ifmspiration

Let's make automation smart and simple!

50th ifmniversary
experience in automation.

ifmnovation

More efficient production
to increase your competitiveness.
The innovative automation solutions
from ifm are the best choice.
The photoelectric sensors from the compact O6 series are distinguished by particularly interference-immune background suppression. Their ranges do not depend on the colour of the object.
IO-Link

Position sensors

Essential for automation.
Highly accurate position sensors for detection of tiny objects at long ranges.

Inductive sensors

Capacitive sensors

Magnetic sensors

Cylinder sensors

Ultrasonic sensors

Photoelectric sensors

Optical fork sensors / optical angle sensors

Laser sensors

Distance sensors

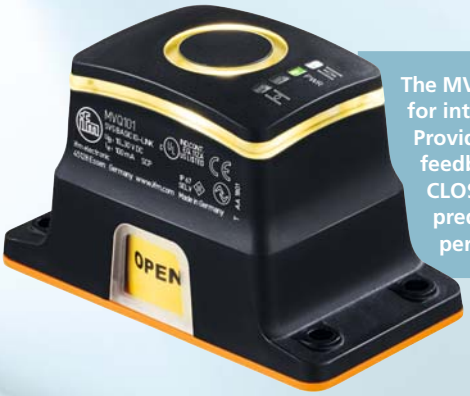
Fibre optic sensors

Photoelectric sensors for special applications

Touch sensors

Feedback systems for valves and valve actuators

Switching amplifiers



The MVQ smart valve sensor is used for intelligent valve monitoring. Provides continuous position feedback and time to OPEN / CLOSE. Data that can be used to predict deterioration in valve performance.

IO-Link

Unlike photoelectric sensors, the detection principle of ultrasonic sensors is not affected by an object's colour, transparency or shiny surfaces.

Capacitive touch sensors switch without contact and are wear-free and maintenance-free. They are often used as start/stop buttons or door openers.

Distance sensors provide reliable distance detection at long ranges or accurate detection of tiny parts. Even reflective objects are reliably detected.

Full metal sensors have an extremely high shock and vibration resistance for harshest applications, including hygienic and food applications.

Sensors for motion control

Reliable monitoring of automated movements. Visualisation, processing and transmission of current process values.

Speed sensors reliably detect standstill, overspeed or underspeed as well as torn belts on conveyors. They prevent expensive damage or destruction.

Intelligent incremental encoders from ifm with display and IO-Link combine absolute accuracy with highest robustness. The switching logic is freely programmable.

On mobile machines, inclination sensors are used for angular position detection. Use to ensure accurate levelling of mobile cranes or excavators.

Compact speed sensors – now with ATEX approval group II, category 3D, in a solid metal housing. Integrated Speed monitoring.

IO-Link

Multifunctional evaluation system with user-friendly display for analogue signals. The colour change between red, yellow and green, for example, instantly signals overspeed or underspeed.

IO-Link

Encoders

Systems for signal conversion

Speed sensors

Systems for signalling and indication

Inclination sensors

Systems for pulse evaluation

Systems for evaluation of standard signals

Sensors for conveyor belt monitoring

Industrial imaging

Intelligent vision sensors for evaluation of objects and scenarios in assembly and quality control.

Vision sensors

3D sensors
3D cameras

Illumination

All 3D sensors utilise the patented PMD time-of-flight principle. They are suited for many different applications, such as volume, distance and level detection.

The O3M 3D sensor, optimised for mobile applications, captures the surroundings of mobile machines in three dimensions. The sensor determines the distance value for each pixel between the sensor and the object.

Object recognition sensors, such as the O2D with orientation-independent contour verification solve tasks like presence, position and quality monitoring as well as sorting and counting task.

The O3D is suitable for use in many applications such as monitoring completeness. The on-board algorithms can also provide the dimension, orientation and position of, for example, packages. Interfacing to a robot for applications such as depalletising.

On construction machines and municipal vehicles that are difficult to manoeuvre, the O3M camera system warns about collisions, monitors blind spots and helps prevent serious accidents.

