



THE ORANGE BOOK

PRODUCT **FACTSHEETS**

2025/2026

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Turning the tube into a counter

Inductive ring sensors monitor material flow in feeding technology

- Reliable detection of even the smallest metallic objects
- Very short response time
- Dynamic or static operating principle
- Sensitivity, pulse stretching and output function can be adjusted
- Internal piece counter can be queried via IO-Link



IP67



ifm – close to you!

Diameter [mm]	Electrical design (default setting)	Order no.	
		Static measuring principle (default setting)	Dynamic measuring principle (default setting)
10	PNP	I7R201	I7R203
10	NPN	I7R202	I7R204
15	PNP	I7R205	I7R207
15	NPN	I7R206	I7R208
20	PNP	I7R209	I7R211
20	NPN	I7R210	I7R212
25	PNP	I7R213	I7R215
25	NPN	I7R214	I7R216
50	PNP	I7R217	–

360° monitoring of small parts

Inductive ring sensors are used in feeding technology to detect metallic parts such as screws or nuts as they are transported through tubes. Objects are identified at speeds of up to 35 m/s, regardless of their size. This enables precise counting and efficient flow control. Blockages, standstills or incorrect conveyance (no part or several parts at once) can be reliably detected.

Static and dynamic applications

Ring sensors operate either statically or dynamically: Static sensors detect permanently present metal parts, e.g. for level monitoring. Dynamic sensors only react to passing parts and are suitable for counting tasks or flow control. Both versions ensure a trouble-free production process in assembly systems.

IO-Link functions

The sensitivity can be conveniently adjusted using a potentiometer. Extended parameters such as pulse stretching, electrical design (PNP/NPN) and output function (NO/NC) can be configured via IO-Link. The sensor also offers IO-Link-specific features such as piece counting and diagnostic functions.

Technical data		
Operating voltage	[V DC]	10...30
Output function		NO (default setting) / NC
Pulse stretching	[ms]	10...150
Ambient temperature	[°C]	-25...70
Protection rating		IP67

BEST FRIENDS



IO-Link masters
Field-compatible masters
with PROFINET interface



SD compressed air meter
Detects flow, consumption,
pressure and temperature



**OGD photoelectric
distance sensor**
Precise object detection using
time-of-flight measurement



For further technical
details, please visit:
ifm.com/fs/I7R201



Compact, robust, clearly visible

Rectangular inductive sensors

- Increased sensing range allowing for greater installation flexibility
- Robust housing with LED for increased service life and visibility
- Space-saving design for easy installation in confined spaces



IP67

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Dimensions [mm]	Installation	Sensing range [mm]	Switching frequency [Hz]	Order no. M8 connector	Order no. 2 m PUR cable
40 x 26 x 12	flush	4	500	IN6000	IN6002
40 x 26 x 12	non-flush	7	500	IN6001	IN6003
28 x 16 x 10	flush	3	800	IS6000	IS6002
28 x 16 x 10	non-flush	6	800	IS6001	IS6003

Enhancing the tried and tested

Following a comprehensive redesign, the rectangular inductive sensors make a strong comeback. With an increased sensing range, they offer greater flexibility during installation. Moreover, a clearly visible LED has been integrated into the optimised and more robust housing, simplifying identification and visual status queries in the field. Enhanced performance now allows the non-flush versions to be installed partially flush.

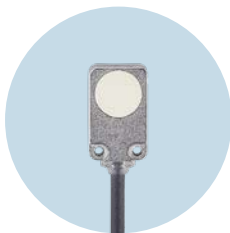
Easy to change, easy to replace

But not everything has changed: The dimensions are exactly the same as those of the previous models. This means switching to the new models is seamless, and installation in confined spaces remains just as easy.

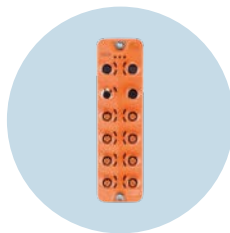
Thanks to the specified fixing points, the exact position and thus reliable object detection is guaranteed without further adjustment when the sensor is replaced.

Technical data		
Operating voltage	[V]	10...30
Current consumption	[mA]	<20
Ambient temperature	[°C]	-40...85
Switching status indication		LED, yellow
Protection rating		IP67

BEST FRIENDS



Inductive IQ sensor
Compact design with high magnetic-field immunity



I/O modules
Direct connection of sensors to the fieldbus



Photoelectric O8 sensor
Light barriers and diffuse reflection sensors in miniature design



For further technical details, please visit:
ifm.com/fs/IN6000



Compact design with exceptional performance

**PMD distance sensor – the all-rounder for
confined spaces**

- Maximum range of 3 m for the O6 type
- Robust object detection thanks to angle- and colour-independent PMD technology
- High excess gain for reliable detection of deep black and reflective objects
- Three operating modes in one device for maximum flexibility



IP67



IO-Link

ToF

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Description	Order no.
O6 type PMD distance sensor	O6D100

Universal application possibilities

The O6D100 has been designed as a powerful all-rounder for typical applications in object detection, distance measurement and positioning. Typical applications include material handling, robotics, assembly automation and logistics.

Thanks to its PMD time-of-flight technology, the sensor enables reliable and robust detection regardless of an object's colour, angle and characteristics. The new high excess gain (HEG) feature makes it particularly effective when dealing with dark, reflective or otherwise challenging objects.

The three operating modes Fine, Standard and Fast can be switched via IO-Link, offering maximum flexibility. This allows one single sensor to meet the requirements of a wide range of applications. With a long detection range of 3 metres, it is also suitable for use outside the immediate process environment.

Another standout feature is the adjustable hysteresis. The factory setting enables stable switching states even with changing colours. For single-colour objects, the user can adjust hysteresis via IO-Link.

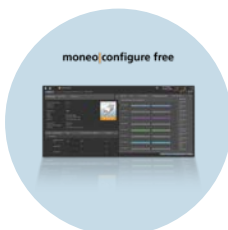
Quick integration thanks to standard design

With its compact dimensions in the widely used O6 housing, the sensor integrates seamlessly into existing machine set-ups. No new accessories are required for installation. The electrical connection is easily established via an M8 connector. Thanks to IO-Link, the sensor can be quickly integrated into modern control architectures and configured remotely.

Common technical data		
Measuring range (distance)	[mm]	30...3000
Adjustable object reflectivity	[%]	6...200
Type of light / wave length	[nm]	laser light 680
Front pane material		glass
Measuring frequency	[Hz]	max. 140
Protection rating		IP65, IP67

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moneo|configure free
Software for parameter setting of the IO-Link infrastructure



IO-Link master
Field-compatible masters with Profinet interface



O3D 3D sensor
For object measurement, gripper navigation and much more



For further technical details, please visit:
ifm.com/fs/O6D100



Always close to the action

Fiber-optic amplifiers for precise object detection

- Intelligent clamping system simplifies installation
- Fast set-up thanks to intuitive menu navigation and OLED display
- Two switching outputs enable fast processes and diagnostics
- Useful maintenance functions help ensure system availability



IP65



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Connection	Order no.
Cable 2.0 m	OCF500
M8 connector	OCF501
M12 pigtail	OCF502

Convenient installation and operation

The OCF fibre-optic amplifier is ideal for detecting even the smallest or most transparent objects in confined spaces. It makes proven fibre optic technology easier and more user-friendly than ever before.

This becomes clear right from installation: two spring-loaded locating lugs allow the OCF to be mounted on a DIN rail with one hand. The fibrelock system simplifies mounting and securing of the fibre optics. Thanks to its OLED display and guided installation menu, the device is very easy to configure.

Visit our website to discover which maintenance functions the OCF uses to ensure optimal performance and support high system availability.

The perfect fibre optics for every requirement

Are you looking for fibre optics that can withstand high temperatures, aggressive chemicals, or the mechanical stress of drag chains – and are flexible enough to bend around even the smallest radii? Our online shop offers a wide selection of fibre optics.

Common technical data		
Outputs		2x NPN/PNP
Switching frequency	[kHz]	max. 20
Type of light		red light
Dimensions	[mm]	38.5 x 12.5 x 74
Protection rating		IP65



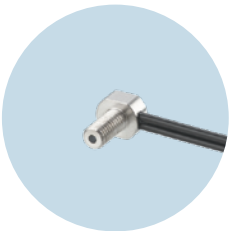
The OCF fibre optic amplifiers can be installed on a DIN rail to save space. From there, the fibre optics lead directly to the measuring points at which objects or positions are detected.

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IO-Link masters
Field-compatible masters with PROFINET interface



Fibre optics
As through-beam and diffuse reflection sensors



Inductive IY sensors
Miniature designs for extremely confined spaces



For further technical details, please visit:
ifm.com/fs/OCF500



Faster, further, better

New generation of OGD distance sensors

- Distance measurement with millimetre precision using PMD time-of-flight technology
- Wide range of applications: 3 operating modes now facilitate object detection even in dynamic processes
- 2-in-1: simultaneous output of distance value and reflectivity
- Process values shown on 2-colour display and sent via IO-Link



IP67



IO-Link

ToF

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Material Housing	Laser protection class	Output	Measuring range [mm]	Order no.
Plastic	1	2x PNP/NPN (selectable)	50...2000	OGD250
Plastic	1	1x PNP/NPN, 1x analogue	50...2000	OGD251
Stainless steel	1	2x PNP/NPN (selectable)	50...2000	OGD550
Stainless steel	1	1x PNP/NPN, 1x analogue	50...2000	OGD551
Stainless steel	2	2x PNP/NPN (selectable)	50...4000	OGD560

Even more performance

The new generation of tried-and-tested distance sensors from the OGD series combines all the advantages of their various predecessor variants in just one device. The user is now presented with a choice of operating modes for optimisation in terms of high measuring distances, maximum precision or high measuring frequencies. This reduces the number of variants while enabling an optimum adaptation to a wide range of applications.

Laser class 2 = range x 2

In laser class 2 version, the OGD doubles its range and detects objects up to 4 metres away. Even dark, reflective or otherwise challenging objects are reliably detected thanks to the new high excess gain (HEG) feature.

Versatile use

The sensors of the OGD series measure distance values with millimetre precision. They are ideal assistants for positioning objects or checking presence, for example in quality control. The reflectance values can also be used, for example for identification in sorting tasks. The areas of application are wide-ranging: whether handling technology, robotics, assembly automation, conveyor technology or logistics; the new OGDs are universal problem solvers for your automation!

Light- or heavy-duty?

The choice is yours. We now offer the OGD in both plastic and stainless steel housings.

Common technical data

Adjustable object reflectivity	[%]	6...900
Type of light / wave length	[nm]	laser light 650
Front pane material		PMMA
Measuring frequency	[Hz]	max. 180
Avoidance of mutual interference		up to 5 sensors
Protection rating		IP67

User-friendly

The sensor can be set either directly on the device by using the 3 operating buttons and the 4-digit display, or conveniently from a distance via IO-Link. As the new OGDs are backward compatible, they can seamlessly adopt the parameter sets of the previous generation when replacing earlier devices.

Speaking of the display: it can do more than just display the current measured value reading. A red-green colour change signals the status of the current measurement in a clear and simple way.

In addition to the distance value, the reflectance value can also be output for evaluation via analogue output or IO-Link, or signalled via switching output.

