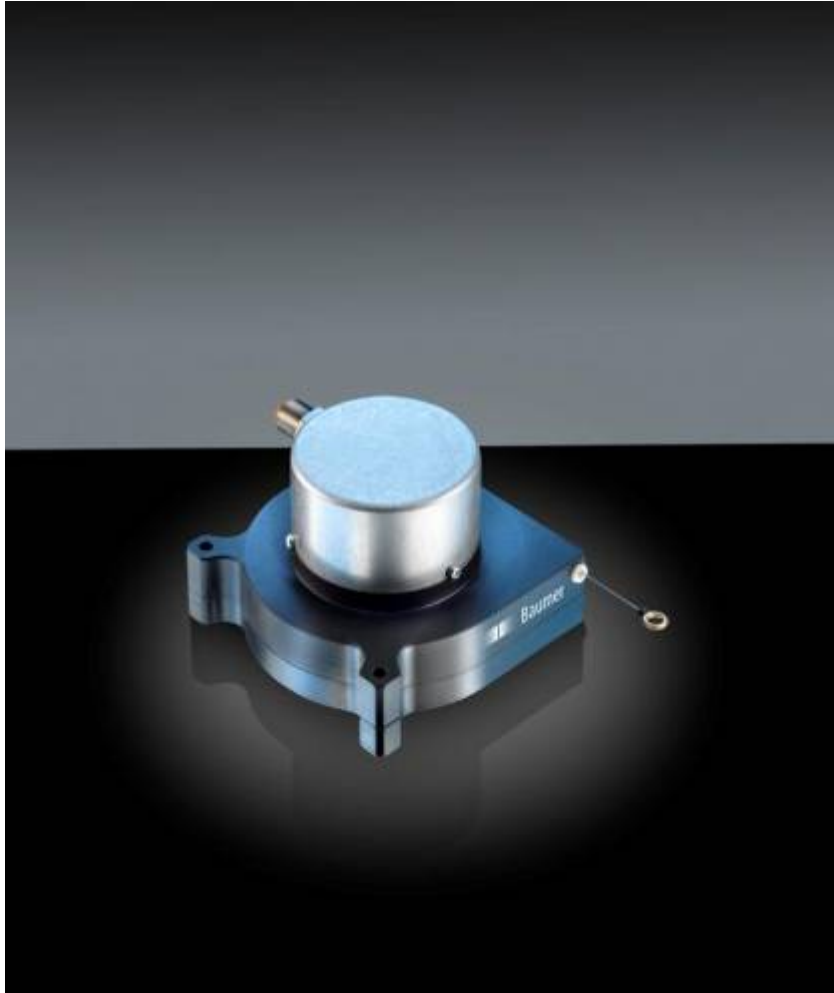
- Measuring range 1D and 2D
- Analog, CANopen & Profibus
- Corrosion resistant versions





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## Cable-pull encoders – flexible and precise



Linear measurement – made simple and easy as never before

- Measurement range 1...60 m
- Absolute & incremental versions with all relevant interfaces
- Redundant systems
- Highest linearity
- Robust operation in all conditions

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## Special applications require special solutions



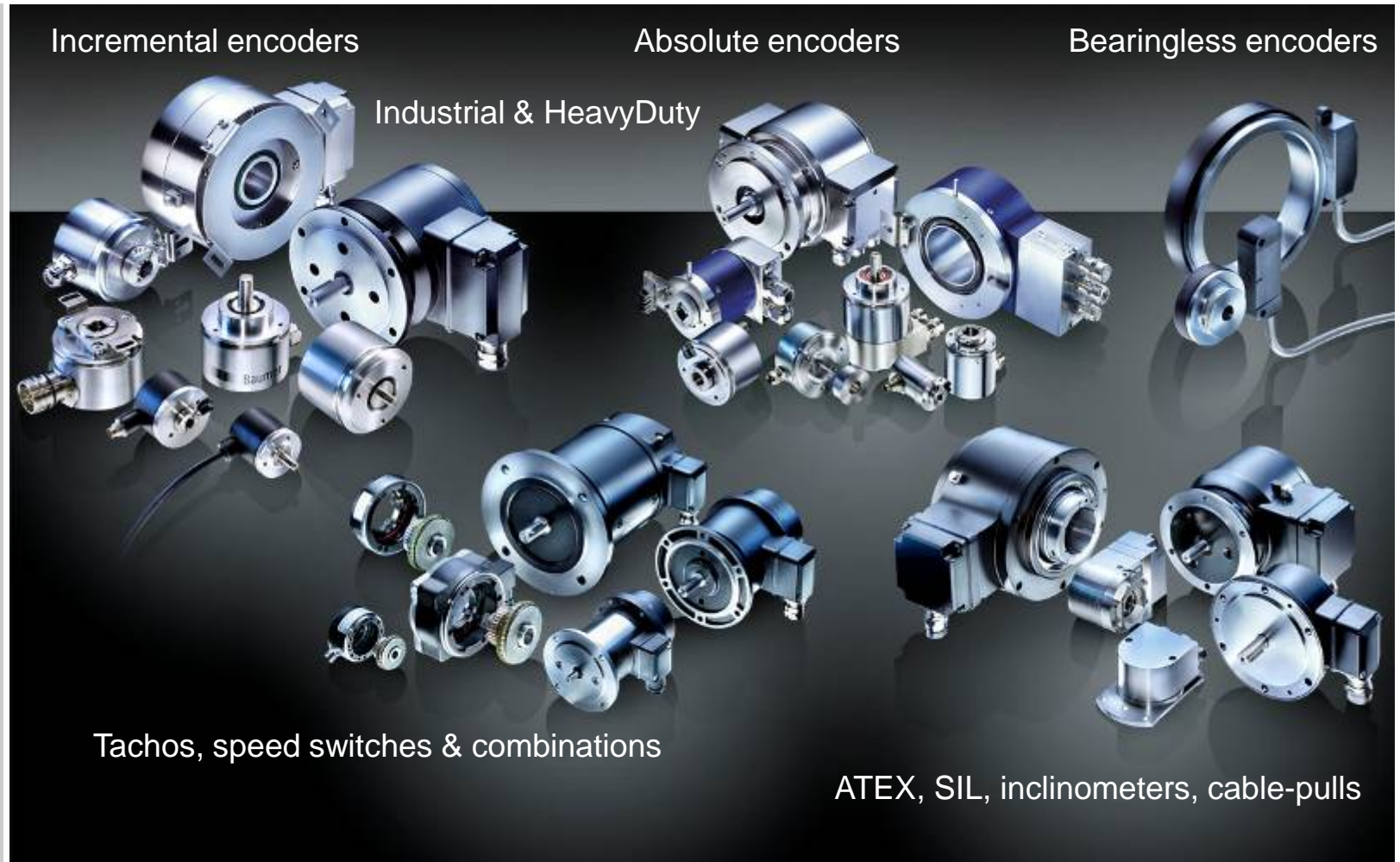
The broad Baumer product range is supplemented by products for operation under extreme conditions

- Corrosion resistant products (C3, C4 & C5M)
- Stainless steel products
- Shock proof products (500 g)
- Cold climate (-50°C) and high temperature (+120°C) products
- ATEX-certified products (Zone 0, 1, 2 & 22)



# Motion Control

## The broadest product portfolio worldwide



We at thank you for your attention  
and look forward to serving you across the globe!

