Baumer
Passion for Sensors

Digitization starts with the sensor

Simply use valuable additional data via IO-Link.

Your benefit of digitized sensor connection

Cost-effective & securely connected
- Connection between sensor and IO-Link master via 3-wire standard cable
- Manufacturer-independent, international communication standard
- Digital signals are transmitted to the controller loss-free and without conversion effort

Simple & safe operation
- Intuitively visualized sensor setting and function monitoring via smartphone, tablet or PC
- Direct integration into engineering tools
- Access block for local parameterization possible

Extended settings
- IO-Link offers additional functions and settings such as free selection of switching points, adjustable measuring ranges and filter functions, and much more. This allows the sensor to be configured precisely and reliably to the application.

IO-Link

Fast sensor exchange
- Automated parameter transfer for sensor replacement

Additional data
- Transparency through process data that can also be easily evaluated in IT systems.
- Diagnostic data for monitoring plant and sensor states, e.g. for predictive mainte-nance.
- Identification and parameter data can also be directly evaluated digitally

Increased flexibility
- Simple re-parameterization during format or recipe changes during production operation enables high flexibility with maximum machine utilization

More information and more effective processes with digital sensor data

Baumer sensors precisely record many different measured values. Valuable additional information is already generated during the processing of the measured values in the sensor. Standardized digital communication interfaces such as IO-Link can be used to access that information and significantly optimize your processes.

Easy integration and maximum flexibility with IO-Link
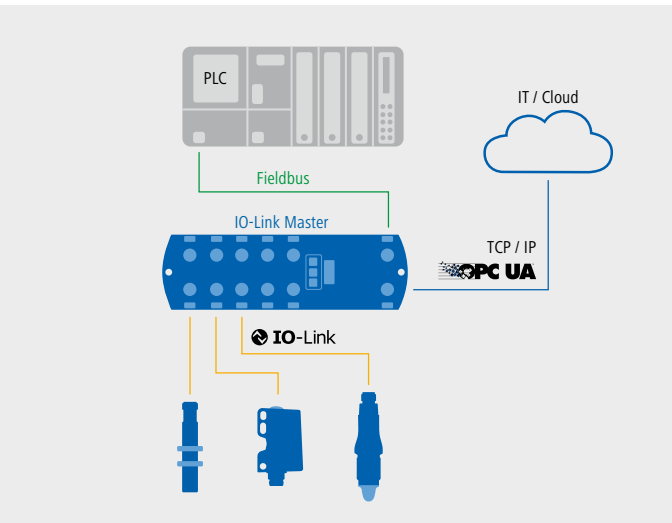
IO-Link is an IO technology standardized worldwide according to IEC 61131-9. It permits manufacturer-independent digital, bidirectional point-to-point communication. For this purpose, sensors are connected to the IO-Link master via standardized 3-wire plug-in cables. IO-Link is available for various sensor technologies and can also be integrated into small miniature sensors.

With the IO-Link master, which bundles several sensors, the connection to the controller is made via the respective fieldbus system. In addition, an Ethernet-based connection (with OPC UA) from the master allows direct communication from the sensor to IT systems. . The maximum cable length between sensor and master is 20 m. However, significantly longer connections from the sensor to the controller can be realized by connecting a field master to a field bus system. This gives them maximum flexibility in the connection solution.

Additional data through digital sensor connection

Data is the most important basis for process and product optimization. With the help of IO-Link, valuable additional data can be made accessible:

Cyclic data transmitted in real time. They are used for process control in the automation system. These can also be transferred to other IT systems via IO-Link.

Acyclic data enable sensors (IO devices) to be parameterised and, if required, diagnostic and identification data to be read out.

Process data	Diagnostic data	Identification	Configuration
Measured distances, switching states or counters can be digitally processed and evaluated	Signal quality, sensor temperature, and usage information are recorded	Data for sensor identification, such as sensor type, serial number, device parameters with value range and default value	Data for sensor parameter adjustment can be stored and quickly replicated
Cyclic data	Acyclic data	Acyclic data	Acyclic data

Using digital communication interfaces across technologies – Baumer offers a wide range of sensors with IO-Link

Object detection and distance measurement

Inductive sensors
Inductive sensors with the sizes from ø 6.5 mm up to M30 and cubic miniature design for object detection and micrometer-precise measurement of distances.

Ultrasonic sensors
Ultrasonic U300 miniature sensors and U500/UR18 – robust and economical sensors independent of the color, shape and transparency of an object.

Light barriers and light sensors
O200, O300 / O500 and Series 14 light barriers and diffuse sensors in plastic and stainless steel housing – the standard with extra power for your application.

Optical distance sensors
Measuring distance, displacement and positions with output of distance values and switching signals towards most different surfaces and increased process transparency by secondary data.

Radar sensors
Reliable measurements in the most extreme environments.

Label sensors
Photoelectric and ultrasonic label sensors for a reliable detection of a wide variety of labels and carrier materials.

Process sensors

Flow sensors
FlexFlow PF20H / PF20S sensors for efficient monitoring of flow velocity and media temperature.

Level switches
Level switches LBFI / LBFH and PL20 — simple and universal level detection for all media.

IO-Link Master

IO-Link Master
IO-Link masters are available for USB, field, control cabinet or wireless.

Pressure sensors
Pressure sensor PP20H and PBMx — durable, precise and optimally adapted for every application.

Conductivity sensors
CombiLyz® AFI — precise analysis and exact differentiation of fluid media.

Rotary encoder

Rotary encoder
Bearingless incremental encoder EB200E — cost-efficient connection and parameterization flexibility in speed monitoring.

Baumer Sensor Suite

With the Baumer Sensor Suite, IO-Link sensors of all manufacturers can be evaluated, selected and parameterized faster and more intuitively. It is the leading engineering tool for the visualization of sensor data and supports with helpful functions for commissioning, service and analysis.

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More information about our portfolio with IO-Link can be found at:
www.baumer.com/io-link