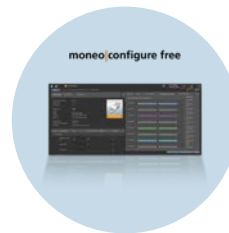
BEST FRIENDS



IO-Link interface
For parameter setting of IO-Link devices on a PC



IO-Link masters
Masters with PROFINET interface for use in the field



moneo|configure free
Software for parameter setting of the IO-Link infrastructure



For further technical details, please visit:
ifm.com/fs/OGD250



A focus on hydraulic cylinders

Pressure-resistant sensors for end position detection

- Reliable: magnetic operating principle with predamping
- Extremely robust: pressure-resistant up to 500 bar, bursting pressure 2,000 bar
- Resistant: withstands at least 10 million pressure cycles
- Added value: additional functions with the IO-Link versions

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IP69K

Type	Housing length [mm]	Sensing range (flush) [mm]	Output	Order no.
Connection: M12 connector, ambient temperature -25...120 °C				
M12	60	2.0	IO-Link, PNP/NPN, normally closed/normally open	MFH218
M12	60	1.8	PNP, normally open	MFH202
M12	60	1.8	NPN, normally open	MFH203
M12	60	1.8	PNP, normally closed	MFH204
M12	93	1.8	PNP, normally open	MFH200
M12	53	2.0	PNP, normally open	M9H200
Connection: Cable 2 m, PUR, ambient temperature -25...85 °C				
M12	55	2.0	IO-Link, PNP/NPN, normally closed/normally open	MFH219
M12	41	1.8	PNP, normally open	MFH205
M14	41	2.0	PNP, normally open	MFH201

Applications

The sensors have been specially developed for end position detection in hydraulic cylinders. They can be installed flush or quasi-flush using a thread and will precisely detect the steel target on the piston rod. With their high pressure rating and capability to detect ferromagnetic metals, these sensors are well-suited for a wide range of applications also in other hydraulic components, including valves or pumps.

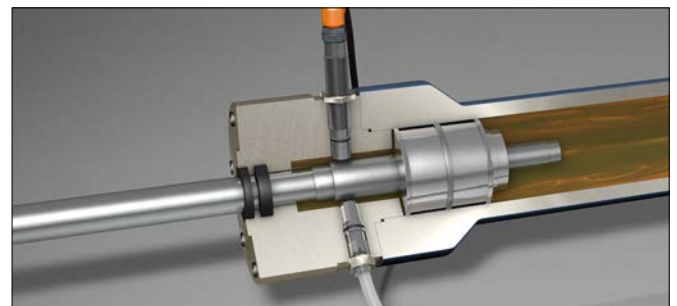
Two types for a wide range of requirements

The standardised threaded type allows the sensor to be installed and adjusted flexibly on various hydraulic cylinders, enabling a single sensor to cover various cylinder types. The special M9H type comes with an end stop. This significantly simplifies installation when always the same cylinder type is used.

Added value with IO-Link

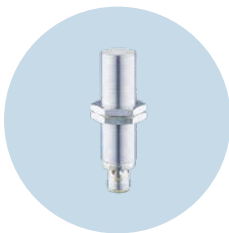
Sensor versions with IO-Link offer additional functions such as stroke or switching cycles counters or unique sensor identification, whereas time monitoring between end positions and temperature measurement enable demand-based maintenance.

Technical data		
Operating voltage	[V]	10...36 (10...30 with IO-Link versions)
Pressure rating dynamic/static	[bar]	500/1000
Bursting strength	[bar]	2000
Switching frequency	[Hz]	1000 (200 for MFH218/MFH219)
Protection rating		IP69K

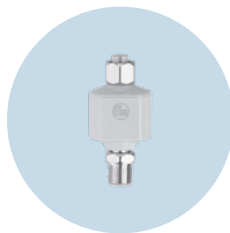


In the IO-Link versions, a conical piston rod allows continuous monitoring of the approach to the end position.

BEST FRIENDS



Inductive IGM sensor
For use in mobile machines
in harsh environments



Bluetooth mesh
Connection to the IT level
without complex wiring



IO-Link master
Field-compatible masters
with Profinet interface



For further technical
details, please visit:
ifm.com/fs/MFH218



Always safe in ex zones

Pressure transmitter for hazardous areas

- Certified for use in zones 2 and 22
- Particularly robust thanks to a ceramic measuring cell, enhanced EMC and vibration resistance
- Proven measuring accuracy and long-term stability of the PA series



IP67



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Safe pressure measurement in hazardous areas

Extreme caution is required wherever dust or gas can accumulate in the atmosphere. The PA30XA pressure transmitter complies with category 3D/3G. Therefore, it is certified for use in potentially explosive atmospheres in zones 2 and 22, enabling risk-free monitoring of the process pressure.

Robust construction

The ceramic measuring cell is highly resistant to media, ensuring long-term reliable and precise measurement results. Its high resistance to overpressure, enhanced electromagnetic compatibility and vibration resistance complete the transmitter's robust design.

Measuring range [bar]	Pressure rating [bar]	Order no.
0...25	150	PA303A
0...10	75	PA304A
0...2.5	20	PA306A
0...1	10	PA307A
0...0.25	0.6	PA308A
0...0.1	0.4	PA30ZA
-1...0	10	PA309A

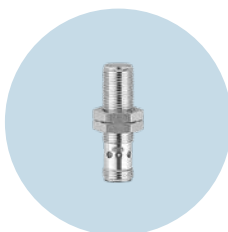
Technical data		
Operating voltage	[V]	9.6...32
Medium temperature	[°C]	-20...60
Characteristics deviation	[%]	± 0.5
Step response time analogue output	[ms]	3
ATEX marking	Ex II 3G Ex ec IIC T4 Gc X Ex II 3D Ex tc IIIC T85°C Dc X	
Protection rating	IP65, IP67	

Further international approvals in preparation

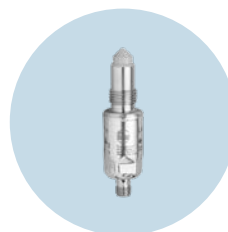
BEST FRIENDS



SI500A flow monitor
Measures liquids and gases
in zones 2 and 22



IF508A inductive sensor
For object detection
in zones 2 and 22



LMT01A level sensor
Level monitoring in tanks and
containers in zones 2 and 22



For further technical
details, please visit:
ifm.com/fs/PA303A



Smart pressure indication in the industrial sector

Electronic manometer with LED visualisation

- Optimum interpretation of measured values through operating ranges that can be customised in colour as well as threshold and trend displays
- Pressure peak and overload resistant ceramic measuring cell
- Fast compensation of dynamic temperature changes
- Temperature resistant up to 80 °C
- Very high resolution thanks to 32-bit process value transmission via IO-Link



IP69



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Factory setting of the measuring range [bar]	Measuring range of the relative pressure [bar]	Order no.
0...0,25	0,0124...0,25	PG1408
0...1	-0,05...1	PG1407
-1...1	-1...1	PG1409
0...2,5	-0,124...2,5	PG1406
0...4	-1...4	PG1405
0...6	-1...6	PG1415
0...10	-1...10	PG1404
0...16	-1...16	PG1414
0...25	-1...25	PG1403
0...60	0...60	PG1423
0...100	0...100	PG1402
0...160	0...160	PG1412
0...250	0...250	PG1401
0...400	0...400	PG1400

Tried-and-tested pressure sensor combined with an innovative LED manometer display

ifm pressure sensors have proven to be a reliable solution in a wide range of industrial applications for many years. The PG electronic manometer has now been revised and boasts new and improved features.

The multicolour LED display enables clear and unambiguous visualisation of pressure ranges, switching points, minimum and maximum values and trend curves. Mechanical pointers, which are prone to errors, were replaced by durable and highly visible LEDs. This technological advancement ensures improved clarity and reliability.

Technical data	
Accuracy (in % of the span) Characteristics deviation (to DIN EN 61298-2)	< ± 0.5
Medium temperature [°C]	-25...80
Materials (wetted parts)	ceramics, FKM, high-grade stainless steel (316L/1.4404)
Communication interface	IO-Link 1.1 COM3
Process connection	G½ (DIN EN 837)
Protection rating	IP67, IP69 (to DIN EN 60529)

Robust ceramic measuring cell for maximum reliability

The pressure sensor itself impresses with its extremely robust ceramic measuring cell which can easily withstand even extreme pressure peaks and overloads. Thanks to the measuring cell's high resistance to abrasive media, it offers a durable and reliable solution for demanding applications.

IO-Link

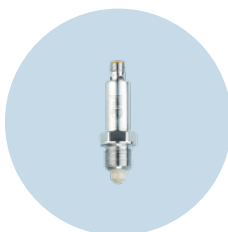
In addition to typical functions such as parameter setting and process value transmission, the manometer offers further information and options via IO-Link:

- Display optimisation (brightness, colour, layout)
- Min. and max. memory, counter

BEST FRIENDS



TN temperature sensor
Precise measured values with local display



LMC level sensor
Level detection on tanks and containers



SA flow sensor
Simultaneous detection of flow and temperature



For further technical details, please visit:
ifm.com/fs/PG1408



Smart pressure indication in hygienic areas

Electronic manometer with LED visualisation

- Optimum interpretation of measured values, e.g. through operating ranges that can be customised in colour as well as threshold and trend displays
- Pressure peak and overload-resistant ceramic measuring cell
- Fast compensation of dynamic temperature changes
- Permanent 150°C medium temperature
- Very high resolution thanks to 32-bit process value transmission via IO-Link



IP69K



ifm – close to you!

Factory setting of the measuring range [bar]	Measuring range of the relative pressure [bar]	Order no.
0...0,25	-0,0124...0,25	PG1708
0...1	-0,05...1	PG1707
-1...1	-1...1	PG1709
0...1,6	-0,1...1,6	PG1717
0...2,5	-0,124...2,5	PG1706
0...4	-1...4	PG1705
0...6	-1...6	PG1715
0...10	-1...10	PG1704
0...16	-1...16	PG1714
0...25	-1...25	PG1703
0...40	-1...40	PG1743

Tried-and-tested pressure sensor combined with an innovative LED manometer display

ifm pressure sensors have proven to be a reliable solution in the food and beverage industry for many years. Following the successful updates to the transmitters and display versions, the PG manometer has now also been revised and boasts new and improved features.

The multicolour LED display enables clear and unambiguous visualisation of pressure ranges, switching points, minimum and maximum values and trend curves. Mechanical pointers, which are prone to errors, are replaced by durable and highly visible LEDs. This technological advancement ensures improved clarity and reliability.

Robust ceramic measuring cell for maximum reliability

The pressure sensor itself impresses with its extremely robust ceramic measuring cell which can easily withstand even extreme pressure peaks and overloads. Thanks to the measuring cell's high resistance to abrasive media, it offers a durable and reliable solution for demanding applications.

Technical data		
Accuracy (in % of the span) Deviation of the characteristics (to DIN EN 61298-2)		< ± 0.2
Medium temperature	[°C]	-25...150
Materials (wetted parts)		ceramics 99.9 %, PTFE, stainless steel (1.4435 / 316L)
Communication interface		IO-Link 1.1 COM3
Process connection		G1 / Aseptoflex Vario
Protection rating		IP67, IP69K

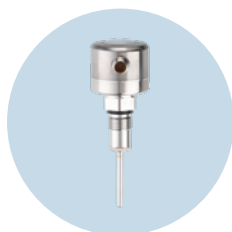
Unlike conventional sensors with a metallic diaphragm, the ceramic measuring cell does not require oil as a pressure transfer medium. This completely eliminates the risk of medium contamination when the sensor is damaged. This property makes it particularly suitable for the strict hygiene requirements of the food and beverage industry.

