Unlocking added value. Discovering flexibility. Enabling Industry 4.0.

Sensors and Systems with IO-Link
Find Your IO-Link Device in Just a Few Clicks

Go online. Specify your requirements. Select your device. You can find the right solution for your application in just a few clicks. If you have any questions, our experts are available to take your call.

Online Search on the Pepperl+Fuchs Website

Enter the model number in the search field on the Pepperl+Fuchs website and get to your product selection immediately. Model numbers can be found in this brochure in the technical data summaries.

You can also navigate through our range of product groups and families to select the optimal IO-Link device.

For example, “UC250-F77”

www.pepperl-fuchs.com/tf-io-devices
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Technology

The Standard for Future-Proof Technology

IO-Link enables comprehensive diagnostics down to the sensor/actuator level, reduces costs, and provides a safe investment. Pepperl+Fuchs’ IO-Link portfolio offers a complete solution from a single source.

Standardization for Industry 4.0

IO-Link is an international standard. The cross-vendor IO technology enables bidirectional communication from the control system to the sensor/actuator level. The fieldbus-independent open standard can be integrated into any system landscape using standard unshielded cables and point-to-point connectivity. Bidirectional communication enables comprehensive diagnostics, and data transfer is interference-free.

Complete Solution from a Single Source

Pepperl+Fuchs’ IO-Link portfolio allows users to choose from a wide range of sensor technologies, including photoelectric sensors, ultrasonic sensors, inductive proximity sensors, positioning systems, and RFID. In addition to IO-Link sensors, I/O hubs with IO-Link offer another economical solution for connecting standard digital sensors. The complete solution is rounded off by IO-Link masters, connectivity, and software.
Technology

Reducing Costs with IO-Link

IO-Link offers countless possibilities and creates added value for users. It reduces complexity, provides needs-based maintenance with comprehensive diagnostics, and enables individualized production with central data storage and automatic configuration.

Comprehensive Diagnostics down to the Sensor/Actuator Level

Bidirectional communication from the control system to the field level enables comprehensive diagnostics of sensors and actuators. In addition to cyclical process data, a wealth of data is also transferred acyclically, allowing device identification to be performed at any time. The control system simply accesses the manufacturer, part number, and serial number information saved in every IO-Link device. Diagnostic information about the general device condition, specific data from operation, temperature, and signal quality are also readily available.

Easy and Efficient Maintenance

Maintenance can be scheduled and carried out based on maintenance team schedules and priorities with diagnostic data from the IO-Link device.

A stability alarm can be triggered if an inductive proximity sensor with IO-Link falls out of alignment and the target is no longer in range. During the next maintenance cycle, the sensor can be readjusted by maintenance personnel.

If a sensor needs to be replaced, simply install a new one and let IO-Link import the existing settings. This avoids downtime and unnecessary costs.
**IO-Link at a Glance**

- Bidirectional, serial point-to-point connectivity for signal and power
- Modes of operation: Standard IO mode (SIO), IO-Link mode
- Three transfer rates: 4.8 kBaud (COM 1), 38.4 kBaud (COM 2), 230.4 kbaud (COM 3)
- Unshielded industry-standard cabling
- Pin assignment: Pin 1: 24 V, Pin 3: 0, Pin 4: Switching and communication line (C/Q)
- Cable length: 20 m maximum

**Batch Size 1 Production**

IO-Link sensors can be configured via the control system. This simplifies commissioning and makes quick recipe changes possible without extended downtime. Even complete individualization—batch size 1 production—is possible.

For example, the beam width on an ultrasonic sensor can be adjusted to accommodate different container shapes in level measurement applications.
Future-Proof with IO-Link

Smart Sensor Profiles for simple integration and a reliable investment—Pepperl+Fuchs is pioneering integration of the new standard and paving the way for Industry 4.0.

Uniform Structures Ensure Efficiency

Every IO-Link device that incorporates Smart Sensor Profiles is developed to follow a standardized specification and structure. The same device information is always stored and available anytime, and the pin layout and available modes of operation are also identical in every device. This standardization ensures efficient machine design and compatibility with Industry 4.0.

