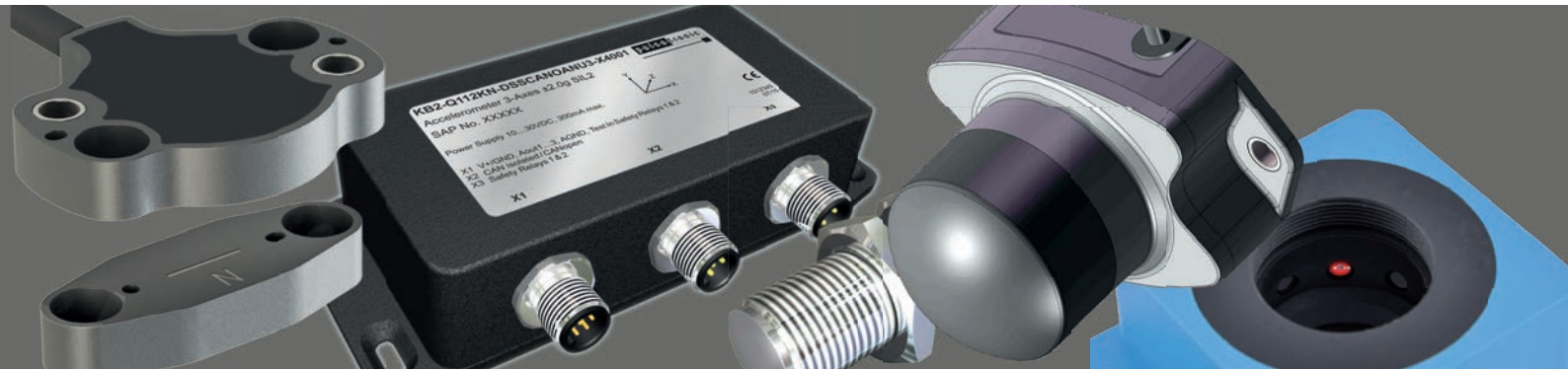




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PRODUCT RANGE



CUSTOMIZED SOLUTIONS
FOR AUTOMATION
AND AUTOMOTIVE



EVERYTHING FROM ONE SOURCE - TO YOUR ADVANTAGE.

PULSOTRONIC GMBH & CO. KG - THE COMPANY



QUALITY INNOVATION

Pulsotronic, a subsidiary company of PHOENIX CONTACT PS Holding GmbH, is a worldwide active supplier of sensor technology and electric components for moving machines, automation and automotive. According to our motto "Everything from one source - to your advantage." we stand for a broad programme of innovation and modern technology. Situated in the aspiring industry region Chemnitz-Zwickau we develop and manufacture

- Inductive and capacitive sensors
- Angle sensors
- Magnetoresistive sensors
- Optical sensors and laser measurement systems
- Colour detection systems
- Strain Transducer sensors
- Ultrasonic and acoustic sensors
- Current Transducer
- Radar sensors
- Inclination and acceleration sensors
- complete sensor systems and solutions

The needs of our customers build the focus of our company's efforts. Because of our great capacities in the field customized solutions, flexibility and the know-how of partnership between Pulsotronic and SKS Kontakttechnik in advanced technologies

- SMT
- Custom cable preparation and assembly
- Plastic moulding
- Tool making
- Mechanical conditioning
- Rapid prototyping
- Development and design of electronics

we provide ideal conditions for going along with the customer from the beginning until the end of the manufacturing process. Pulsotronic is everywhere where it's necessary to set up new standards and to find solutions beyond common technologies. Innovation, commitment and a fast implementing guarantee best results for the realisation of the customers application.

CUSTOMER PROXIMITY



Application Control Units

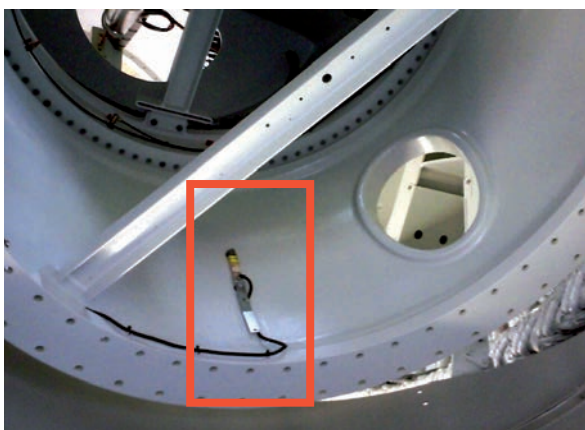
Intelligent control units for motors take care that cash-desk conveyors are working smoothly. In interaction with binary sensors and the downstream equipment they are realize special functions like soft start, energy recovery or motor commutation - of course also together with industrial fieldbus interfaces.