IO-Link

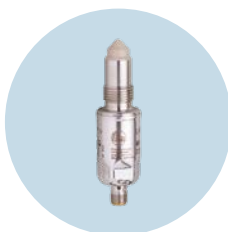
In addition to typical functions such as parameter setting and process value transmission, the manometer offers further information and options via IO-Link:

- Display optimisation (brightness, colour, layout)
- Min. and max. memory, counter
- Device temperature

BEST FRIENDS



TCC temperature sensor
Including self-monitoring for maximum process reliability



LMT level sensor
Point level detection even with difficult media



SM Foodmag
Magnetic-inductive flow meter for the food industry



For further technical details, please visit:
ifm.com/fs/PG1708



The pressure's on: compact design and always ready to connect

Small pressure transmitters with integrated DIN
valve plug

- Robust welded stainless steel housing with high IP67 protection rating
- Measurement accuracy $< \pm 0.5 \%$, repeatability $< \pm 0.05 \%$
- Extremely fast response: step response time of only 2 ms
- Compact design (SW19) with process connection

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IP67

Measuring range of the relative pressure [bar]	^P Overload max. [bar]	^P Bursting min. [bar]	Order no.
Output function 4...20 mA			
0...600	1500	2500	PT5060
0...400	1000	1700	PT5000
0...250	625	1200	PT5001
0...160	400	1100	PT5012
0...100	250	1000	PT5002
0...60	150	900	PT5023
0...40	65	800	PT5043
0...25	65	600	PT5003
0...16	40	450	PT5014
0...10	25	300	PT5004
0...6	15	200	PT5015
-1...16	40	450	PT5096
-1...10	25	300	PT5094
-1...5	15	200	PT5095

Fast and easy exchange

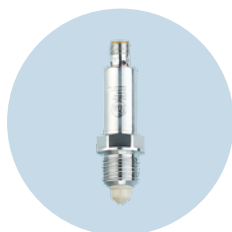
Despite numerous alternatives valve plugs are still used for the connection of sensors in many plants. ifm's PT50 series now also includes compact pressure sensors with an integrated valve plug. This makes it easy to integrate the sensors into existing plants and to use the existing wiring, which saves time and money.

Tried-and-tested technology and high IP protection rating

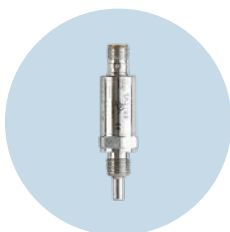
The sensors feature a robust thin-film measuring cell without a sealing ring in compact design with 19 mm across flats. IP67 protection rating is achieved when used in conjunction with a suitable valve plug (e.g. E30447). Compared to the IP65 sensors with valve plug which are common on the market the operational reliability is higher.

Technical data		
Operating voltage	[V]	8.0...36
Accuracy/deviation	Characteristics	
	deviation of the span	[%] < ± 0.5
	Repeatability	[%] < ± 0.05
Medium temperature	[°C]	-40...125
Materials (wetted parts)		FKM, V4A (1.4542)
Step response time	[ms]	2
Protection rating		IP67

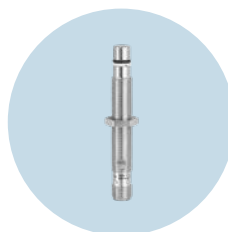
BEST FRIENDS



LMC level sensor
Reliable monitoring of tanks and vessels



Temperature transmitter
High accuracy and particularly good response dynamics



MFH position sensor
Pressure-resistant position detection on hydraulic cylinders



For further technical details, please visit:
ifm.com/fs/PT5060



Flush and tight

G $\frac{1}{2}$ pressure sensor

- Resistant to viscous and abrasive media thanks to its ceramic measuring cell
- Measuring principle extremely resistant to pressure peaks
- True flush design prevents deposits and pipe clogging
- Continuous transmission of pressure and temperature at a single measuring point



ifm – close to you!

Measuring range factory setting [bar]	Measuring range relative pressure [bar]	Order no.
G½ process connection		
0...160	0...160	PL1512
0...100	0...100	PL1502
0...60	0...60	PL1523
0...40	-1...40	PL1543
0...25	-1...25	PL1503
0...16	-1...16	PL1514
0...10	-1...10	PL1504
0...6	-1...6	PL1515
0...2.5	-0,125...2.5	PL1506
0...1	-0.05...1	PL1507

Defies high pressures and abrasive media

Wherever highly viscous or abrasive media such as adhesives, sealants or glue are conveyed through pipes under exact and high pressure, the compact G½ pressure transmitter PL15 is the ideal choice. The flush design provides no dead space for media to adhere to, effectively preventing clogging of the pipe. The ceramic measuring cell also resists extreme pressure peaks and permanently withstands abrasive contents such as glass balls or other solid particles.

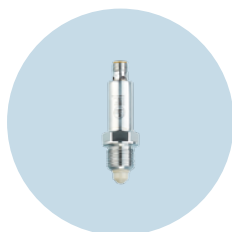
ifm's own, extremely safe sealing concept of the PL15 prevents fluid media such as water or lacquers from entering the threaded area of the measurement connection under high pressure, from depositing there, or from mixing / contaminating subsequent media further into the process.

Common technical data		
Step response time analogue output	[ms]	12 (2L) / 3 (3L)
Operating voltage	[V DC]	9.6...30
Accuracy / deviation (in % of the span) Deviation of the characteristics (to DIN IEC EN 62828-1)		< ± 0.5
Temperature monitoring Accuracy	[K]	±2.5 + (0.045 x (ambient temperature - medium temperature))
Medium temperature	[°C]	-25...110
Materials (wetted parts)		ceramics, PTFE; FKM, high-grade stainless steel (1.4435 / 316L)
Communication interface		IO-Link 1.1 COM2 (38.4 kbaud)
Protection rating		IP67, IP68

2 in 1: pressure and temperature via IO-Link

The PL15 can be used both as a two-wire analogue and digitally via IO-Link. In the latter case, the pressure and temperature can be read continuously, as the pressure transmitter also transmits the temperature of the medium so that a second measuring point is not necessary. The operating hours can also be read via IO-Link.

BEST FRIENDS



LMC level sensor
Level detection on tanks
and containers



VVB vibration sensor
Easy condition
monitoring for pumps



SA flow sensor
Simultaneous detection of
flow and temperature



For further technical
details, please visit:
ifm.com/fs/PL1512



Perfect for pneumatic applications

Pressure sensor with G $\frac{1}{8}$ process connection

- Continuous transmission of process values via IO-Link, 2 switching outputs
- Robust stainless steel housing with high shock and vibration resistance
- Extensive parameter setting options and advanced diagnostics via IO-Link



ifm – close to you!

Measuring range of the relative pressure [bar]	Switch point accuracy [% of the span] ¹⁾	Repeatability [% of the span] ²⁾	Characteristics deviation [% of the span] ³⁾	Order no.
-1...0	< ±2.5	< ±0.25	< ±2.5	PV7829
-1...1	< ±1.5	< ±0.15	< ±1.5	PV7809
-1...10	< ±0.5	< ±0.05	< ±0.5	PV7804

¹⁾ to DIN EN 61298-2

²⁾ in case of temperature fluctuations <10 K

³⁾ linearity, incl. hysteresis and repeatability, limit value setting according to DIN EN IEC 62828-1

Robust sensors for pneumatic applications

The pressure sensors have a G $\frac{1}{8}$ process connection, combined with a welded thin-film measuring cell. While offering an unbeatable price/performance ratio, this technology provides for high measuring accuracy in a very compact and robust housing with only 19 mm across flats.

Further advantages

Thanks to the welded measuring cell, the sensors can be used in both pneumatic and inert gas applications.

Another advantage in industrial applications is the robust stainless steel housing. The latter comes with laser labelling, making the sensor permanently identifiable even in demanding environmental conditions.

IO-Link technology allows the pressure sensor to continuously transmit the system pressure and to output other diagnostic data, such as peak counters. Moreover, IO-Link enables loss-free data transmission: conversion losses are excluded and external influences, such as magnetic fields, have no effect on the data transmission.

Technical data	
Outputs	2 x PNP/NPN, IO-Link
Ambient temperature / medium temperature [°C]	-40...90
Communication interface	IO-Link 1.1, COM2
Protection rating	IP67, IP69K

BEST FRIENDS



AS-i AirBox
Decentralised control of pneumatic cylinders and quarter-turn actuators



PQ pressure sensor
Detects the system pressure in pneumatic systems



Leakage detector
Hand-held device for easy localisation of compressed air leaks



For further technical details, please visit:
ifm.com/fs/PV7829



Level measurement at temperatures up to 250 °C

LMH point level sensor with ceramic measuring tip

- Robust ceramic measuring tip which is permanently resistant to abrasive media and high temperatures
- Flexible sealing concept for use in hygienic and industrial applications
- Reliable point level detection due to the suppression of deposits



IP69K



ifm – close to you!

Point level sensors, target medium is individually adjustable

Description	Order no.
-------------	-----------

Sensor preset to detect water-based media

LMH600

Sensor preset to detect oil-based media

LMH610

Mandatory sealing sets

Description	Material	Temperature resistance [°C]	Order no.
Hygienic/pharmaceutical set, FCM Japan (O-ring on the front, L-ring on the back)	FKM	-15...200	E43033
Hygienic set (O-ring on the front, L-ring on the back)	FFKM	-15...240	E43030
Hygienic set, FCM China (O-ring on the front, L-ring on the back)	EPDM	-40...150	E43031
Industrial set (sealing ring on the back)	FFKM	-40...250	E43032

Reliable level detection in deep-frying, pasteurisation and condensation processes

The LMH point level sensor ensures reliable detection of the medium, regardless of being either water or oil based, even at continuous high temperatures of up to 250 °C. In industrial food production, such as deep-frying, milk pasteurisation or CIP/SIP processes, the sensor helps to maintain constant process quality. The same goes for high-temperature applications in the pharmaceutical, chemical and biotech industries.

Sensor for point level and temperature detection

The measuring tip is made of the pure, robust ceramic typically used by ifm. Being so resistant to abrasive media ensures a long service life for the LMH. The sensor's ability to transmit both the medium's temperature and the point level via IO-Link reduces the need for extra measuring points.

Deposit suppression to ensure precise and reliable results

The LMH offers the effective media deposit suppression already known from the LMT point level sensor. Incorrect switching, which could result in containers running empty or being over-filled, is eliminated.

Technical data

Temperature measuring range	[°C]	-40...250
Accuracy of temperature measurement	[K]	±0.6
Pressure rating	[bar]	40
Ceramic material quality	[%]	99.97
Roughness average of measuring tip	[µm]	<0.38
Approvals		3A, EHEDG, FDA, USP Class VI, ASME BPE*
Protection rating		IP68, IP69K

* with electropolished clamp adapter (E43416, E43417)

Flexibility through sealing concept

The point level sensor is designed for use in both hygienic and industrial environments. The adaptation to individual conditions is simplified by the sophisticated sealing concept.