Sensorik4.0®—Paving the Way for the Smart Factory

IO-Link sensors are paving the way for the Fourth Industrial Revolution. In the Industry 4.0 future of fully networked production systems, communication-ready sensors play a vital role. They send and receive sensor data within production processes and higher level information systems. Innovative Sensorik4.0 technologies from Pepperl+Fuchs pave the way for Industry 4.0. They use the standard IO-Link interface to support the digitalization of industrial applications.
Smart Sensor Profiles: Finding a Common Denominator

To achieve true standardization, data transfer, data structures, and data content must be clearly defined for all manufacturers. Smart Sensor Profiles were developed for this purpose. They divide all sensors into types that are not determined by manufacturer or sensing mode, but by the signal that a sensor transmits.

Profile-specific function blocks exist for each profile class to make integration quick and easy for users. Once a device from a specific profile class is initially integrated into a control system, the integration of additional devices from the same profile is simple.

This makes it possible to quickly replace a photoelectric distance sensor with a measurement sensor that uses another sensing technology, such as an ultrasonic sensor.

Pepperl+Fuchs is pioneering the integration of Smart Sensor Profiles in current and future products, paving the way for international standardization and Industry 4.0.

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**Principles of Smart Sensor Profiles**
Portfolio

Complete Solution from a Single Source

A comprehensive portfolio of IO-Link devices, IO-Link infrastructure, software, and connectivity—this is the complete solution of intelligent IO-Link systems from Pepperl+Fuchs.

IO-Link Flexibility: Dynamic Application Solutions

Pepperl+Fuchs’ IO-Link portfolio offers flexible solutions for a range of applications—photoelectric sensors, ultrasonic sensors, inductive proximity sensors, positioning systems, and RFID. In addition to sensors, IO-Link masters, connectivity, I/O hubs, and software are also available.

IO-Link Devices: Broad Portfolio for Any Requirement

Every application poses unique challenges. Pepperl+Fuchs’ broad product portfolio includes a range of sensing technologies and housing styles that can be seamlessly integrated into all applications.

IO-Link Infrastructure: Optimized for Every Application

Take full advantage of IO-Link. Pepperl+Fuchs offers a range of IO-Link infrastructure components: an IO-Link USB master for offline configuration, Ethernet IO modules with IO-Link master for connectivity to higher-level systems, and SmartBridge for convenient diagnostics via tablet or smartphone during plant operation. The portfolio is completed by combining software tools and perfectly coordinated connectivity.

For an overview of the IO-Link portfolio, visit www.pepperl-fuchs.com/tf-io-portfolio
IO-Link Infrastructure

- IO-Link USB Master
- Ethernet IO Modules with IO-Link Master
- SmartBridge

IO-Link Devices

- Inductive Proximity Sensors
- Inductive Positioning Systems
- Photoelectric Sensors
- Ultrasonic Sensors
- Identification Systems
- I/O Hub with IO-Link

Standard Devices

- Digital Sensors
Pepperl+Fuchs offers a comprehensive set of tools for sensor configuration and diagnostics. Convenient, standardized user interfaces make sensors even easier to use.

**IODD: Standardized Device Description for Easy Commissioning**

Every IO-Link device has an IO device description (IODD) file that contains a range of information for integration into different systems. This information includes communication characteristics, available parameters and functions, and the user interface, among other things.

Because the IODD structure has been standardized for all devices, it can always be read the same way—regardless of the manufacturer, the automation system, or the IO-Link master being used.

**The Right Software for Every Need**

In addition to the IODD, several software tools are available for configuring IO-Link devices. Pepperl+Fuchs offers software for every situation, including device type managers (DTMs) for device configuration via PACTware, function blocks for user programs in the control system, and GDDs for graphical representation of data via the SmartBridge app.

For more information, visit www.pepperl-fuchs.com/tf-io-link
**Offline Configuration**

With offline configuration, IO-Link devices are configured before they are mounted. Pepperl+Fuchs’ IO-Link USB master is the ideal tool for this purpose.

In addition to the USB master, an interface program such as PACTware, USB Master DTM, or IODD interpreter is required to display an IO-Link device’s IODD.

The advantage of DTMs is that they simplify operation of more complex devices with a graphical interface.

**Online Configuration**

To commission machines and systems, the IO-Link master and devices are integrated into the appropriate automation system using different software.

Then, the IO-Link configuration tool can be used to configure devices. During operation, IO-Link device parameters can be set, and diagnostic data can be monitored. The integration of the IO-Link data into an application program is accomplished via function blocks.

**Online Monitoring and Diagnostics**

SmartBridge can be installed to monitor data transfer and analyze potential problems during operation.

Connected between the IO-Link master and device, the SmartBridge enables data to be conveniently accessed via a tablet or smartphone, or logged via memory card over a longer period of time.

