POSITAL

POSITION AND MOTION SENSORS

At Your
Fingertips
1,000,000
Sensors

Machinery – Motion Control – Energy Harvesting

POSITAL

POSITION SENSORS
FOR MACHINERY APPLICATIONS

IXARC – Programmable Incremental Encoders

Incremental encoders are used in a wide range of motion and speed control applications. They generate an output signal each time the shaft rotates by a certain angle. The number of signals (pulses) per turn (PPR) defines the resolution of the encoder.

- **Fully Programmable**
- **Any Resolution From 1 to 16384 PPR**
- **A, B, Z, and Inverted Signals as HTL (Push-Pull) or TTL (RS422)**
- **Well Protected up to IP69k and 300g**
- **Compatible With Most Mechanical Standards in America, Asia and Europe**

IXARC – Wide Selection of Absolute Encoders

Absolute rotary encoders are capable of providing unique position values from the moment they are switched on. Even movements that occur while the system is without power are translated into accurate position values once the encoder is powered up again.

- **More Than 600,000 Types of Encoders**
- **Large Variety of Electrical Interfaces: From Analog or Serial Outputs to Fieldbus and Industrial Ethernet**
- **Optical and Magnetic Measuring Principles**

TILTIX – Precise And Robust Inclinometers

Inclinometers provide accurate measurement of tilt or inclination, which is very important for many motion control and safety applications. POSITAL's inclinometers are designed for tough outdoor conditions and dynamic versions are available for movements with strong accelerations. A smart algorithm combines the signal of an accelerometer and a gyroscope to stabilize the output.

- **Accuracy up to 0.1°, Resolution of 0.01°**
- **Measurement Range of up to ±90° or 360°**
- **Well Protected up to IP69k and 300g**
- **Variety of Electrical Interfaces, including CANopen, J1939, Analog, Modbus and SSI**

LINARIX – Versatile Linear Sensors

LINARIX draw wire sensors are used to monitor linear motion for system control or to ensure safety in many applications. With lengths ranging from 1 m to 15 m (3' to 49'), LINARIX draw wire sensors are available in many configurations to meet an application's requirements.

- **Absolute Position Measurement With Resolution up to 2 µm**
- **Very Wide Selection of Mechanical and Electrical Interfaces**

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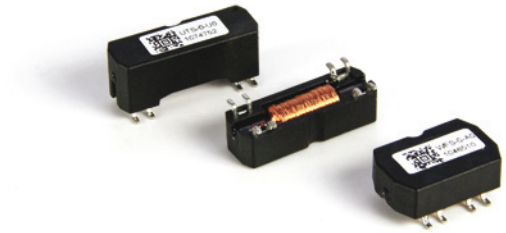
SENSORS FOR MOTORS, ROBOTS AND ENERGY HARVESTING



Multiturn Kit Encoders Without Battery

POSITAL's kit encoders offer a wide Multiturn range without the need for a battery or gear system. They are very compact, cost efficient and available with open source electrical interfaces like BiSS-C or BiSS Line (RS485) and SSI. One Cable Technology is supported. An integrated auto-calibration function eliminates the need for complex production equipment. They are less sensitive to dust and moisture and can be assembled in a normal factory setting.

- **Multiturn Without Battery or Gear**
- **Diameter: Down to 22 mm Outer Diameter**
- **Hollow Shaft Versions: up to 50 mm (inner diam.)**
- **17 Bit Resolution (up to 19 Bit for Hollow Shaft)**
- **Multiple Open Source Interfaces: BiSS-C, BiSS Line, RS485, SSI**
- **One Cable Technology (2 Wire and 4 Wire)**
- **Insensitive to Dust and Moisture**
- **Auto-Calibration – No C omplex Equipment**

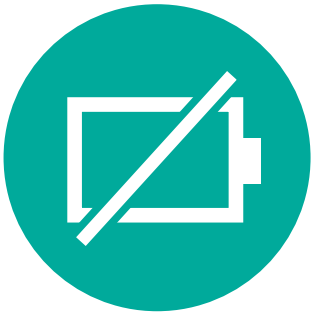
Wiegand Sensors For Energy Harvesting

Wiegand sensors are used as pulse generators in a range of applications; for example as a power source in energy self-sufficient revolution counters, in a flow meter or as a contactless switch. The sensor needs no external power source and has no moving parts. The consistency of the pulses produced can also be used to provide energy for ultra-low power electronics to be operated using a single pulse.