Application Feed Stroke

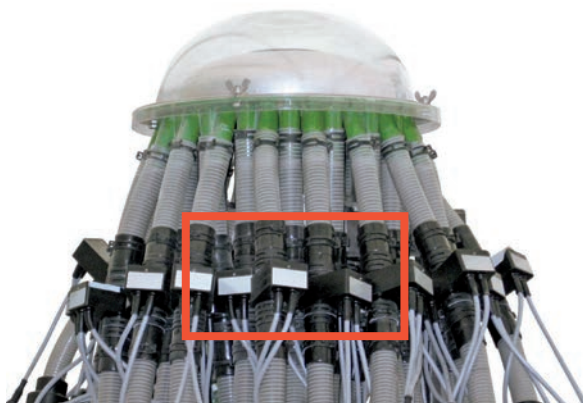
Customized inductive double sensor in a special housing. Polls the feed stroke of a forke lifter by using two active areas. Measures speed and position with two output signals and a 90° phaseshift. Replaces two standard M12 proximities with an easy mounting and with only one connecting cable.

FROM THE IDEA TO THE COMPLETE SYSTEM



Application Rotor-Blade-Adapter - Load Monitoring

Strain-gauge-bridges with especially adapted housings for the permanent monitoring of wind speed at the rotor-blade-adapters on windmills. Design and function of these systems are adjusted to material and environmental conditions of the several types of windmills and the climes worldwide.

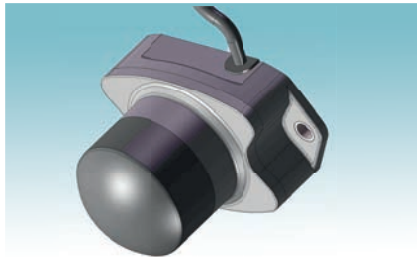


Application Flow Rate Sensors

Flow rate sensors are monitoring the seed flow at seed drill machines. Check for flow or jam as well as single seed counting from 3mm grain size are features of this device. Via internal CAN-Bus up to 96 sensors communicate to one master system.



NEWS

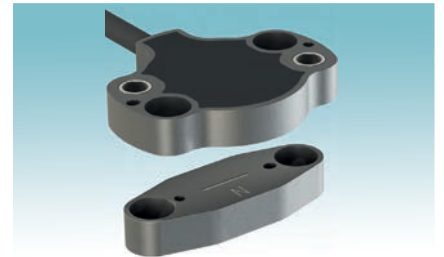


Autonomic driving and E-Mobility are core areas in the automotive future research. Permanent monitoring based by complex sensor systems set up one of the base requirements for condition monitoring and networking at vehicle pools.

Radar sensors with its advantages in robustness, sensing range, resolution and signal diversity detect inside of these systems speed, distances, presence or location in a section.



Measuring of current flow and monitoring of electric energy - a very important part of the strong importance of electric mobility and energy efficiency for the manufacturers and operators. **Current transducers** supply detailed information of the current flow in the system or detect leakage- and earth currents. Pulsotronic develops and supplies current transducers especially adapted to the requests for several industrial sectors.



By using the **3-line hall angle sensors** we are measuring angles and rotary activities. The most important difference to conventional angle sensors with internal axis is the external magnet which rotates axially in front of the Hall-IC. Possible separate assembling and calculable axial and radial tolerances are the essential advantages in the application.

HIGH RELIABILITY



Inductive sensors

Pulsotronic provides an extensive assortment of inductive proximity switches. This sensor type is used principally for applications demanding great reliability, high switching speed as well as high switching frequencies and longevity. Our product range includes cylindrical sensors from G3 to M40 and square sensors in dimensions 5x5mm to 80x80mm. According to your requirements, we also design metal, plastic or special housings.

WELD FIELD IMMUNE

Specials

Our offer in the field "Specials" contains products that are developed according to the specific requirements of our customers. Due to their special characteristics, these sensors are adapted to applications making high demands on the sensor. Acceleration sensors, inclination sensors and speed monitors as well as high temperature sensors, weld field immune and pressure-resistant sensors are only an extract of our specials. Whatever your application requires, we develop and manufacture the appropriate product for you!