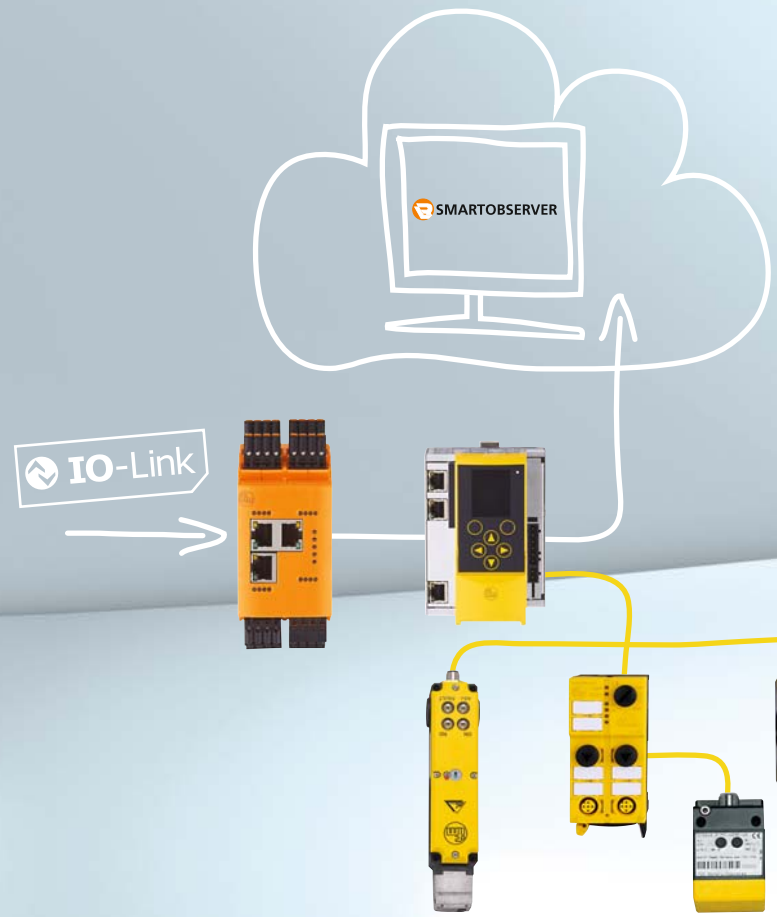
Safety technology

**Machines must not present any danger.
The risk of damage to persons or installations must be reduced to a minimum.**

All binary safety-related components, such as E-STOPs, can be integrated into AS-Interface Safety at Work simply and at low cost.

Inductive safety sensors from ifm require no special counterpart – they detect metal without contact while being robust and wear-free.

For reliable protection of hazardous areas, narrow and powerful safety light curtains and grids from ifm are always the best choice.



Safety at Work is the extension of the existing AS-Interface system for safety applications. Safe and Non-safe signals are transmitted via the same cable back to the Safety PLC.

Coded RFID sensors offer maximum protection against manipulation of doors. Unique code and programmable versions are available and easy to install.

Fail-safe inductive sensors

Safety light curtains
Safety light grids

Safety relays

Safety controllers

AS-Interface Safety at Work

Coded safety sensors

Process sensors

Liquids, air and gases under control.
Reliable and accurate detection and measurement of flow, pressure, temperature and level.

Monitoring cooling circuits using SV-type vortex flow meters reduces maintenance costs and guarantees continuously high production quality.

Pressure sensors
Vacuum sensors

Signal evaluation systems

Flow sensors / flow meters

Feedback systems for valves and valve actuators

Level sensors

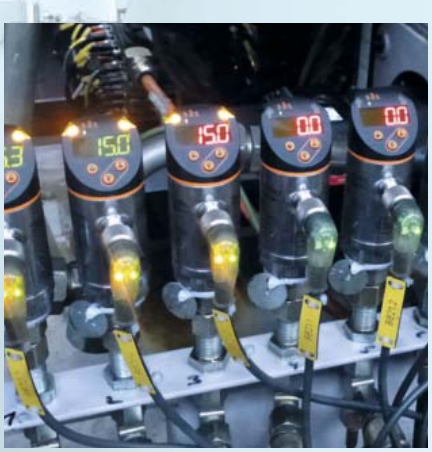
Conductivity sensors

Temperature sensors

Maintenance-free level detection with the LMC series in applications where other systems fail – thanks to the most efficient deposit suppression on the market.