BEST FRIENDS



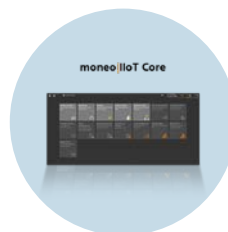
LR level sensor

Continuous detection using guided microwave measurement



IO-Link master

Field-compatible masters for use in hygienic areas



moneo|IIoT Core

IIoT software for simple condition monitoring



For further technical details, please visit: ifm.com/fs/LMH600



Flow measurement in mobile applications

The SU Puresonic Mobile ultrasonic sensor

- Accurate flow measurement of water-based media, glycol and oil
- Displayless design enables use at high media temperatures
- Component-free stainless steel measuring pipe offers high media resistance and permanent ingress resistance
- Conclusions about the signal quality possible on the basis of the signal strength provided



IP69K



ifm – close to you!

Process connection	Measuring range		Order no. [l/min] + [gpm]
	[l/min]	[gpm]	Water, glycol, oil
G½ (DN15)	0.5...65	0.13...17.17	SU6050
G¾ (DN20)	0.5...75	0.13...19.81	SU7050
G1 (DN25)	1...240	0.25...63.4	SU8050
G1¼ (DN32)	1...275	0.25...72.64	SU9050
G2 (DN50)	5...1000	1.32...264.18	SU2050
½ NPT	0.5...65	0.13...17.17	SU6651
¾ NPT	0.5...75	0.13...19.81	SU7651
1 NPT	1...240	0.25...63.4	SU8651
2 NPT	5...1000	1.32...264.18	SU2651

Ensuring process quality for mobile machines

The SU Puresonic Mobile ultrasonic sensor is characterised by its displayless design and high temperature resistance. It is ideal for mobile applications and processes with permanent media temperatures of up to 120 °C.

Examples include temperature control processes, fertiliser machines in agricultural technology and concrete mixers. The sensor reliably detects the volumetric flow rates of a wide range of water-based media, including pesticides, glycol mixtures and oils.

Robust measuring pipe without structures

The measuring pipe of the SU Puresonic Mobile is made of stainless steel and is free of measuring elements, seals and moving parts. This means that faults due to damage, leaks or blockages are excluded from the outset, as are design-related pressure drops.

Technical data		
Operating voltage	[V DC]	8...32
Pressure rating	[bar]	<100
Output functions		IO-Link, analogue output 4...20 mA, pulse output, switching output, diagnostic output
Flow		
Accuracy (in the measuring range)		±(1.0 % MW + 0.5 % MEW)
SU2, SU8, SU9		±(2.0 % MW + 0.5 % MEW)
SU6, SU7		±0.2 % MEW
Repeatability		from 0
Minimum conductivity	[µS]	
Temperature		
Measuring range	[°C]	-40...120
Accuracy	[K]	±2.5
Protection rating		IP67, IP69K

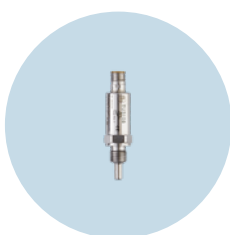
MW = Measuring range value

MEW = Measuring range end value

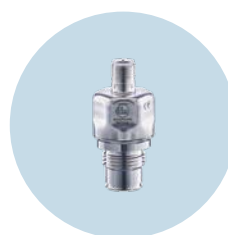
BEST FRIENDS



Graphic display
Programmable HMI for the control of mobile machines



TU temperature transmitter
Robust and accurate, ideal for mobile machines



Pressure transmitter PL15
Compact design for mobile and industrial applications



For further technical details, please visit:
ifm.com/fs/SU6050



Measuring flow rates without any obstacles

The SU Puresonic ultrasonic sensor

- Accurate flow measurement of conductive and non-conductive media
- Component-free stainless steel measuring pipe offers high media resistance and permanent ingress resistance
- Conclusions about the signal quality possible on the basis of the signal strength provided
- Sensor status always in view via the operating status LED



ifm – close to you!

Process connection	Measuring range		Order no. [l/min]		Order no. [l/min] + [gpm]	
	[l/min]	[gpm]	Water	Water, glycol, oil	Water	Water, glycol, oil
G½ (DN15)	0.5...65	0.13...17.17	SU6020	SU6030	SU6021	SU6031
G¾ (DN20)	0.5...75	0.13...19.81	SU7020	SU7030	SU7021	SU7031
G1 (DN25)	1...240	0.25...63.4	SU8020	SU8030	SU8021	SU8031
G1¼ (DN32)	1...275	0.25...72.64	SU9020	SU9030	SU9021	SU9031
G2 (DN50)	5...1000	1.32...264.18	SU2020	SU2030	SU2021	SU2031
½ NPT	0.5...65	0.13...17.17	-	-	SU6621	SU6631
¾ NPT	0.5...75	0.13...19.81	-	-	SU7621	SU7631
1 NPT	1...240	0.25...63.4	-	-	SU8621	SU8631
2 NPT	5...1000	1.32...264.18	-	-	SU2621	SU2631

Ensuring process quality easily and permanently

The SU Puresonic ultrasonic sensor detects flows of conductive and non-conductive media with high precision. Water, glycol mixtures, coolants and oils are all detected with equal reliability.

Robust measuring pipe without structures

The measuring pipe of the SU Puresonic is made of stainless steel and is free of measuring elements, seals and moving parts. This means that faults due to damage, leaks or blockages are excluded from the outset, as are design-related pressure drops.

Condition monitoring made easy

Equipped with IO-Link and a highly visible status LED, the SU Puresonic has everything you need to continuously monitor process quality. In this way, the status of the signal quality can be quickly read both at the IT level and in the field. If it is decreasing, this can be an indication of increased particle density or deposits on the inner wall of the pipe.

Technical data		
Pressure rating	[bar]	< 100
Output functions		IO-Link, analogue output 4...20 mA, pulse output, switching output, diagnostic output
Flow		
Accuracy (in the measuring range)		±(1.0 % MW + 0.5 % MEW)
SU2, SU8, SU9		±(2.0 % MW + 0.5 % MEW)
SU6, SU7		±0.2 % MEW
Repeatability		from 0
Minimum conductivity	[µS]	
Temperature		
Measuring range	[°C]	-20...100
Accuracy	[K]	±2.5
Protection rating		IP67

MW = Measuring range value

MEW = Measuring range end value

BEST FRIENDS



SV vortex flow meter

Also detects deionised water and cooling water



LDL conductivity sensor

Measures the conductivity of a medium, such as ultrapure water



IO-Link master

Field-compatible masters with Profinet interface



For further technical details, please visit:
ifm.com/fs/SU6020



Hygienic and accurate flow measurement

SU Puresonic Hygienic ultrasonic sensor

- Measurement of ultrapure water, water-based media and food oils
- Component-free stainless steel measuring pipe offers high media resistance and permanent ingress resistance
- Conclusions about the process quality possible on the basis of the signal quality provided
- Clamp process connection for hygienic dead space-free adaptation



IP69



ifm – close to you!

Process connection Clamp [DIN 32676]	Measuring range		Order no. Clamp series A (DIN)	Order no. Clamp series C (ASME BPE)	Order no. Clamp series C (ASME BPE)	Order no. Clamp series C (ASME BPE)
			Without display		With display	
	[l/min]	[gpm]	[l/min] + [gpm]	[l/min] + [gpm]	[l/min] + [gpm]	[l/min]
DN15 (½")	1...65	0.26...17.17	SUH120	-	-	-
DN20 (¾")	1...75	0.26...19.81	SUH820	SUH801	-	-
DN25 (1")	1...240	0.26...63.4	SUH220	SUH251	SUH201	SUH200
DN40 (1½")	3...375	0.8...99.06	SUH320	SUH301	-	-
DN50 (2")	5...1000	1.32...264.18	SUH420	SUH451	SUH401	SUH400
DN65 (2½")	20...2400	5.2...634.0	SUH520	SUH501	-	-
DN80 (3")	25...3600	6.6...951.0	SUH620	SUH601	-	-
DN100 (4")	45...6000	11.8...1585.0	SUH720	SUH701	-	-

Ensuring process quality easily and permanently

The SU Puresonic Hygienic ultrasonic sensor detects flows of conductive and non-conductive media with high precision. Ultrapure water, water or food oils, such as sunflower or rapeseed oil, are reliably detected.

Robust measuring pipe without structures

The stainless steel measuring tube is free of measuring elements, seals and moving parts. This means that faults due to damage, leaks or blockages are excluded from the outset, as are design-related pressure drops.

Hygienic adaptation

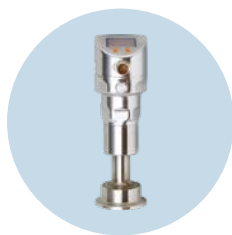
The clamp process connection offers a simple and reliable way to install or change the SU Puresonic Hygienic quickly and without tools. Dead spaces are avoided and cleaning and sterilisation (CIP/SIP) are facilitated, which increases the efficiency and reliability of processes.

Technical data		
Pressure rating	[bar]	16
Output functions		IO-Link, analogue output 4...20 mA, pulse output, switching output, diagnostic output
Flow		
Accuracy (in the measuring range)		±(1.0 % MW + 0.5 % MEW)
SUH1...SUH4, SUH8		±(2.0 % MW + 0.5 % MEW)
SUH5...SUH7		±0.2 % MEW
Repeatability		from 0
Minimum conductivity	[µS]	
Temperature		
Measuring range	[°C]	-40...120
Accuracy	[K]	±2,5
Protection rating		IP69 (to DIN EN 60529)

MW = Measuring range value

MEW = Measuring range end value

BEST FRIENDS



PI pressure sensor
Specifically for the food and beverage industry



Conductivity sensor
Measures the conductivity of a medium, such as ultrapure water



IO-Link master
Masters with Profinet interface for use in the field



For further technical details, please visit:
ifm.com/fs/SUH120



The game changer

Hygienic flow meter with IO-Link

- Magnetic-inductive flow meter completes the portfolio for the food industry
- Reduces the need for measuring points by providing flow rate, total volume, temperature and conductivity
- Easy to set up thanks to app-based menu and guided installation



IP69



ifm – close to you!

Nominal width	Measuring range [m³/h]	Order no.		
		Units of measurement: SI, EU With TFT display	Units of measurement: SI, EU, Imperial With TFT display	Units of measurement: SI, EU, Imperial Without TFT display
DN15 (½")	0.06...6	SMF120	SMF121	SMF150
DN25 (1")	0.16...18	SMF220	SMF221	SMF250
DN40 (1½")	0.3...45	SMF320	SMF321	SMF350
DN50 (2")	0.6...72	SMF420	SMF421	SMF450
DN65 (2½")	1.2...120	SMF520	SMF521	SMF550
DN80 (3")	1.8...180	SMF620	SMF621	SMF650
DN100 (4")	3.0...300	SMF720	SMF721	SMF750
DN125 (5")	4.5...450	SMF820	SMF821	SMF850
DN150 (6")	6.0...600	SMF920	SMF921	SMF950

No more blind spots in the digital process

The SM Foodmag takes flow measurement of liquid and creamy foods to a new level. IO-Link enables digital data transmission from the process and eliminates the last blind spot in a fully digitalised and transparent production environment. On site, the display and the all-round visible status LED indicate the current status.

Measures what matters

The sensor detects the current flow rate, total volume and flow direction, as well as the presence of the medium (often referred to as empty pipe detection). It also transmits conductivity and temperature to the control system and IT level. This reduces the need for additional measuring points.

Convenience, clarity, safety

The SM Foodmag integrates almost automatically: A standard M12 connector and patented cables enable fast, watertight and error-free connection. Common installation dimensions, along with selectable seals and process adapters, make retrofitting into existing systems easy. Parameter configuration is quick and intuitive via app-based menu navigation and guided installation.