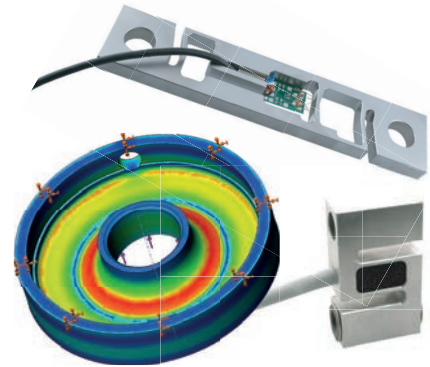




STRAIN

Strain Transducers

With the new strain gauge sensors Pulsotronic presents a new technology for the industrial measurement of strain and length variations. The nominal measuring distance of the actual sensors is at maximum 1000µm/m and can be adapted according to the requirements of the application. Due to the adjustable sensibility of max. 1,5mV/V and the minimum zero point deviation of +/- 1% the strain gauge sensors provide high-capacity measurement of static and dynamic strain on bridges, wind energy plants and other steel constructions. The operating temperature of our sensors ranges from -40°C to 120°C. The zero point deviation and the temperature coefficients are adapted individually to the material of the measuring object. Each of our strain gauge sensors is a custom-specific solution. We develop these sensors according to your requirements and the challenges of your application.



HIGH SENSITIVITY

Metal detection / -separation



The activities of our partner company Pulsotronic Anlagentechnik GmbH in the field metal detection reach from professional consultation via creative development and manufacturing to a competent service. High-capacity electronics and practice oriented operating controls are the elements of high-quality products, that are proper for everyday-use by an easy handling.

Our metal detectors guarantee a safe detection and separation of magnetic and non-magnetic metal pieces in the production stream. Various possibilities of integration in existing lines and a very high sensitivity are the advantages of our products.

255 COLOURS

Optical sensors / Laser sensor

Optoelectronic sensors respond on reflexion or break of light beams by the target object. We provide a large range of optoelectronic sensors containing amongst others reflex sensors, light barriers, colour sensors and laser line sensors. Special characteristics of these sensors are high sensing ranges up to 100m and switching speeds of maximum 500kHz.

Laser sensors provide a high-precision detection with accuracies in µm range. An important field of application is the detection of distances and positions. Pulsotronic colour sensors are able to learn and recognize 255 colours. They are used for the detection of print markings or colour codes as well as for colour detection.





POSITION -



Angle Sensors / Inclination Sensors

Mobile applications require a position monitoring to defined reference points. Pulsotronic provides inclination sensors for contactless measuring referred to the earth ground. Inclination sensors measure at one or two axis by using MEMS-technology an inclination from $\pm 2^\circ$ up to 360° . Our sensors are available with analog or switching output or with CAN-Bus or SPI- interface. Hall-angle sensors detect angles of revolution at rotating magnets up to 360° . The big advantages are the easy and wearless mechanical design, the separate assembling of sensor and magnet as well as the possible axial tolerance range.

DETECTION



Magneto-resistive and hall sensors

Magneto-resistive sensors detect even smallest variations in magnetic fields. They are gaining more and more importance in the contactless detection of mechanical parameters. One of their assets is their temperature stability - their operating temperature ranges from -40°C to $+125^\circ\text{C}$. The maximum switching frequency of our sensors is at 20kHz. We manufacture cylindrical sensors in dimension M12 to M18. Custom-made housings according to your requirements are also part of our product range. Magneto-resistive sensors measure revolutions per minute, detect directions and distances on plungers.

MAX 20kHz



SURFACE



Ultrasonic sensors

Ultrasonic sensors detect solid and fluid materials on great distances - without any dependency on the characteristics of the surface. The sensors are equipped with teach-in functions and different interfaces. Pulsotronics ultrasonic sensors are characterised by their high resolution of maximum 0,2mm, optimum precision and large sensing ranges. We provide digital as well as analogue outputs. Fields of application are for instance distance measurement, fill level controls and object counting applications.

INDEPENDENT



OBJECT

Radar Sensors - Doppler and FMCW

Radar sensors are working based by a sonar logging function. To detect a distance the sensor transmittes a permanent signal and receives simultaneously the reflection signal from the target.

Additionally FMCW sensors are modulating the frequency of the transmission signal permanently. Based by this modulation the different runtimes of the signals are also different in frequency between the transmitted and the received signal. With the received spectrum the sensorelectronic calculates - depends from the firmware - p.e. the distance of the target or reference points in an area. A differentiation between moving and non-moving objects is also possible.



LEVEL HIGH



Touch Sensors

Touch sensors are mechanical high-precision switches with an accuracy down to 500nm. Due to their working principle they are not subjected to drift caused by deterioration or thermal fluctuation. Touch sensors are resistant to EMC-influences. Our product range comprehends sensors in dimensions from M5 to M12 housing. You choose between mechanical contact or transistor output.

SWITCHING ACCURACY

Peripheral installation / Bus systems

Pulsotronic provides a wide range of components for peripheral installation of machines and facilities. Sensor-actuator-interface modules as well as passive and active control units are part of our program. By request, we connect your sensors directly to existing bus-systems such as CAN; LIN; ETHERNET IP ode PROFIBUS. A huge assortment of connectors in all kind of standardized designs facilitates the activation of your peripheral components.



CONNECTION

SENSORS
SYSTEMS
CONTROL UNITS



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