IO-Link

Pressure sensors are used for reliable detection of hydrostatic pressure in tanks and other vessels on the food and beverage industry.



The robust pressure sensors from ifm do not require any moving parts such as pistons or springs. They are particularly shock and vibration resistant as well as wear-free and maintenance-free.

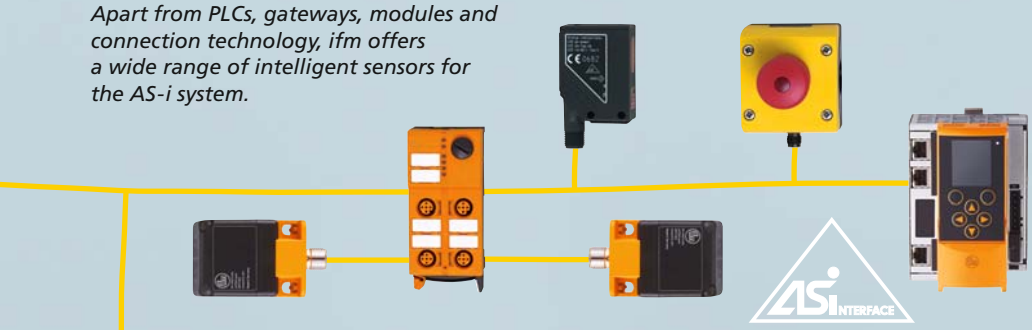
Temperature transmitters provide accurate measured values. For critical applications, they are also available with self-monitoring.

And, of course, process sensors from ifm are perfectly suited for CIP/SIP.

Industrial communication

Fast and simple data and energy transmission. AS-Interface reduces wiring and saves costs.

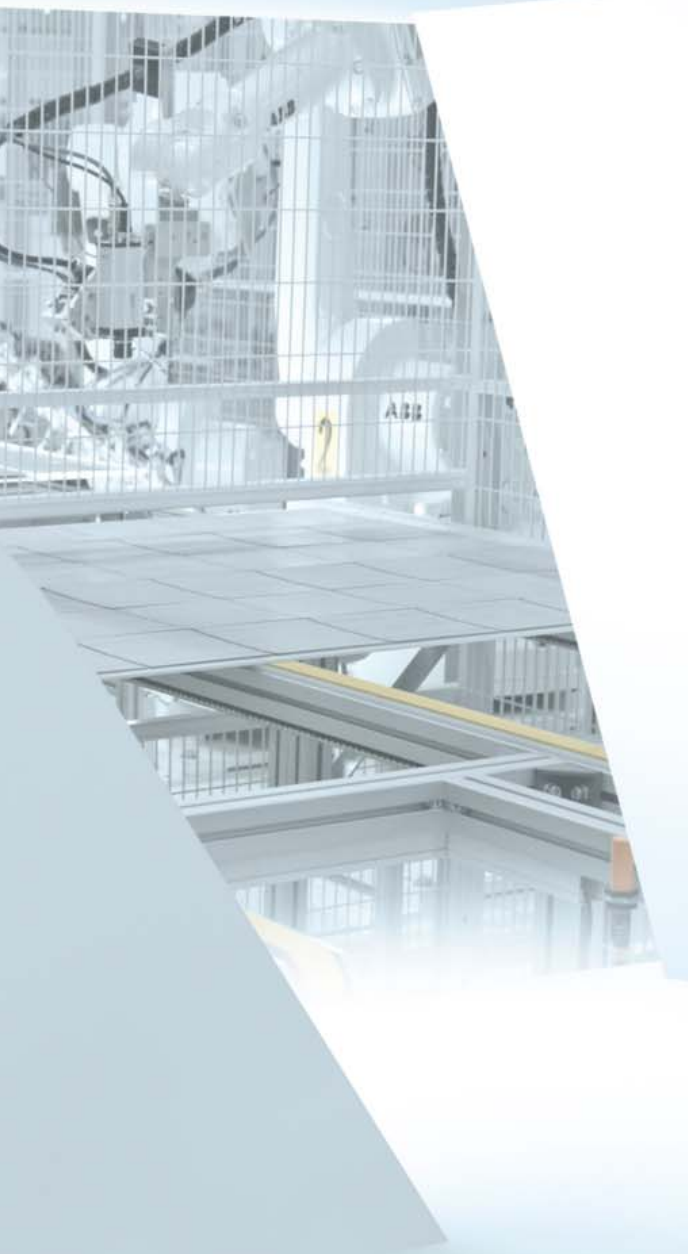
Apart from PLCs, gateways, modules and connection technology, ifm offers a wide range of intelligent sensors for the AS-i system.