Technical data		
Accuracy, flow rate Under reference conditions With optional factory calibration (availability is being planned)	[%]	± 0.5 MW + 1.5 mm/s ± 0.2 MW + 2 mm/s
Response time	[s]	0.3
Repeatability	[%]	± 0.1 MW
Medium temperature	[°C]	-20...150 (continuous)
Conductivity measuring range	[µS/cm]	100...100,000
Accuracy, conductivity 100...20,000 µS/cm 20,000...100,000 µS/cm	[%]	± 10 MW ± 20 MW
Materials (wetted parts)		PFA; high-grade stainless steel (316L/1.4435)
Protection rating		IP67 IP69 (to DIN EN 60529)

MW: measured value

BEST FRIENDS



IO-Link master
Field-compatible masters
for use in hygienic areas



Conductivity sensor
Precise distinction of liquid media
based on their conductivity



Pressure sensor
Hygienic, with robust
and flush-mounted ceramic
measuring cell



For further technical
details, please visit:
ifm.com/fs/SMF120



Rapid detection of compressed air leaks

Hand-held device for an easy location of leaks

- The smallest leaks are detected and visualised on the display
- The amount of loss is calculated directly along with the savings potential
- The free reporting software helps simplify ISO 50001 documentation



ifm – close to you!

Description	Order no.
Hand-held device for the location of leaks, including headphones, power supply and carrying case	SDL100

Rapid location of detected leaks

The hand-held device for the location of leaks is an ideal complement for the sensor-based monitoring of the compressed air system. Firstly, data analysis can be used to detect the leak and confine it to a certain area. Then the hand-held device is employed. It can rapidly and easily identify, measure and document the leak from a loss of just 0.1 litres per minute.

Transparency over the cost of leaks at one glance

The SDL100 is equipped with 30 ultrasonic microphones, laser distance measurement, camera and a 3.5-inch display. The microphones detect leaking sounds even at high ambient noise levels. The inaudible ultrasound is converted and delivered as an acoustic signal to the headphones. What is more, the leak is visualised in the live camera image on the display. The ongoing compressed air loss and its cost incurred are displayed, too.

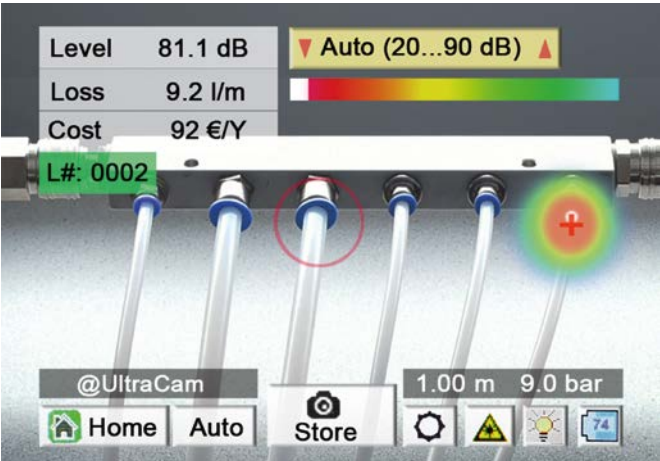
Simplified reporting according to ISO 50001

On site, all information about the leak and its maintenance can be digitally recorded on the SDL100 and then transferred to the free software using a data stick. This simplifies reporting according to ISO 50001.



Find out more about our integrated solutions for efficient compressed air monitoring.
ifm.com/cnt/compressed-air

Technical data		
Operating frequency (tolerance)	[kHz]	40 (±2)
Sensitivity		0.1 l/min, at 6 bar, 5 m distance
Operating temperature	[°C]	-5...50
Laser class		2
Weight	[g]	698



The SDL100's display shows all relevant information about the leak. The leak itself (shown right in the image) is also visualised.

BEST FRIENDS

We reserve the right to make technical alterations without prior notice. · 04.2025
ifm electronic gmbh · Friedrichstr. 1 · 45128 Essen



SD compressed air meter
Detecting flow and pressure in the pipe system



PQ pressure sensor
Detects the system pressure in pneumatic systems



MK cylinder sensor
Position detection and condition monitoring in one go



For further technical details, please visit:
ifm.com/fs/SDL100



Condition monitoring with CANopen

Vibration sensor for mobile machines

- Sensor specifically designed for use in mobile applications
- Reliable 3-axis detection of unbalance, collisions, fatigue and bearing damage
- Seamless transfer of data to the cloud improves aftersales service and optimises maintenance planning



ifm – close to you!

Description	Order no.
3-axis vibration sensor with CANopen interface.	VMB301

Always keeping an eye on the mobile machine status

Whether there is an imbalance in the rotating blades of a mowing machine, cavitation or foreign objects in mobile drainage pumps, impacts on critical components: If such issues go unnoticed, they can cause costly damage and long downtimes.

Convenient and informative

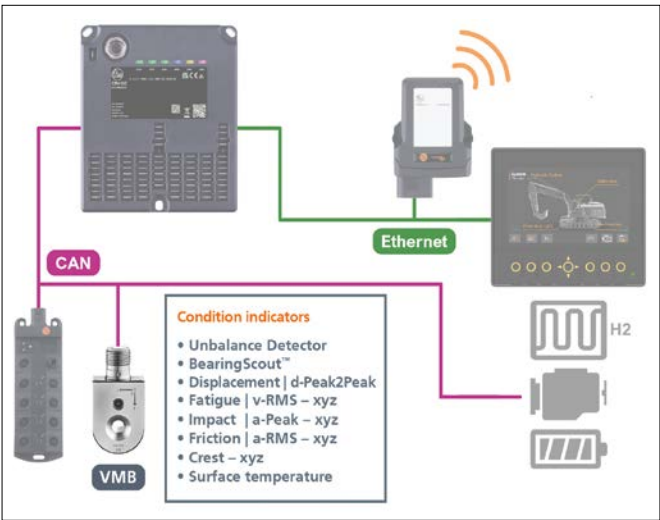
The 3-axis condition monitoring sensor VMB301 is designed for use in mobile applications and can be seamlessly integrated into the vehicle network and ifm's system portfolio thanks to its CANopen interface. The integrated 120 Ohm bus resistor can optionally be activated or deactivated via CANopen. This reduces costs and increases flexibility.

Comprehensive condition monitoring

Once integrated, the VMB301 transmits a large number of proven condition indicators in real time: Fatigue (v-RMS), mechanical friction (a-RMS), shocks (a-Peak), mechanical stresses (d-Peak2Peak), statistical bearing wear (crest) and surface temperature. The innovative BearingScout™ for bearing analysis and dynamic unbalance measurement complete the VMB301's range of features as a standalone condition monitoring solution for mobile machines.

For remote monitoring, the condition and machine data can be transmitted via radio modem to mobile IoT, ifm's IIoT platform for mobile machines.

Technical data		
Frequency range	[Hz]	1...7500
Measuring range, velocity	[mm/s]	0...320
Measuring range, displacement	[mm]	0...320
Measuring range, acceleration	[g]	0...60
Temperature measuring range	[°C]	-30...80
Protection rating		IP6K7, IP6K8, IP6K9K



BEST FRIENDS



Graphic display
Programmable HMI for the control of mobile machines



ecomatController
Controller for mobile applications, also for safety applications



Mobile IoT gateway
Global access to the machine via mobile communications



For further technical details, please visit:
ifm.com/fs/VMB301



Uncompromising performance in a compact design

Cost-effective multicode readers for demanding production environments

- Ultracompact design for limited space
- Reads up to 50 codes and 60 images per second
- Reliable decoding up to 3 m/s motion speed
- Ethernet and RS232 interface for flexible connection



IP65

ifm – close to you!

Dimensions [mm]	Illumination	Lens	Camera resolution [MPx]	Interface	Order no.
50 x 50 x 28	red light + white light	wide angle	1.3	Ethernet + RS232	O2I220
50 x 50 x 28	white light	wide angle	1.3	Ethernet + RS232	O2I221
45 x 52 x 25	red light	standard	1.5	Ethernet + RS232	O2I232
45 x 52 x 25	white light	standard	1.5	Ethernet + RS232	O2I233
45 x 35 x 25	red light	wide angle	1.5	Ethernet + RS232	O2I230
45 x 35 x 25	white light	wide angle	1.5	Ethernet + RS232	O2I231

Versatile use

With the new O2I2 series multicode readers, ifm electronic presents a powerful yet cost-effective solution for demanding identification tasks in a compact design.

Typical applications for the O2I2 code readers include product tracking along production lines, order picking, position mark detection in automated guided vehicle systems and retracing of sensitive components in the semiconductor industry.

Small and powerful

The devices are available in compact dimensions, making them ideal for installation in confined spaces.

Despite their small design, they deliver uncompromising performance: with the ability to process up to 50 codes and 60 images per second, they can also cope with highly dynamic applications. Even at object speeds of 3 m/s, the code readers maintain exceptional reliability. The devices can be flexibly integrated into existing systems via the Ethernet and RS232 interfaces.

The multi-camera function adds further versatility for applications with changing code positions: several sensors work together to detect the code and output the data centrally via a master device.

Intelligent algorithms

The innovative integration of deep learning-based AI algorithms ensures outstanding robustness against faults and code defects, making these devices an indispensable tool in modern production environments. This technology also impresses with its high positioning accuracy, even when codes are damaged. Automatic image adjustment and intelligent pre-processing significantly enhance decoding efficiency.

Easy set-up

With the user-friendly "Vision Assistant" PC software, the devices can be configured quickly and easily – even complex identification tasks can be solved in no time.

Suitable accessories

ifm offers a selection of suitable connection cables and mounting brackets for connecting and installing the multicode reader. A complete overview is available on the device product page.

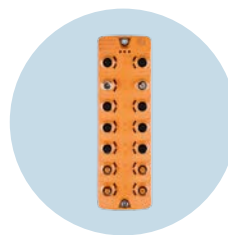
BEST FRIENDS



Vision Assistant
PC software for configuration and parameter setting



Monitoring add-on
Visualisation of images and data on the dashboard



SolutionBlock IO-Link-Master
Multiprotocol interface and integrated Node-RED environment



For further technical details, please visit:
ifm.com/fs/O2I200



RFID: The new HF generation

Improved RFID IO-Link antennas

- Faster data transmission thanks to IO-Link COM3 communication standard
- Internal synchronisation of tag data and target value relieves the controller
- Additional switching output enables use even without the IO-Link master



IP69



ifm – close to you!

Faster data communication and SIO mode

In the 2nd generation, the HF RFID antennas with IO-Link are characterised by improved values and extended possibilities. While the IO-Link COM3 communication standard ensures the fastest possible data transmission, the additional integrated switching output expands the possible applications of the antennas: they can also be operated in SIO mode without being connected to an IO-Link master and act as normally closed or normally open contacts.

Suitable for access control

As the antennas also support the ISO15693 and ISO14443 standards, they are the ideal choice for access control as well as for switch control in factory automation, for example.

On-board data analysis

In addition, the 2nd generation is equipped with two data comparators that can be used separately or in combination. The antennas are therefore able to read and process values from tags. For example, the tag value can be compared with defined target values and a signal can be output accordingly via IO-Link or switching output. No additional controller is required.

Password support and tag type detection

Automatic tag type detection ensures reliable reading of values even with varying block sizes. The option to restrict read and write access to tags via password entry completes the improved range of 2nd generation HF RFID antennas.