- **Self Powered Magnetic Sensing**
- **For Pulse Generation, Energy Harvesting and Power Transmission**
- **Constant Energy Output at Any Speed Level**
- **Proven in Absolute Encoders since 2007**
- **Proven Production Process with Roots in John Wiegand's Work Since 1974**

Accessories

POSITAL offers a wide selection of accessories including cables, connectors, couplings, draw wire adapters, mounting fixtures, counters, displays and programming tools.



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HIGHLIGHTS

Mass Customization

POSITAL encoders are based on a modular architecture that makes it possible to offer more than one million configuration options. Using a convenient online product finder tool, customers can “build” the sensor they need. Once the online selection is completed, devices are custom-assembled through a computer-controlled manufacturing system that ensures quality and rapid delivery at prices comparable to mass-produced items.

- **Configure Your Customized Sensor Online**

Programmability – Save Time and Money

POSITAL has replaced hardware by software and has taken versatility to a new level. Many parameters can be configured easily using the UBIFAST tool in combination with any WiFi-enabled smartphone, tablet or computer. Configuration data can easily be transferred automatically and can be retrieved in the future for replacement. Distributors and OEM customers can reduce their inventory levels. System integrators can decide at the last minute how to tailor the sensor to specific requirements on-site.

- **Reduce Stocks, Minimize Down Time**

Energy Harvesting – No Battery

POSITAL‘s Wiegand energy harvesting system is at the core of most POSITAL Multiturn encoders. It eliminates the need for backup batteries. At any rotational speed, even the slowest, the Wiegand system generates powerful voltage pulses with each complete revolution. These pulses supply enough power to the electronics, even when the external power supply is unavailable. This principle, which has proven itself since 2005 ensures reliable, maintenance-free position measurements.

- **No Battery – No Maintenance**

Tough Sensors for Tough Jobs

Both encoders and inclinometers are available in heavy duty designs with a protection class of up to IP69k. Stainless steel versions and explosion proof versions are also available. Encoders can stand shaft loads of up to 300N and offer a shock resistance of up to 300g. Most products cover a temperature range from -40°C to +85°C

- **High Protection up to IP69k**
- **Up to 300N Load and up to 300g Shock**
- **Explosion Proof Designs for Zone 2/22 and 1/21**

ANALOG · IO-Link · PROFINET · BiSS LINE · CANopen · EtherNet/IP · PARALLEL · PROFIsafe · ETHERNET POWERLINK · Modbus · PROFIBUS · Ex · DeviceNet · INCREMENTAL · EtherCAT · SAE J1939 · SSI · BiSS INTERFACE

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INDUSTRIES (EXAMPLES)

Mobile Machinery

In mobile machinery, success is only possible when safety, efficiency and reliability are combined. POSITAL position and motion sensors can be used in a variety of applications to accomplish these goals; such as monitoring the stability of a platform and the careful positioning of boom arms and blasting equipment. To be effective, sensors must withstand years of impact, shock, vibration, extreme temperatures and inclement weather.

- **Robust, Precise and Dynamic Inclinometers**
- **Heavy Duty Encoders up to IP69k**
- **Wide Selection of Draw Wire Sensors**

Factory Automation

There are many hundred applications for rotary encoders, draw wire sensors and inclinometers in different types of production machines. Different control systems and electrical interfaces are used, while mechanical interfaces and environmental conditions are also quite different in different types of machines and in different regions. Over the last 50 Years POSITAL has created a portfolio of more than one million different position sensors to cover the wide range of requirements.

- **More Than 1 Million Solutions**
- **Online Product Selection – Find What You Need**