The AS-i AirBox is used in pneumatic systems to combine I/O module and solenoid valve efficiently. It is used for decentralised control of cylinders or valves, flaps or slides actuated by valve actuators.

Fully potted decentralised I/O modules connect sensors and actuators via AS-i with the gateway or the PLC. Using them close to the actuator increases energy efficiency.

AS-i masters make it very easy to wire inputs and outputs and are a perfect addition to all fieldbuses. The reliable AS-i power supplies are highly immune to interference and provide high power reserves.



With a world premier, the AS-i LWL repeater, AS-i signals can now be transmitted via fibre optic. Implementation is possible via an optical medium and vice versa.

AS-Interface masters

Industrial SmartPLC controllers

AS-Interface
power supplies and monitors

AS-Interface
I/O modules

AS-Interface
systems and sensors

AS-Interface
Safety at Work

AS-Interface
for hazardous areas

Fieldbus components

Apps

AS-Interface
wiring technology

ifmnovation

Cool innovative solutions for hot processes. Only under the harshest conditions can sensors prove what they are capable of.

When used to detect extremely hot objects that are difficult to access, the infrared temperature sensor with pilot light will demonstrate its strengths.

IO-Link

IO-Link

The first step towards Industry 4.0. Processing, evaluation and optimisation – this is IO-Link from ifm.

IO-Link master for control cabinets with integrated web server for fast configuration and diagnostics. It provides everything the IT needs for intelligent data processing.

IO-Link master

IO-Link module

IO-Link process sensors

IO-Link devices

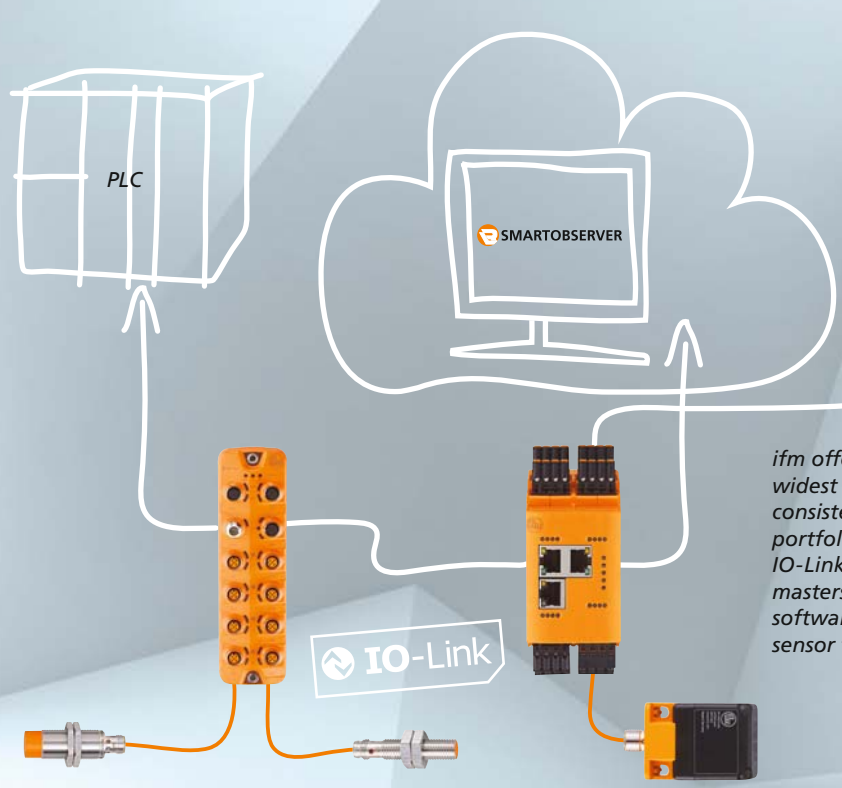
IO-Link identification systems

IO-Link position sensors

IO-Link software

IO-Link
sensors for motion control

IO-Link accessories /
connection technology



ifm offers the widest and most consistent product portfolio of IO-Link sensors, masters and software – from sensor to ERP.