Type	Installation	Length / dimension [mm]	Order no.
M12	f	70	DTI110
M12	nf	70	DTI111
M18	f	50	DTI120
M18	nf	50	DTI121
M18	f	70	DTI124
M18	nf	70	DTI125
M30	f	50	DTI130
M30	nf	50	DTI131
M30	f	70	DTI134
M30	nf	70	DTI135
Cube	nf	40 x 40 x 54	DTI213
Rectangular	nf	20 x 48 x 7 Cable length: 1 m	DTI215
Rectangular	nf	20 x 48 x 7 Cable length: 2 m	DTI216
Compact design	nf	120 x 113 x 50	DTI300

f = flush

fl = non-flush

Technical data	
Switching output	PNP, NPN
Operating mode	IO-Link, SIO mode
Protection rating	IP67, IP69, DTI300 IP67

BEST FRIENDS



IO-Link master
Field-compatible masters with PROFINET interface



moneo Track & Trace
Track and optimise the flow of goods



ID tags
RFID tags for easy identification of objects



For further technical details, please visit:
ifm.com/fs/DTI110



AI for person detection and collision avoidance

Fully integrated 2D/3D camera that is suitable for mobile use

- Reliable person and obstacle detection, optimised for off-highway applications
- Integrated person and object detection, based on ifm deep learning
- 2D/3D sensor fusion and plausibility check to avoid false alarms
- Robust functionality even in bright sunlight or twilight

ifm – close to you!



Deep learning at the highest level – made by ifm

With mobile machines that are difficult to manoeuvre, reliable person detection is essential. The first AI-supported 2D/3D camera with PMD technology worldwide, designed specifically for mobile machines, combines excellent person detection with proven PMD 3D technology for obstacle detection. By fusing 2D and 3D sensors with a powerful AI processor, this solution delivers unrivalled detection performance. It functions as a fully embedded system.

AI-supported person detection for real-time safety

The intelligent camera reliably distinguishes between persons and other obstacles, giving the driver graduated warning signals in the event of danger. Warnings are only generated if there is a risk of a potentially dangerous collision with persons or obstacles. Unnecessary alarms are avoided so as not to needlessly distract the driver.

The integrated obstacle detection works completely autonomously, without any additional hardware. The system monitors itself for tampering or malfunctioning, such as soiling of the front pane or voltage drops. Besides, a live video stream is transmitted via Fast Ethernet, optionally in H.264, H.265 or MJPEG format.

Perfect for robust operating conditions

Designed to withstand the rigours of mobile machine applications, the camera is built to last. With its die-cast aluminium housing, hardened front pane, IP67/IP69K protection rating and excellent vibration and shock resistance, it guarantees maximum reliability, even in extreme conditions.

Customisable – your individual logic, integrated in the camera

The O3M AI camera allows users to run their own logic and complex mathematical functions directly on the camera, with the results being transferred to the machine controller via the available interfaces. What is more, customised overlays can be created and displayed in the video stream on an event-driven basis. Adjustments can be made easily using the drag-and-drop interface of the Vision Assistant parameter setting software.

Description	Order no.
O3M AI 2D/3D camera with AI person detection	O3M372
IR illumination unit	O3M970

Technical data		
Person detection		up to 25 m, ifm deep learning integrated, can be updated
Interface		1x CAN (CANopen, SAE J1939) 1x Fast Ethernet (UDP, RTP, RTSP, H.264, H.265, MJPEG)
Analogue and digital inputs/outputs		optional IO module ZZ1102
Maximum latency	[ms]	60
Protection rating		IP67, IP69K
Approval		E1, type approval according to the UN ECE R10 regulation is being sought
2D camera		
Resolution	[Pixel]	1280 x 960 (1.3 MP)
FOV horizontal x vertical	[°]	143 x 112
Sensor type		CMOS (HDR)
3D camera		
FOV horizontal x vertical	[°]	97 x 44
Sensor type		PMD time-of-flight

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Graphic display
Programmable with CANopen and Ethernet



Pushbutton module
With rotary knob, buttons and joystick function



ecomatController
Powerful PLC with Safety support



For further technical details, please visit:
ifm.com/fs/O3M372



Uniting all senses

Versatile perception platform

- Central processing of image and sensor information
- Synchronisation of several cameras for 360° coverage
- Standardised SDKs for Docker architecture as well as Python, C++, CUDA and ROS
- Latest time-of-flight imager with high extraneous light stability

ifm – close to you!



ToF

Video Processing Unit (VPU)			
Version			Order no.
Video Processing Unit (VPU), Connection for up to 6 cameras, Gigabit Ethernet interface for sensor signals			OVP810
Camera heads			
Dimensions [mm]	Image resolution [pixel]	Angle of aperture [°]	Order no.
90 x 31 x 26	38 K	60 x 45	O3R222
90 x 31 x 26	38 K	105 x 78	O3R225
90 x 31 x 26	307,2 K (VGA)	60 x 45	O3R252

Integrated and upgradeable vision system

The O3R platform is the comprehensive solution for centralised, synchronised processing of image and sensor information in autonomous mobile robots such as automated guided vehicles. The simplified integration and reliable interaction of cameras and sensors enables the robust implementation of relevant functions such as collision avoidance, navigation and positioning. In addition, analysis and dimensioning of stationary objects can be implemented, and is handled more effectively by means of several cameras. Examples include the measurement of pallets, logs, packages or suitcases.

Powerful and open

The core of the system is a powerful computing unit called Video Processing Unit (VPU). Based on a yocto-Linux and Docker architecture, open development environments such as Python, C++, CUDA and ROS are supported. The VPU analyses information from up to six camera heads as well as sensor information via the Gigabit Ethernet interface. All relevant "senses" that an AGV needs for safe autonomous navigation are thus available at a central point.

Camera head with imager developed in-house

ifm also offers suitable, high-performance camera heads as part of the platform solution: the 2D/3D cameras have an angle of aperture of either 60 or 105 degrees and are equipped with the latest time-of-flight imager from pmdtechnologies ag. This company of the ifm group of companies develops all sensors for the vision products of the automation specialist and adapts them precisely to the respective requirements.

Thanks to the modulated infrared light, the 2D/3D camera detects objects with maximum reliability even with increased exposure to ambient light.

BEST FRIENDS



Graphic display
Programmable HMI for the control of mobile machines



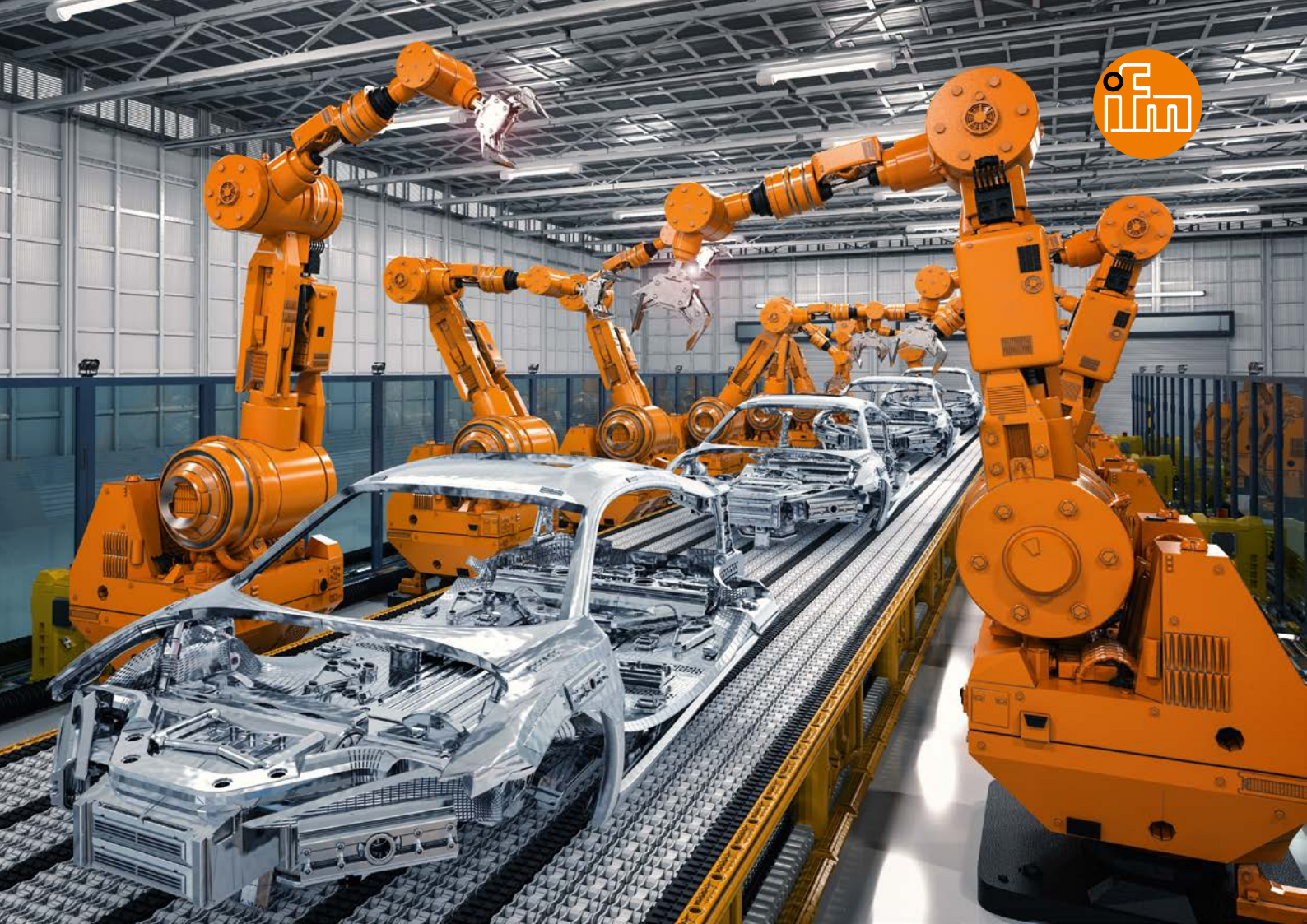
Multiturn encoders
Precise detection of positions and rotational movement



ecomatController
Powerful 32-bit controllers reliably control AGVs



For further technical details, please visit:
ifm.com/fs/OVP810



For maximum performance

IO-Link masters from the PerformanceLine

- Field-ready IO-Link masters for connecting up to 8 IO-Link sensors and/or actuators with up to 2 amperes
- Power supply up to 16 amperes possible via L-code cabling
- Easy energy management thanks to current measurement and configurable current limitation for each port



IP67

IP69



ifm – close to you!

Description	Order no.	
	Coolant (orange)	Food (grey)
PerformanceLine IO-Link masters · 4 ports		
PROFINET	AL1400	AL1401
EtherNet/IP	AL1420	AL1421
EtherCAT	AL1430	AL1431
PerformanceLine IO-Link masters · 8 ports		
PROFINET	AL1402	AL1403
EtherNet/IP	AL1422	AL1423
EtherNet/IP with OPC UA server	AL1426	AL1427
EtherCAT	AL1432	AL1433

Decentralised data nodes with a secure connection

The field-ready IO-Link masters from the PerformanceLine are powerful and decentralised communicators between sensors, actuators, controllers and the IT level.