In this case, only the SmartBridge app, IODD, and GDD—for intuitive graphical display—are required.
**Ethernet IO Modules with IO-Link**

**Efficient, Innovative, and Durable**

**Flexible Connectivity to Higher-Level Systems**

Pepperl+Fuchs’ Ethernet IO modules offer a number of innovative features. With a versatile multi-protocol capability, they are an optimal solution for standardizing manufacturing facilities. IO-Link enables comprehensive diagnostics that are critically important for maintaining and troubleshooting your machines. These innovative, high-performance communication modules can help optimize your installation and allow you to get the most from your system integration.

**Highlights**

- All standard Ethernet communication protocols are supported in one single module for optimal machine standardization
- Innovative M12 power connectors reduce installation costs thanks to higher current capability of 2 x 16 A for sensors and actuators
- Integrated IO-Link master for continuous diagnostics and parameterization from the control system to the sensor level

For more information, visit www.pepperl-fuchs.com/tf-io-master
Rugged Design, Extreme Durability

The rugged design of these modules ensures durability in harsh, industrial environments. The fully encapsulated metal housing is extremely resistant to mechanical damage and environmental factors. It is dust-tight and can withstand both water jets and immersion in water, in accordance with IP65/IP67 standards. The modules also operate in a wide range of temperatures, from –20 °C to +70 °C, and are resistant to mechanical vibration (15 g) and shock (50 g).
Flexible Configuration for All IO-Link Devices

Get an IO-Link sensor up and running quickly and easily—and do it all from your desk. The IO-Link USB master acts as a link between a standard office infrastructure with Windows® PCs and an industrial IO-Link device.

The computer’s USB port is used for both communication and power, allowing sensors to operate immediately without complex wiring. An additional power supply is included with delivery for devices with higher current consumption.

Highlights

- Offline operation via standardized interfaces and tools
- Plug-and-play with power from the USB port
- Standard M12 connector for quick connectivity with conventional cables

Technical Data

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>70 x 41 x 24 mm (L x W x H)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mass</td>
<td>100 g</td>
</tr>
</tbody>
</table>
| Connection       | IO-Link port: 1x M12, 5-pin, A-coded  
Operating voltage: DC-9.21 mm  
USB 2.0: USB connector type MiniB |
| Interfaces       | IO-Link, USB                |
| Functional principle | Master mode                |
| Standards        | IEC 61131-9 (IO-Link Version 1.0 and 1.1) |
| Power supply     | 24 V DC/USB 5 V DC          |
Small but Mighty

The IO-Link USB master enables any IO-Link device to be preconfigured and tested via the IODD interpreter included in the software package from Pepperl+Fuchs.

Read parameter data from an IO-Link device, record changes and save data externally, duplicate and compare device settings—these are only a few of many possibilities. Previous knowledge of control system programming is not necessary.
Easy Integration with Plug-and-Play

SmartBridge easily connects between the sensor and an I/O card, making permanent installation, temporary integration, and retrofitting easy. No additional power source is necessary. The replaceable SD card also allows long-term logging of process, operation, and status data. Once powered up, SmartBridge uses Bluetooth LE to communicate with smartphones and tablets that are running the SmartBridge app.

Highlights

- Access to status and event data directly from IO-Link devices using mobile devices
- Easy integration into existing infrastructures via plug-and-play for data access without interrupting production processes
- SmartBridge app provides a consistent and easily understandable user interface for IO-Link-compatible field devices, regardless of device manufacturer

Technical Data

<table>
<thead>
<tr>
<th>Dimension</th>
<th>103 x 50 x 28 mm (L x W x H)</th>
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<tbody>
<tr>
<td>Mass</td>
<td>135 g</td>
</tr>
<tr>
<td>Connection</td>
<td>M12x1 socket, 5-pin, M12x1 connector, 5-pin, USB 2.0 Micro-B socket</td>
</tr>
<tr>
<td>Interfaces</td>
<td>Binary (push/pull, NPN, PNP), IO-Link, Bluetooth LE, microSD card, USB 2.0 Micro-B</td>
</tr>
<tr>
<td>Functional principle</td>
<td>Monitoring mode, master mode</td>
</tr>
<tr>
<td>Standards</td>
<td>IEC 61131-9 (IO-Link Version 1.0 and 1.1), IEEE 802.15 (Bluetooth LE)</td>
</tr>
<tr>
<td>Power supply</td>
<td>24 V DC via standardized M12 IO-Link device connection</td>
</tr>
</tbody>
</table>
Two Modes for Different Tasks

SmartBridge can operate in different modes depending on the application. It typically operates in monitor mode, which allows users to monitor the communication between an IO-Link device and master at any time. An integrated memory card allows data to be logged long-term and analyzed later as needed.