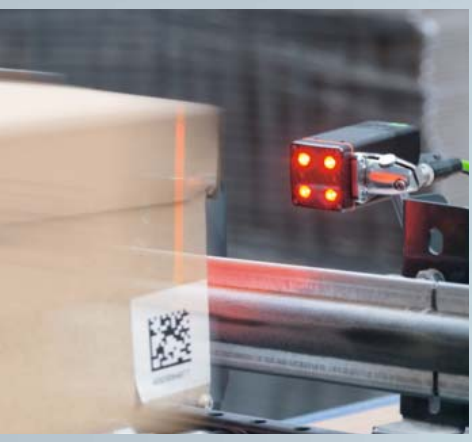
Configuring the patented signal lamps is easy with IO-Link.
Even perfectly suited for medical, pharmaceutical and chemical applications.

Thanks to the power cabling of the PowerLine IO-Link master, the current path can simply be daisy-chained.
It is designed for direct connection of IO-Link actuators.

Field bus modules with in-built IO-Link masters, high EMC compatibility, wide operating temperature range, high protection rating and robust housing are a good choice for permanent use in the food industry.

Identification systems

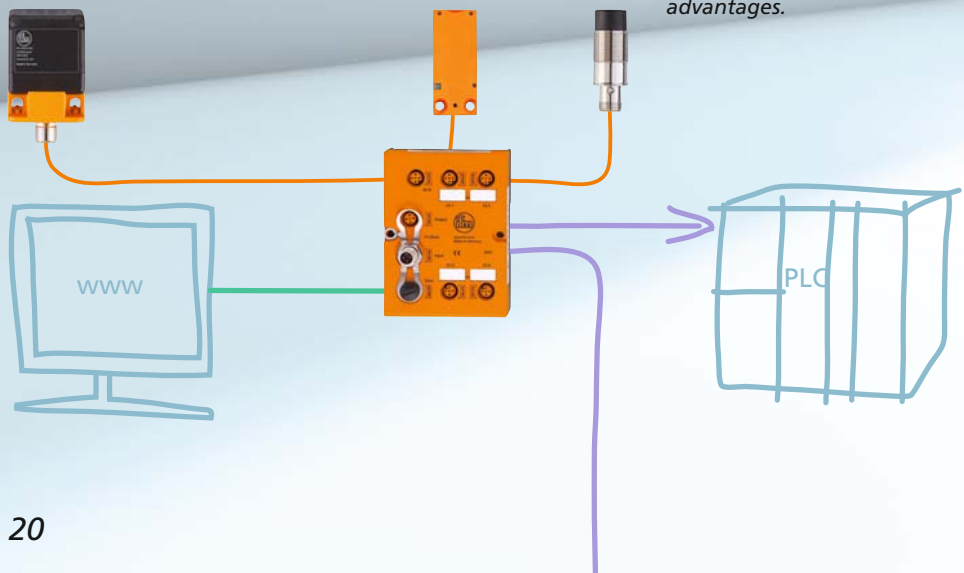
Automatic control and seamless documentation of manufacturing and supply processes.



1D and 2D code readers for quick and reliable identification, efficient tracking and optimum control of products.

UHF-range RFID solutions are used in production, intralogistics and conveying. Long ranges and the ability to read several ID tags at the same time are considerable advantages.

Compact 125 kHz RFID read / write heads include, in addition to the antenna, the complete evaluation and the interface to AS-Interface. They are perfectly suited for industrial use.



The ANT600 RFID antenna easily handles long reading and writing distances. Due to protection rating IP 67 and IP 69K, it is particularly well suited for use in harsh industrial environments.

Thanks to IO-Link, 13.56 MHz RFID antennas offer flexible parameter setting, diagnostics and data handling. They are ideal for identification tasks with low data volumes.

IO-Link

RFID 125 kHz

RFID 13.56 MHz

RFID UHF

1D / 2D code readers

Systems for condition monitoring of machines

Early detection of machine damage, prevention of expensive downtime and assurance of high production quality.