The variant with an integrated OPC UA server enables standardised communication directly from the IO-Link master to the IT level, eliminating the need for an additional gateway. Sensor data and status information can be read directly and processed further independently of the platform.

Up to 16 amperes are available

The IO-Link masters can be supplied with up to 16 amperes via the standardised L-coded M12 connectors. A maximum of 2 amperes is provided per port, which is sufficient to control large solenoid valves or other energy-intensive actuators, for example. The integrated daisy-chain function allows multiple masters to be connected to a single power supply, helping reduce cabling effort even further.

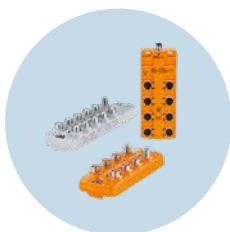
Energy monitoring

A current limit can be set for each port. Furthermore, voltage and current values can be measured at each port, making it easy to determine the energy requirements of the system and analyse them in ERP systems.

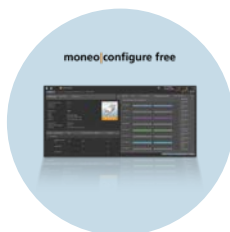
Technical data		
Voltage supply		M12, L-code, 16A (US), 16A (UA) daisy-chain option
IO-Link ports 4-port master 8-port master		4x B ports 4x A ports, 4x B ports
Current rating of the outputs UA (total / port) US (total / port)	[A] [A]	8 / 2 3.9 / 2
Coolant (orange) Protection rating Housing Socket / connector		IP67 polyamide nickel-plated brass
Food (grey) Protection rating Housing Socket / connector		IP69 polyamide stainless steel

BEST FRIENDS

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IO-Link M12 modules
Connection of binary sensors to IO-Link masters



moneo|configure free
Software for parameter setting of the IO-Link infrastructure



IP67 power supply
24 volt supply in the field, controllable via IO-Link



For further technical details, please visit:
ifm.com/fs/AL1400



Smooth flow of information

Field-compatible IO-Link master with OPC UA server

- Integrated IODD interpreter converts sensor data into readable information
- Direct data transfer to on-premises IT levels via OPC UA
- Fieldbus multiprotocol with PROFINET and EtherNet/IP provides flexibility in the choice of controller



ifm – close to you!

Description	Order no.	
	Coolant (orange)	Food (grey)
SolutionBlock		
PROFINET, EtherNet/IP, OPC UA	AL1590	AL1591

Multiprotocol capability provides flexibility in the choice of controller

The field-compatible SolutionBlock IO-Link master makes system digitalisation more convenient than ever: The multiprotocol capability allows free selection of PROFINET or EtherNet/IP as fieldbus, which makes connection to different controllers more flexible and reduces stock-keeping.

OPC UA server and IODD interpreter integrated in the master

In addition, the integrated OPC UA server and the additional IoT port ensure an uncomplicated, direct connection to the IT level. Thanks to the integrated IODD interpreter, the sensor data is converted into readable information directly in the IO-Link master, making software-supported data evaluation even easier.

Data reduction thanks to the moneo|configure plug-in

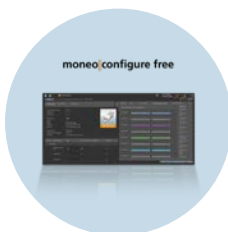
The moneo|configure plug-in makes it possible to select and reduce the cyclic data of an IO-Link device. The SolutionBlock IO-Link master receives all process values from the IO-Link devices, but only forwards the selected information to the controller. This significantly reduces cyclic data communication on the fieldbus.

Powerful and easy to connect

To minimise the need for cables, the SolutionBlock IO-Link master is equipped with a daisy chain functionality for both voltage supply with a maximum of 16 A via L-coding and for fieldbus and IoT communication, which enables the masters to be connected in series. Four A ports and four B ports provide sufficient options for connecting sensors and actuators.

Technical data	
Voltage supply	M12, L-code, 16 A (US), 16 A (UA) daisy chain option
Fieldbus port	M12, D-code PROFINET, EtherNet/IP, daisy chain option
IoT port	M12, D-code OPC UA, HTTP(S), MQTT, JSON daisy chain option
IO-Link ports	4 A ports, 4 B ports
Number of inputs and outputs	12 DI / 12 DO
Current rating of the outputs	
UA (total / port)	[A] 4 / 4
US (total / port)	[A] 3.9 / 2
Coolant (orange)	
Protection rating	IP67
Housing	polyamide
Socket / connector	nickel-plated brass
Food (grey)	
Protection rating	IP69K
Housing	polyamide
Socket / connector	stainless steel

BEST FRIENDS



moneo|configure free
Software for parameter setting of the IO-Link infrastructure



IP67 power supply
24 volt supply in the field, controllable via IO-Link



Ethernet switch
Extends the vehicle infrastructure by 6 ports



For further technical details, please visit:
ifm.com/fs/AL1590



Maximum performance, minimum risk

IO-Link output module for safe and non-reactive switching

- 16 digital outputs per module for independent circuits
- Up to 4A per port and 16A total current
- 2 digital outputs per port controllable
- Without interaction in applications up to PL d (category 3)

ifm – close to you!



IP67

IP69



Safely perform decentralised switching tasks

With the new IO-Link digital output modules, ifm offers a reliable solution for decentralised switching tasks in safety-related applications. The modules have been specially developed for applications in which high currents must be switched while maintaining electrical isolation and freedom from interference.

Two independent circuits per module

Each module has 16 digital outputs, which are electrically isolated in two groups. This allows actuators to be controlled in a targeted manner in two independent circuits. Up to 4A can be switched per port, and the total current per module can be up to 16A.

Safe switching (off)

What makes the new modules special is their non-interaction up to Performance Level d (Category 3). The special design eliminates the theoretical error of an output being supplied with voltage even though the supply voltage has been switched off.

Wide range of applications

The modules are used wherever high currents need to be switched and safety functions need to be implemented, for example in industrial automation, the automotive, pharmaceutical, chemical and food industries.

A version with protection rating IP69 is available for use in hygienic and wet areas.

The IO-Link modules offer a cost-effective way to meet the requirements of the Machinery Directive without compromising on availability and reliability.

Description	Order no.
IO-Link module IP67	AL2637
IO-Link module IP69	AL2537

Technical data	
Ports	2 x 4 (with 2 digital outputs each)
Switchable current paths	2 (with 4 ports each)
Total current per port pair [A]	4
Current rating Module total [A]	16
Safety category	PL d (Category 3)

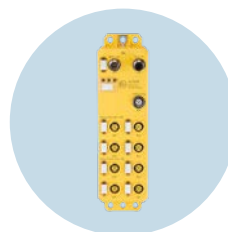
BEST FRIENDS



Safety relay
For connecting safety switches and sensors



Switched-mode power supply
Higher degree of protection thanks to configurable electronic fuses



PROFIsafe IO-Link module
With secure inputs and outputs for switches and sensors



For further technical details, please visit:
ifm.com/fs/AL2637



More IO-Link, less space

Space-saving I/O module for control cabinets

- Takes up little space thanks to its compact design
- Integrate up to 16 sensors and/or actuators quickly and easily
- Prepared for DIN rail mounting, wall mounting is also possible



IP20



ifm – close to you!

Description	Order no.
I/O module for IO-Link	AL5121

For use in the control cabinet and in the field

The IO-Link I/O module simplifies integration of sensors and actuators with conventional wiring in the control cabinet as well as in field applications with low IP protection class requirements, such as in protected machine housings or under clean room conditions.

Simple digitalisation of up to 16 devices

Up to 16 devices (sensors and/or actuators) can be integrated via the I/O module. Thanks to the spring clamp system, assembly is quick and uncomplicated. The ports of the I/O module allow for flexible configuration as inputs or outputs.

If sensors are connected to the IO-Link data communication technology via the I/O module, the sensor information can be read out centrally at IT level. IO-Link devices can also be configured centrally and conveniently via the IT level.

Power supply for external actuators

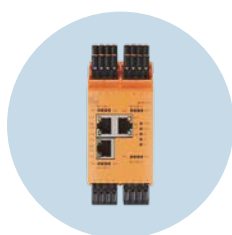
The module is supplied with power from an IO-Link A-port master. The total current consumption of all I/Os can be up to 1 A, which ensures an efficient supply of external actuators.

Uncomplicated installation with low space requirements

The I/O module itself is also quick to install thanks to the integrated DIN rail mount and, being just 43 millimetres wide, takes up very little space.

Technical data		
Operating voltage	[V DC]	18...30
Inputs/outputs (configurable)		16
Digital input circuit		PNP (type 3 (IEC 61131-2))
Max. current load of the outputs in total	[A]	1
Communication interface		IO-Link
Protection rating		IP20

BEST FRIENDS



IO-Link master
For installation in control cabinets



24 V switched-mode power supply
Power supply of sensors and actuators



Air humidity sensor
Monitors temperature and humidity in the control cabinet



For further technical details, please visit:
ifm.com/fs/AL5121



Turning analogue into digital

Smart signal monitoring with the IO-Link analogue converter

- Reliably monitors up to 2 analogue sensors
- Intelligent signal processing through addition/subtraction of the inputs
- Measured values scalable to physical units
- Provision via IO-Link, one analogue and two switching outputs
- Space-saving field installation directly on the machine reduces cabling



ifm – close to you!

Description	Order no.
IO-Link analogue converter with 2 inputs and 4 outputs	DP1204

Easy integration of analogue sensors into IO-Link systems

Analogue sensors provide important process values in industry, but often cannot be directly integrated into digital infrastructures. The DP1204 analogue signal monitor from ifm offers an efficient solution for this: It enables the simple integration of up to two analogue sensors (4...20 mA / 0...10 V) into IO-Link systems – also ideal for retrofitting in existing systems.

Flexibly adjustable for your application

The DP1204 offers various operating modes: Switching points can be assigned individually and measured values can be added or subtracted. The calculated value can be monitored and output as a 4...20 mA signal.

Besides, the analogue input signals can be scaled linearly to physical units (e.g. 4...20 mA to 50...2000 mm). The processed data is available via IO-Link, one analogue and two digital outputs. In addition, an analogue signal can be mirrored via the output.

Applications

Typical applications include differential pressure monitoring (e.g. filter condition, pump efficiency), level monitoring in pressurised containers or width measurement of moving objects using two distance sensors.

Fast installation saves time and money

The DP1204 has been designed for installation close to the field – directly on the machine, without a control cabinet. Its compact design and IP67 protection rating minimise wiring complexity, saving space, time and installation costs.

Technical data		
Operating voltage	[V]	18...30
Inputs		2x analogue (4...20 mA or 0...10 V)
Outputs		1x IO-Link 1x analogue (4...20 mA) 2x digital (PNP, max. 10 mA)
Protection rating		IP67

BEST FRIENDS



DN0220 switching amplifier

Reliably switches high direct and alternating currents



PA pressure transmitter

High repeatability and low characteristics deviation



OGD distance sensor

Time-of-flight measurement for measured values accurate to the millimetre



For further technical details, please visit:
ifm.com/fs/DP1204



Check your drive

Programmable frequency-to-current converter

- Monitoring speeds and pulse sequences for overspeed and underspeed
- Frequency-proportional current or voltage output
- High input frequency of up to 600,000 pulses / minute
- Extensive and convenient parameter setting via IO-Link
- Easy-to-read OLED display for actual value indication and parameter setting



IP20



ifm – close to you!