In master mode, IO-Link devices can be conveniently operated via a mobile device like a tablet or smartphone.
Photoelectric Sensors

R10x and R20x Series
Standard Housings—All Sensing Modes

Forward-Thinking Product Design—Endless Application Possibilities

A complete family of sensing modes in five standard housing styles with one user interface and IO-Link in every model: The forward-thinking design of Pepperl+Fuchs’ R100, R101, R103, R200, and R201 series simplifies installation and reduces costs.

<table>
<thead>
<tr>
<th>Sensing Mode</th>
<th>Red Light LED (PowerBeam)</th>
<th>Dual-Beam Laser</th>
<th>Infrared LED (R100, R201)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thru-beam sensor</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Retroreflective sensor with polarization filter</td>
<td>□</td>
<td>□</td>
<td></td>
</tr>
<tr>
<td>Retroreflective sensor without polarization filter</td>
<td>□</td>
<td></td>
<td>□</td>
</tr>
<tr>
<td>Retroreflective sensor with clear object detection</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diffuse mode sensor</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Diffuse mode sensor with background suppression</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Diffuse mode sensor with background evaluation</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Measuring sensor with multiple switch points</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Distance sensor</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

IO-Link version 1.1
Up to IP69K
Smart Sensor Profile

20
Highlights

- All photoelectric sensing modes in standard housing styles for absolute flexibility and more integration possibilities
- Simple installation and setup with one user interface for all housing styles and sensing modes
- IO-Link and Smart Sensor Profile in every sensor: standardized communication down to the sensor level as the basis for Sensorik4.0
- Precise and reliable MPT distance measurement in a standard small housing

Smart Sensor Profile: Pioneering the Standardization of IO-Link

Pepperl+Fuchs is among the first manufacturers to implement Edition 2 of Smart Sensor Profile—including in the R200 and R201 series. This standard will also be implemented in future Pepperl+Fuchs products, and additional Smart Sensor Profiles with new function classes will be integrated into future developments.

Selected products from the portfolio. For more photoelectric sensors, visit www.pepperl-fuchs.com/tf-io-opto
Ultrasonic Sensors
UC-F77 Series
High Performance in Reduced Space

Impressive Functionality

With IO-Link, sound beam adjustment, synchronization, detection ranges of up to 800 mm, and minimal dead bands, the F77 series ultrasonic sensors offer an unparalleled range of features and adjustment options. The series is available in a standard and side-looker version with integrated M18 thread. Minimized dead bands and a long detection range mean objects can be reliably detected whether close to the sensor or farther away. The sound beam width is easy to adjust depending on requirements.

Highlights

- Highly adaptable: a single sensor can be adjusted to fit a wide range of applications
- Precise and reliable: high noise immunity and multiplex capability for maximum reliability
- Simple integration: compact, space-saving housing design with thru-hole and surface-mount options

<table>
<thead>
<tr>
<th>Technical Data</th>
<th>UC250-F77</th>
<th>UC400-F77</th>
<th>UC800-F77S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensing mode</td>
<td>Diffuse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensing range</td>
<td>20...250 mm</td>
<td>30...400 mm</td>
<td>60...800 mm</td>
</tr>
<tr>
<td>Operating voltage</td>
<td>10...30 V DC</td>
<td>(18...30 V DC analog output versions)</td>
<td></td>
</tr>
<tr>
<td>Output type</td>
<td>1 switching output (push-pull output)</td>
<td>1 analog output (current or voltage)</td>
<td></td>
</tr>
</tbody>
</table>
Simple Configuration for Batch Size 1 Production

With IO-Link, UC-F77 series sensors can be adapted to the demands of the application. Filter settings, sound beam width, switch points, and other parameters can be easily adjusted via the control system—even during production. This enables quick automatic recipe changes and individualized production down to batch size 1.