Systems for vibration monitoring and diagnostics

Flow meters for compressed air

Flow meters for water consumption

Systems for oil quality monitoring

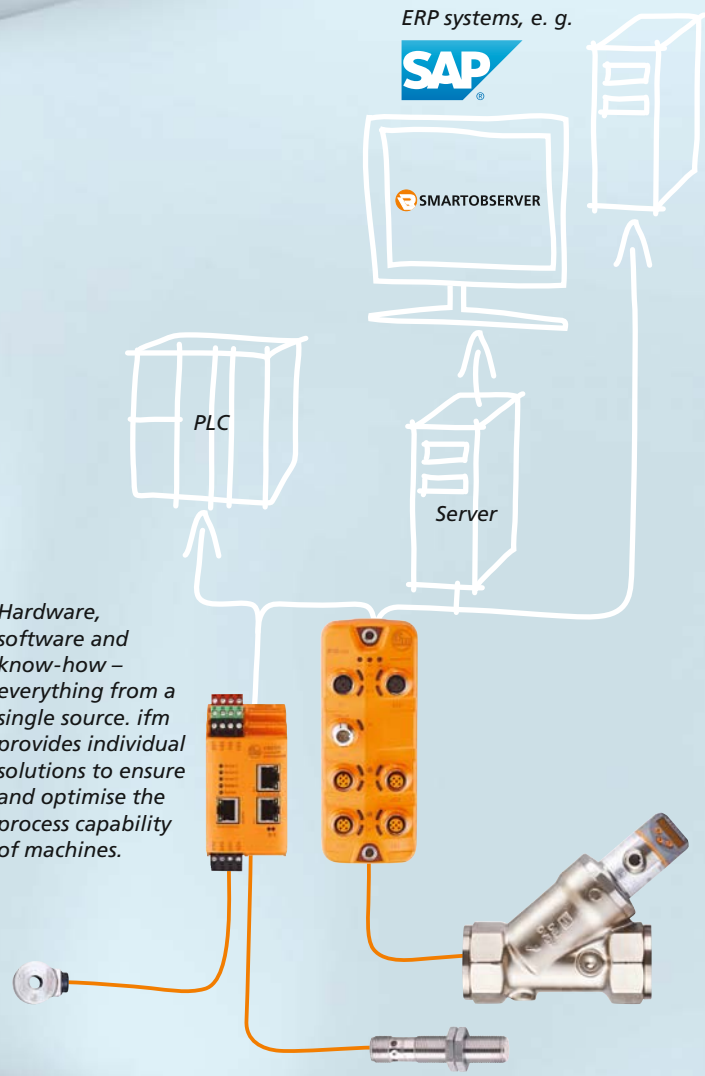
Systems for pulse evaluation

Systems for the evaluation of standard signals

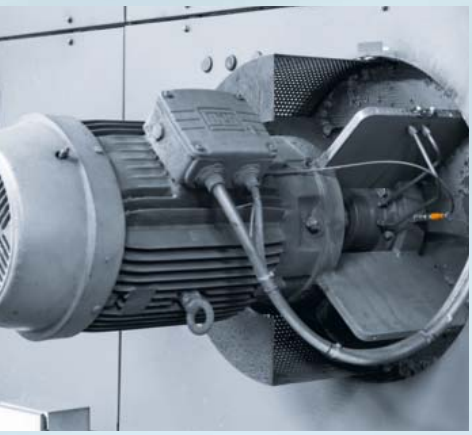
Systems for signalling and indication

Systems for signal conversion

ifm offers the diagnostic system VSE150 for evaluation of dynamic signals such as acceleration or force as well as analogue signals.



Hardware, software and know-how – everything from a single source. ifm provides individual solutions to ensure and optimise the process capability of machines.



Systems for vibration monitoring are used for condition-based maintenance of machines. They signal wear of bearings (e.g. on fans) in good time to prevent expensive damage.

For more energy efficiency: Flow sensors accurately detect volumetric flow quantities, consumed quantities and medium temperatures of water and emulsions.

The high measurement accuracy of the SD compressed air meter ensures reliable detection of small quantities. This makes it possible to detect the smallest leaks.