Material Handling

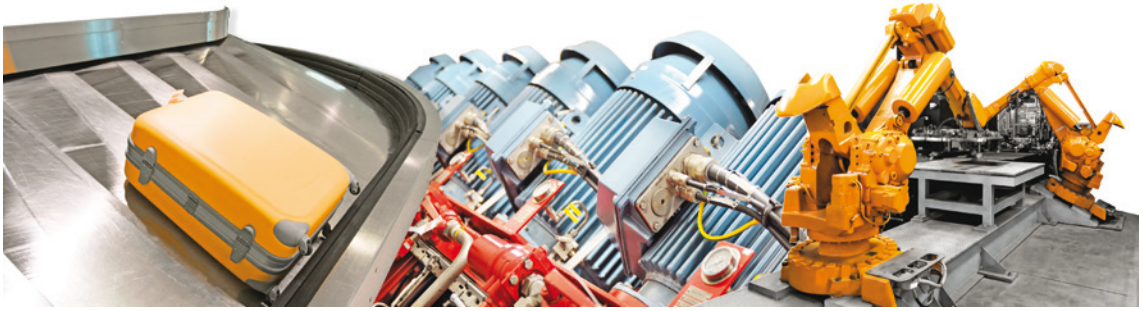
Whether it is in a warehouse, a logistics center, a factory or an airport, material handling needs to be efficient, accurate and safe. POSITAL has accumulated expertise with diverse material handling equipment over many years. The sensors are designed to provide accurate rotation, tilt and length measurement in different applications; automated warehousing, forklifts, conveyors, cranes, aerial work platforms and scissor lifts.

- **More Than 50 Years of Experience**
- **All Common Electrical Interfaces Supported**

Drives And Robotics

In order to avoid homing after a loss of power, more and more electrical motors are equipped with Multiturn encoders. POSITAL's kit encoders are easy to install in a normal factory setting without any complex equipment. Due to the Wiegand Energy Harvesting system, they don't require a battery and can be operated for decades without maintenance. They are very compact (down to 22 mm), cost efficient and include open source interfaces. Hollow Shaft Multiturn versions are available for direct integration to robotic arms and direct drive motors

- **Multiturn Without Battery – No Maintenance**
- **Very Compact and Cost Efficient Designs**



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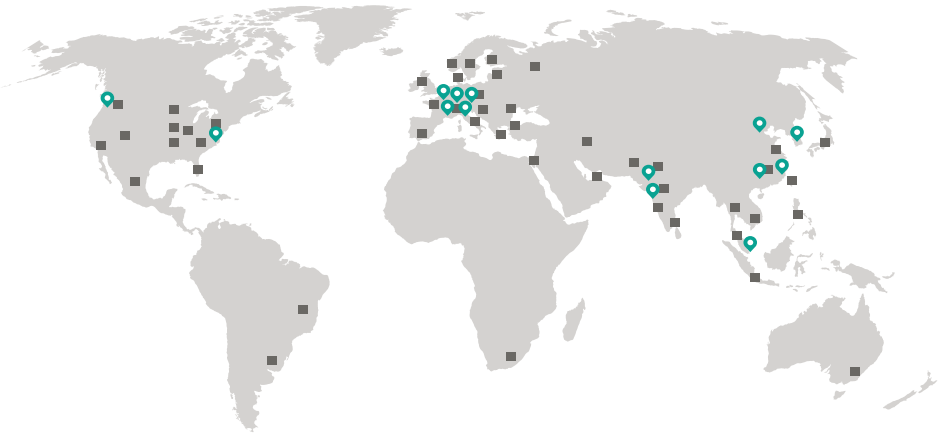
OVER 50 YEARS EXPERIENCE WITH POSITION SENSORS



FRABA Group

FRABA is a group of enterprises focused on providing advanced products for the motion control and industrial automation markets. POSITAL has been a leading manufacturer of industrial rotary encoders for over 50 years and has expanded its business to include tilt and linear motion sensors. Other FRABA Group subsidiaries include VITECTOR, which focuses on protection sensors to guard doors and production machine covers. FRABA group is also an innovator in product design and manufacturing processes and a pioneer of Industry 4.0.

History

FRABA Group dates back to 1918, when its predecessor, Franz Baumgartner elektrische Apparate GmbH, was established in Cologne/Germany to manufacture relays. In 1973, FRABA introduced one of the first non-contact, absolute Multiturn encoders. Since then, the company has played a trend-setting role in the development of rotary encoders and other sensor products.

Service and Production

POSITAL has a global reach with subsidiaries in Europe, North America and Asia – and sales and distribution partners around the world. Products are manufactured in advanced production facilities. The computer-guided, semi-automated production system tracks each device from order, through assembly and testing, to final delivery.

Stand Alone Encoder Business

POSITAL's unique online product finder provides access to a huge variety of solutions without the need for specialized knowledge. Thousands of easy-to-browse datasheets are available in 11 languages. The traditional practice of customization has been replaced by this new approach. Even with one million unique configurations, standard products are ready to ship within 5 working days.

Join Our Network!

www.posital.com

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