Selected products from the portfolio.
For more ultrasonic sensors, visit www.pepperl-fuchs.com/tf-io-ultra
Inductive Proximity Sensors

Reduction Factor 1 Sensors
Identical Switching for All Metals

Adaptable—Even in Applications with Multiple Target Types

Starting with steel, the switching distances of conventional inductive sensors are reduced, metal to metal, by a defined reduction factor. This is not the case with reduction factor 1 sensors, which use a single sensor to offer identical switching distances for all metals. This allows much more flexibility in machine design and use in applications with multiple target metals. By using only one sensor instead of several, procurement, storage, and administration costs are reduced. In addition, reduction factor 1 sensors offer high magnetic field immunity for use in weld cell environments.

Highlights

- Flexible—a broad portfolio of sensors with identical switching distance, regardless of a target’s material
- Smart maintenance via stability alarm and temperature indicator
- Rugged, weld-immune sensors with IP68/IP69K protection for harsh industrial environments
**Technical Data**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>M12</th>
<th>M18</th>
<th>M30</th>
<th>Cube-Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>IO-Link standard</td>
<td>NR*-12GS40-E2-IO*</td>
<td>NR*-18GS40-E2-IO*</td>
<td>NR*-30GS50-E2-IO*</td>
<td>NR*-L3*-E2-IO-V1</td>
</tr>
<tr>
<td>IO-Link weld-immune</td>
<td>NR*-12GM40-E2-IO-C*</td>
<td>NR*-18GM40-E2-IO-C*</td>
<td>NR*-30GM50-E2-IO-C*</td>
<td>NR*-L3*-E2-IO-C-V1</td>
</tr>
<tr>
<td>Switching distance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flush</td>
<td>4 mm</td>
<td>8 mm</td>
<td>15 mm</td>
<td>20 mm</td>
</tr>
<tr>
<td>Non-flush</td>
<td>10 mm</td>
<td>15 mm</td>
<td>30 mm</td>
<td>40 mm</td>
</tr>
<tr>
<td>Output</td>
<td></td>
<td></td>
<td></td>
<td>3-wire, PNP, NO/NC programmable</td>
</tr>
<tr>
<td>Housing</td>
<td>Threaded sleeve M12 x 1</td>
<td>Threaded sleeve M18 x 1</td>
<td>Threaded sleeve M30 x 1.5</td>
<td>40 x 40 x 40 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>40 x 40 x 120 mm</td>
</tr>
</tbody>
</table>

**Technical Data**

<table>
<thead>
<tr>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-wire, PNP, NO/NC programmable</td>
</tr>
</tbody>
</table>

**Selected products from the portfolio.**
For more proximity sensors, visit [www.pepperl-fuchs.com/tf-io-inductive](http://www.pepperl-fuchs.com/tf-io-inductive)
Inductive Positioning Systems

PMI F90 and F112 Series: Patented Technology for Precise Position Detection

Absolute Precision and Efficiency

A patented configuration, wiring of multiple coils, and intelligent evaluation enable maximum precision and efficiency within a single sensor. PMI inductive positioning systems always detect exact position, whether using simple steel actuators designed by the customer, selected from Pepperl+Fuchs' accessory portfolio, or as part of the machine module being monitored.

F112 Series

The F112 series provides high-precision position data or switch points/windows with a measurement length of 14 mm. Fully encapsulated in a rugged metal housing with IP67 protection, the sensor withstands tough conditions and, with IO-Link, offers new possibilities in space-restricted applications.

F90 Series

IO-Link, simultaneous detection of two damping elements, and measuring and switching functions in one device—the F90 series offers an unprecedented range of features for your application. Available in three measurement lengths (40 mm, 80 mm, and 120 mm), the best fitting solution is possible. Certified versions are also available for applications in ATEX Zone 2/22 (3G nA, 3D tc) hazardous locations.

Highlights

- High durability with noncontact, maintenance-free technology and high environmental protection
- Simple steel actuator opens up a variety of possible applications
- Flexibility due to a wide range of functions and a programmable measuring and switching range
## Technical Data

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Measurement length</strong></td>
<td>40, 80, 120 mm</td>
<td></td>
<td></td>
<td>14 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Output type</strong></td>
<td>1 analog output (current or voltage)</td>
<td>3 switching outputs (push-pull)</td>
<td>1 analog output 2 switching outputs (push-pull)</td>
<td>1 analog output</td>
<td>2 switching outputs (push-pull)</td>
<td>2 switching outputs (push-pull) 1 switching output (PNP)</td>
</tr>
</tbody>
</table>

Selected products from the portfolio.
For more identification systems, visit [www.pepperl-fuchs.com/tf-io-positioning](http://www.pepperl-fuchs.com/tf-io-positioning)
Identification Systems

RFID Read/Write Heads

IIoT Identification with IO-Link

Flexible Identification Solution Simplifies Integration

RFID read/write heads with IO-Link offer simplicity and flexibility. With autostart functionality, they simplify integration dramatically. Combining our Ethernet IO module with the IO-Link master and the new RFID read/write heads, Pepperl+Fuchs offers a complete, flexible identification solution.