Systems for mobile machines

Muddy, wet and cold conditions or vibration – maximum reliability in every application.

The ecomatmobile system ensures maximum reliability. The powerful and reliable ecomat controller with e1 type approval is the beating heart of the system.

Augmented reality in real 3D. Camera systems for mobile applications are used for three-dimensional detection of scenes. Objects are recognised automatically for tasks such as intelligent collision warning.

The freely programmable, robust ecomatmobile graphic displays are optimised for the control, parameter setting and handling of mobile machines and installations.

ifm sensors for mobile applications have maximum shock and vibration resistance, an extended operating temperature range, high protection rating and increased EMC compatibility.

Robust ioControl I/O module with integrated controller, high protection rating of IP 67 and M12 connection or central plug are available as an option.

Controllers

I/O modules

Devices for operation and monitoring tasks

Cameras for mobile applications

Components for diagnostic and service units

Signal converters

Sensors for mobile applications

Connection technology

High-quality materials and an innovative sealing concept – ifm connectors conform to the highest quality standards.

ecolink M12 Y-connection cable for use in hygienic and wet areas. They are free from halogen and silicone while being extra-ordinarily shock, vibration and temperature resistant.

Industrial applications / factory automation

Use in welding areas

Use in applications with machine tools, coolants and lubricants

Use in mobile and robust applications

For use in wet areas and in the food industry

Use in hazardous areas

The ecolink EVW series is optimised for use in welding applications. The non-stick coating of the PUR cable and the coupling nut lets weld spatter roll off.

Connection technology from the EVT series is ideal for applications in hygienic and wet areas with frequent high-pressure cleaning and fast temperature changes.

The connectors are resistant to oils and lubricants, making them ideal for use in machine tools and the metalworking industry.

The wirable halogen-free and silicon-free ecolink EVF connectors have an innovative strain relief.

Software

From sensor parameter setting to process analysis – ready for industry 4.0.

The free Vision Assistant software enables intuitive and user-friendly set-up of ifm's vision and 3D sensors.

The LR DEVICE software is used for convenient online and offline parameter setting and visualisation of sensors and actuators with IO-Link interface.

LR SMARTOBSERVER is used for online visualisation, logging and export of measured values for condition monitoring or energy efficiency of machines and installations.

The Vision Assistant can even be used to adjust complex configurations with several 3D sensor systems without any special knowledge being required.

- Parameter setting and operating software
- OPC server software
- Programming software
- Apps
- Condition monitoring and energy consumption analysis

Using the LR SMARTOBSERVER software has significantly improved machine uptime.

Power supplies

Controllers, sensors and modules will only work properly if they have a reliable power supply.

The 24 V DC power supplies from ifm have a compact space-saving housing, high power reserves, high noise immunity and a high degree of efficiency.

24 V DC power supplies

AS-Interface power supplies

Switching amplifiers

Electronic 24 V DC fuses

24 V DC circuit breakers monitor the secondary circuit and reliably switch it off in the event of a failure. Reduced wiring and easy installation save time and money.

IO-Link

Electronic 24 V DC circuit breakers with IO-Link transfer all information directly to the IO-Link master – for example, how many times which automatic circuit breaker has triggered.

All 24 V DC power supplies are designed for installation in control cabinets. Thanks to their high degree of efficiency, the units save energy costs and reduce waste heat in the control cabinet significantly.

Accessories

A great variety of accessories guarantees reliable sensor and system operation in all applications.

Process adapters and accessories for fast and reliable installation of process sensors for industrial and hygienic applications.

Easy-to-handle and robust mounting sets for low cost and durable fastening in harsh industrial environments.

Adapters and mounting systems allow reliable and quick installation of sensors.

The solid target puck can be mounted directly on the shaft of the quarter-turn actuator. Various diameters and heights allow perfect adaptation to the corresponding hand valve or automatic valve actuator.

