

# Components and Solutions for Industrial Automation

A multifaceted line of sensors for measurement, detection, positioning, identification, and navigation applications.

[www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)



## Proximity Sensors

A comprehensive portfolio of over 6,000 sensors with a variety of features and housing styles

- Inductive sensors offer accurate, noncontact detection of metallic objects up to 100 mm
- Capacitive sensors can detect both metallic and non-metallic materials at a distance of up to 40 mm
- Inductive sensor types: IO-Link, NAMUR, safety, metal face, weld-immune, valve position, reduction factor 1, and more
- Customized solutions based on existing technologies, including design adjustment, mounting options, hardware, and software



## Photoelectric Sensors

A diverse line of around 3,000 sensors for standard and advanced object detection and distance measurement applications

- Thru-beam sensors up to 60 m, retroreflective sensors up to 50 m, and diffuse mode sensors up to 4 m
- Triangulation sensors with background suppression
- R1000 series distance sensors with measuring range up to 150 m
- Contrast and color sensors, light grids, optical data couplers, slot and slot grid sensors, and sensors for pedestrian doors and gates
- Broad selection of IO-Link models



## LiDAR Sensors

New generation of photoelectric sensors combined with millimeter-precise Pulse Ranging Technology (PRT)

- The extremely high energy density of light pulses with PRT enables reliable and precise measurements with high accuracy and short response times
- Ideal solution for collision avoidance, object detection, navigation, localization, and mapping
- R2000 series, including detection versions, with gapless 360 degree all-around visibility in angular resolutions of 0.05°, 0.042°, and 0.014°
- R2300 series offers four scanning planes providing a 3-D scan or 100 Hz single-plane scanning



## Industrial Vision Sensors

High-precision 2-D and 3-D vision sensors that close the gap between standard photoelectric sensors and costly machine vision systems

- Vision sensors for fine positioning and sheet verification in collating, folding, and binding machines
- VOS series 2-D universal vision sensors for object positioning, feature matching, 1- and 2-D code reading, OCR reading, optical gauging, and more
- Laser profile sensors with SmartRunner technology for profile comparison and area monitoring
- VOS series industrial event camera for event-driven video recordings up to 60 s before and after a trigger signal



## Ultrasonic Sensors

An extensive portfolio of cube-style and cylindrical sensors with a variety of designs and detection ranges

- Diffuse mode and retroreflective models varying in measurement range, thru-beam models with increased switching rates
- IO-Link, analog, and switch-point outputs
- Double sheet and splice control for the detection of multilayer materials such as paper, cardboard, metal, film, or labels
- Safety ultrasonic sensors up to Category 3 PL d

Your automation, our passion.

 **PEPPERL+FUCHS**



## Vibration Sensors

Reliable machine condition monitoring to avoid premature failures

- Machine monitoring—averaging vibration to create trends for predictive maintenance
- Vibration and ambient diagnostics
- Maximum machine protection
- Analog or IO-Link output
- Select models with safety up to SIL 2



## Industrial Communication

Intelligent gateways and connectivity for industrial fieldbus and Ethernet networks

- IO-Link masters facilitate communication via EtherCAT, CC-Link, PROFINET IO, EtherNet/IP, MODBUS TCP, MQTT, and OPC UA
- AS-Interface provides an I/O connection solution with the ability to easily add safety
- DeviceMaster industrial gateways integrate serial devices into industrial Ethernet networks such as TCP/IP, MODBUS TCP, EtherNet/IP, and PROFINET IO
- Ethernet switches enable easy connection of Ethernet-enabled devices at the field level
- I/O hubs allow additional discrete IO



## Identification Systems

A flexible portfolio of optical and radio-based identification systems

- RFID (radio frequency identification) is available in low frequency, high frequency, and UHF ranges
- Offered in IO-Link, stand-alone Ethernet, or IDENTControl
- RFID handhelds are available for each frequency range
- Stationary readers and handhelds supporting all common 1-D and 2-D codes



## Rotary Encoders

High-performance portfolio with optical, magnetic, or inductive sensing technology

- Incremental and absolute rotary encoders
- Wide range of electrical and mechanical interfaces including IO-Link, SSI, ASi, CANopen, DeviceNet, EtherNet/IP, PROFIBUS, PROFINET, and J1939
- Accessories include cable pulls, couplers, and measuring wheels



## Positioning Systems

Optical, camera-based, and inductive systems for virtually any positioning task

- Inductive positioning systems with IO-Link interface for high-precision detection of linear and rotational movement
- PosiTrack position encoding system for absolute position detection over long distances even on curved tracks, inclines, declines, lane changes, and gradients
- Data Matrix positioning system captures two-dimensional codes and evaluates exact position



## Inclination and Acceleration Sensors

Intelligent sensors that monitor and control level, vibration, and acceleration while compensating for multidirectional motion

- Inclination sensors reliably detect angles for factory and mobile equipment applications, available with analog, CANopen, or J1939 interface types
- Acceleration sensors monitor acceleration peaks
- Inertial measurement units combine an acceleration sensor and gyroscope in one device for angle measurement while in motion



## Connectors, Cordsets, and Splitters

Durable cables, connectors, and junction blocks for reliable performance, even in harsh industrial environments

- Sensor-actuator cables are available with different connectors, such as M8 and M12, and a wide variety of cable jackets (PVC, PUR, POC, and more)
- Junction blocks and splitters reduce the total number of separate connections needed
- Field-attachable connectors, panel mount bulkhead connectors, and bulk raw cables can be used to produce the ideal cable length on site
- Data connectors for Industrial Ethernet and all common fieldbus types