RFID IO-Link read/write heads operate in the HF range according to ISO 15693 and offer a read/write range of up to 13 cm. The housing designs are rugged and compact, ideal for use in harsh industrial environments.

Flexible System Integration

Users can choose between two modes of operation that are designed for easy and complex applications. Easy mode enables simple plug-and-play commissioning with minimal programming. Expert mode is designed for high-performance data access via a handshake procedure.

The standardized IO-Link interface on the read/write heads enables flexible connectivity to most common bus systems and controls.
**Highlights**

- Easy mode reduces complexity without compromising performance
- System standardization with multi-protocol support for most common bus systems
- Flexible and efficient solution enables IO-Link read/write heads to be combined with other devices on Ethernet IO modules with IO-Link master

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**Selected products from the portfolio.**
For more identification systems, visit [www.pepperl-fuchs.com/tf-io-ident](http://www.pepperl-fuchs.com/tf-io-ident)

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**Technical Data**

<table>
<thead>
<tr>
<th>Operating frequency</th>
<th>IQT1-18GM-IO-V1</th>
<th>IQT1-F61-IO-V1</th>
<th>IQT1-FP-IO-V1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read/write distance</td>
<td>0 ... 50 mm</td>
<td>0 ... 55 mm</td>
<td>0 ... 130 mm</td>
</tr>
<tr>
<td>Electrical interface</td>
<td>IO-Link (V1.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mechanical interface</td>
<td>M12 x 1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Conformity**

According to ISO 15693

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>IQT1-18GM-IO-V1</th>
<th>IQT1-F61-IO-V1</th>
<th>IQT1-FP-IO-V1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ø 18 mm, length 63.5 mm</td>
<td>80 x 28 x 12 mm</td>
<td>80 x 80 x 40 mm</td>
</tr>
</tbody>
</table>
I/O Hub with IO-Link

Efficient Integration of Standard Digital Sensors

Increased Efficiency with IO-Link

I/O hubs with IO-Link interface make it possible to easily and economically integrate digital sensors into the IO-Link communication channel. The hub’s eight ports with 16 digital inputs, combined with an Ethernet IO module with integrated IO-Link master, enable signal transmission of up to 128 digital I/Os to higher-level control systems.

Since only one connector is necessary for signal transmission and power, wiring complexity is significantly reduced.

A rugged housing design and an extended temperature range of –25 °C to +70 °C make the I/O hub suitable for use in demanding industrial environments.

IO-Link version 1.1

Up to IP69K

Connectivity of up to 16 sensors
Highlights

- Easy integration of digital sensors into automation systems via IO-Link
- Efficient signal transmission of up to 128 digital IOs to the control level via Pepperl+Fuchs’ IO-Link master module
- Simpler cabling with one connection line for power and data transfer from the I/O hub to an IO-Link master

Technical Data | ICA-16DI-G60A-I0
---|---
Inputs/Outputs | 16 digital inputs
Shock/Vibration | 15 g/500 Hz
Connections | Power supply: M12 A-coded, Inputs: M12, A-coded
Dimensions | 160 mm x 60 mm x 31 mm

Selected products from the portfolio. For more products, visit www.pepperl-fuchs.com/tf-io-hub
Your automation, our passion.

**Explosion Protection**
- Intrinsic Safety Barriers
- Signal Conditioners
- FieldConnex® Fieldbus
- Remote I/O Systems
- Electrical Ex Equipment
- Purge and Pressurization
- Industrial HMI
- Mobile Computing and Communications
- HART Interface Solutions
- Surge Protection
- Wireless Solutions
- Level Measurement

**Industrial Sensors**
- Proximity Sensors
- Photoelectric Sensors
- Industrial Vision
- Ultrasonic Sensors
- Rotary Encoders
- Positioning Systems
- Inclination and Acceleration Sensors
- Fieldbus Modules
- AS-Interface
- Identification Systems
- Displays and Signal Processing
- Connectivity