Accessories for
position sensors

Accessories for
vision sensors

Accessories for
magnetic sensors

Accessories for
3D sensors and cameras

Accessories for
cylinder sensors

Accessories for
safety light curtains and grids

Accessories for
ultrasonic sensors

Accessories for
process sensors

Accessories for
photoelectric sensors

Accessories for
AS-Interface

Accessories for
laser sensors

Accessories for
identification systems

Accessories for
distance sensors

Accessories for
vibration monitoring systems

Accessories for
fibre optics

Accessories for signalling
and indication systems

Accessories for
touch sensors

Accessories for
control systems

Accessories for
feedback systems

Device protection

Accessories for
encoders

Miscellaneous

ifmformation

From inductive to identification – discover ifm's wide product range. You will find an overview of a great variety of product brochures online.
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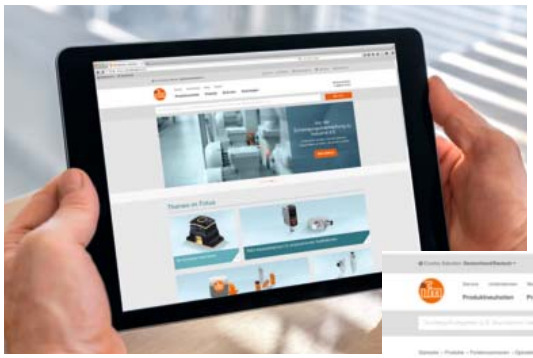
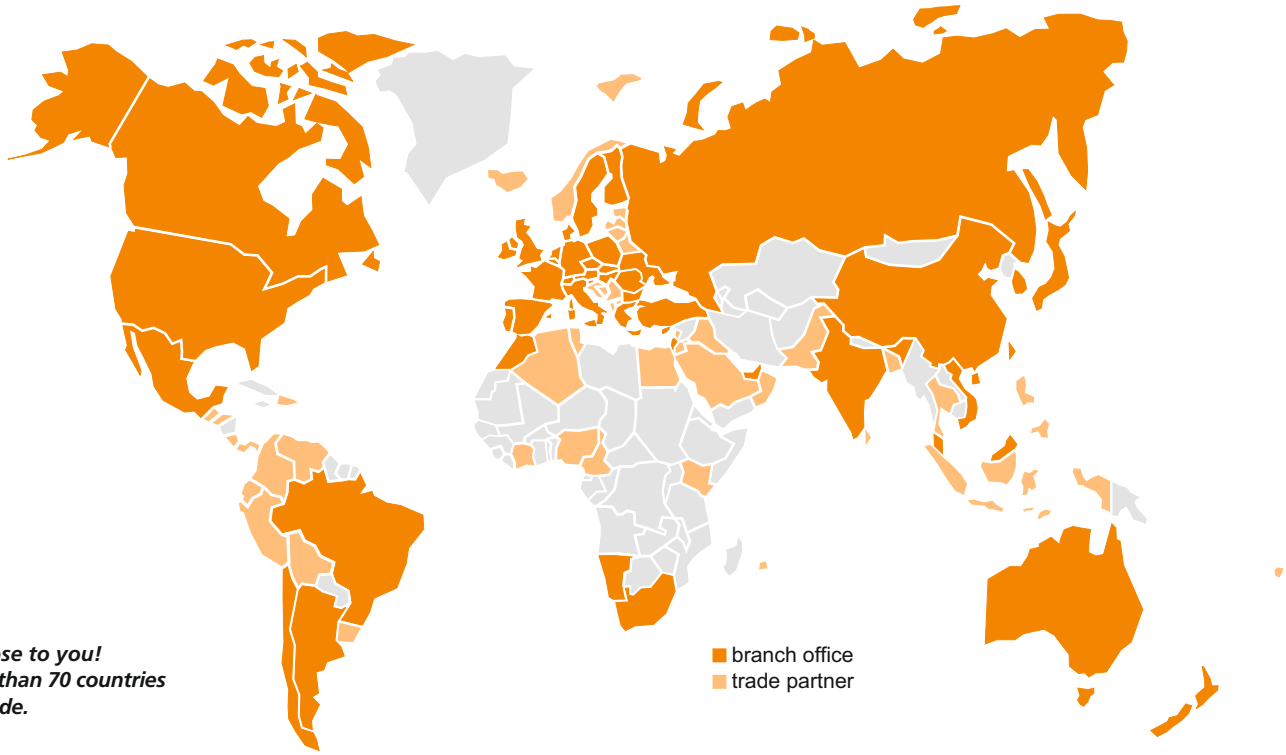


ifm – close to you!



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