Description	Order no.
Frequency-to-current converter	DW3003

Drive monitoring

In many industrial applications, drives and various other rotating machines are expected to run at a defined speed. When using external sensors on shafts or drive wheels, speed-dependent signals can be generated and analysed with the help of the depicted frequency-to-current converter. Damage to the drive, such as slipping or even broken V-belts, can be detected in good time by comparing setpoints and then indicated via a switching signal. At the same time, the device outputs a current or voltage signal which is proportional to the speed and can be transmitted to a higher-level controller or used for other control processes.

High-performance evaluation unit

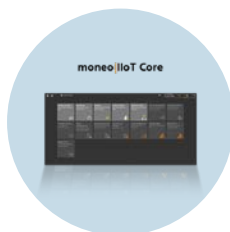
The measured value can be transmitted digitally via IO-Link which also facilitates the extensive and convenient parameter setting options, such as scaling of the analogue output signals or the definition of switch points.

A particularly useful feature: the evaluation unit can be operated with both 24 V DC and 110...250 V AC. The unit provides 24 V DC to supply the sensors.

Technical data	
Input frequency	up to 600,000 pulses / minute
Input	1
Output	0...10 V, 4...20 mA, IO-Link, 2x switching output
Protection rating	IP20

BEST FRIENDS

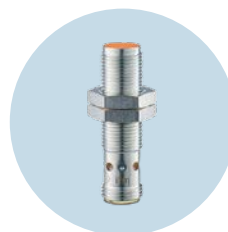
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moneoIIoT Core
IIoT software for simple condition monitoring



IO-Link master
Field-compatible masters with Profinet interface



Inductive sensors
Detection of rotary movements on shafts and drive wheels



For further technical details, please visit:
ifm.com/fs/DW3003



Controlling motors via CANopen

High-current CANopen relay for mobile applications

- PWM-controlled H-bridge with high current capability up to 10 A
- Three additional analogue or digital usable inputs
- Can be integrated as CANopen slave
- For 12 and 24 V on-board systems



IP67

E₁

ifm – close to you!

Application areas

The ecomatRelay is an innovative high-current CANopen relay with integrated H-bridge that has been specially developed for the use in mobile machines. This device can be used to control electrical loads such as DC motors in a simple and efficient way - and with just two variables: one for the setpoint and one for the direction of rotation. The PWM-controllable H-bridge outputs enable a current load of up to 10 amperes and therefore offer maximum flexibility and performance.

Versatile expansion options

The ecomatRelay is ideally suited if additional I/O ports are missing or special functions such as PWM-controlled high-current outputs are required. Whether analogue or digital inputs, H-bridges or PWM outputs - the ecomatRelay covers a wide range of requirements.

Simple and efficient control

With support for the CANopen protocol, the ecomatRelay offers uncomplicated integration into control concepts. The variables can be easily mapped so that the set-up is completed quickly. The decentralised extension enables flexible adjustment to specific requirements, whether for new installations or retrofits.

Robustness for mobile applications

The device impresses with an extremely robust design and fulfils protection rating IP67, making it perfectly suited for use in demanding environments. It is vibration-resistant, E1-certified and supports both 12-volt and 24-volt on-board systems, making it ideal for mobile applications. These features ensure reliable operation even under the most difficult conditions.

The ecomatRelay is the perfect choice for users who are looking for a powerful and easy-to-integrate solution to implement motor applications or special I/O requirements in mobile machines.

Technical data CR3025		
Operating voltage	[V]	8...32
Output		1x H-bridge, PWM
Current rating output	[A]	10
Inputs		3x analogue (12 bits)
Current consumption sleep mode	[mA]	6
Interface		CANopen
Ambient temperature	[°C]	-40...85
Protection rating		IP67

BEST FRIENDS



ioControl

Decentralised connection of sensors, freely programmable



ecomatDisplay

Programmable robust HMI for mobile machines



ecomatBasic

Programmable controller for mobile machines



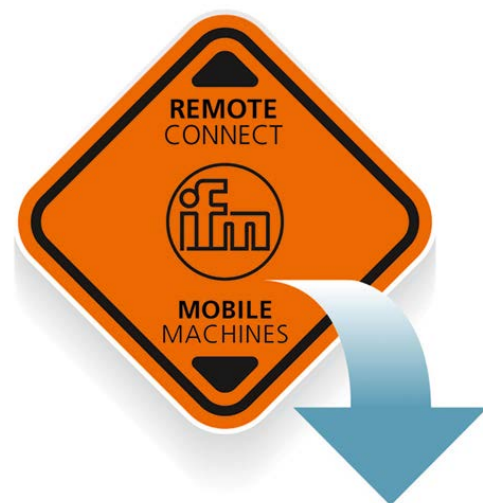
For further technical details, please visit:
ifm.com/fs/CR3025



Worldwide, at any time

Remote access to mobile machines

- Remote access to machine components allows fast fault diagnosis
- Data-based damage analysis shortens the repair time
- Secure end-to-end encryption enables reliable connections and eliminates the need to be on site



ifm – close to you!

Remote maintenance planning

ifm's own "remoteConnect" solution for accessing machines from a distance allows users to connect to machines via a mobile network, view machine data and analyse the current maintenance needs or a specific damage pattern. End-to-end encryption protects the communication channel from unauthorised access and enables secure data transfer.

Effective planning, less time required

By using "remoteConnect", users benefit from more effective maintenance processes. Maintenance teams can be dispatched directly to the site with a specific work order and the appropriate spare parts for the job. This reduces the amount of labour required on site and the time it takes to get the machine back up and running. In the case of software customisation, the time and cost of travel is completely eliminated.

Simple retrofitting, easy handling

The mobile IoT gateway required for remote access can be easily connected to the machine's controller. The add-on is just as easy to use. It integrates seamlessly with mobile IoT. With just a few clicks, the software is installed and the connection to the machine is established.

Description	Order no.
remoteConnect, 7-day access, excluding mobile network connection	CZ0120
remoteConnect, 7-day access, including mobile network connection	CZ0121

BEST FRIENDS



mobile IoT gateway

Global access to the machine via mobile communications



ecomatDisplay

Programmable HMI for the control of mobile machines



ecomatController

Controller for mobile applications, also for safety applications



For further technical details, please visit:
ifm.com/fs/CZ0120



Full flexibility, full visibility

Freely configurable stackable light tower

- Precise status visualisation through a combination of up to 5 LED segments
- High visibility enables the status to be identified even at a greater distance
- Optional buzzer adds an acoustic signal to the visual display



IP65

ifm – close to you!

Description	Order no.
Sets of signal lights	
Set: 3 LED segments (red, yellow, green), base module	DV3320
Set: 3 LED segments (red, yellow, green), base module, buzzer	DV3330
Set: 5 LED segments (red, yellow, green, blue, white), base module	DV3520
Set: 5 LED segments (red, yellow, green, blue, white), base module, buzzer	DV3530
Segments	
Base module	DV3000
LED segment red	DV3002
LED segment yellow	DV3003
LED segment green	DV3004
LED segment blue	DV3005
LED segment white	DV3006
Buzzer	DV3007
Mounting base	
Universal mounting base for floor and wall mounting	DV3001

Clearly visible, customised status display

The individually configurable stackable light towers allow the user to customise the status display of industrial machines and systems precisely to their requirements. Five differently coloured LED segments are available for this purpose, of which up to five can be placed on top of each other on a base module. The high visibility of the LED segments simplifies visual status transmission even over long distances.

Simple installation and acoustic signalling

The LED segments are mounted simply and securely using a twist lock. The segments are controlled individually via digital 24V DC inputs. A buzzer can be added to the stackable light tower as an option, for example to attract greater attention in critical situations.

Thanks to its IP65 protection rating, the stackable light tower is also the ideal choice for challenging working environments. The universal mounting base which can be angled allows the upright mounting of the stackable light tower on both horizontal and vertical surfaces.

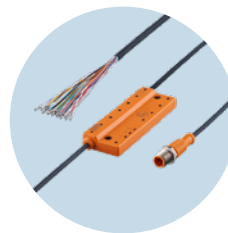
BEST FRIENDS



Relay adapter
Electrical separation between input and output



Switching amplifier
Reliable switching of high currents or alternating currents



IO-Link input/output module
Connects conventional wiring with IO-Link



For further technical details, please visit:
ifm.com/fs/DV3320



Ideal and efficient illumination

Machine light in accordance with the Ecodesign Directive

- White light plus RGB LED: for lighting and status visualisation
- High light yield 450 lumens over a length of 250 mm, up to four light modules can be strung together
- Hygienic design with smooth surface
- Robust and resistant to chemicals
- Compliance with the Ecodesign Directive 2009/125/EC



IP69K

ifm – close to you!

Innovative machine light

The machine light combines compliance with the strict requirements of the Ecodesign Directive with exceptional robustness and versatile application options.

The device impresses with its elegant, smooth surface and hygienic design, making it perfect for use in demanding areas. The materials used are not only particularly robust, but also guarantee an impressively long service life. With a length of 250 mm and the option of connecting it via an M12 connection, it offers incredible flexibility. Up to four lights can be arranged in a row to create optimum illumination.

The machine light not only impresses with its efficient white light, but also with its vibrant RGB signal colours – and at a price that can easily compete with conventional products that only provide white light.

It is controlled via four 24 V DC channels, and the IO-Link integration via the DP1615 enables many different control options.

Robustness

Thanks to the tried-and-tested plastic injection moulding technology, the machine light is extremely robust and resistant to chemicals. The sheathing reliably protects the electronics and guarantees a long service life – even in demanding environmental conditions.

Versatile mounting options

It is mounted using a universal mounting clip, which can be attached with a screw, magnet or ifm clamp.

Description	Order no.
End module, 1x M12 RGBW module, 250 mm, 24 V DC	DV3010
Inline module, 2x M12 RGBW module, 250 mm, 24 V DC	DV3011

Ecodesign Directive

The Ecodesign Directive 2009/125/EC defines strict requirements for the energy efficiency, light yield and durability of electrical consumers, especially for lighting components. Conventional LED strips often do not fully meet these requirements and are therefore primarily used for status visualisation.

With the machine light, ifm presents a solution that fulfils all the requirements of the Ecodesign Directive. The product offers an impressive light yield of 450 lumens over a length of just 250 mm, combined with minimal energy consumption and a long service life. It can also signal the machine status in colour. These properties make the machine light a sustainable, energy-efficient and future-orientated lighting solution.

BEST FRIENDS



**Control circuit device
for LED strips**

Versatile control of RGBW LEDs
via IO-Link



Signal lamp

Clearly visible visualisation of
operating states



IO-Link master

Field-compatible masters for use
in hygienic areas



For further technical
details, please visit:
ifm.com/fs/DV3010



Powerful all-rounder

IIoT controller for use in the field
and in the control cabinet

- 2-in-1: cloud connector and powerful controller
- Perfect IO-Link integration
- Plug & Work access to the I/O level via Ethernet
- Version with IP20 protection rating for the control cabinet or with IP67 for use in the field
- Powerful technology for demanding applications



IP20

IP67



ifm – close to you!

Description	Order no.
IloT controller for the control cabinet	AE3100
IloT controller for use in the field	AE3400

Powerful and versatile

The IloT controller is a powerful, communicative and flexible PLC solution in machine and plant digitalisation. Powerful, because at ambient temperatures of up to 55°C, the 1.3 GHz quad-core processor works at high performance level. Communicative, because it is a true language and translation talent with its various protocols, regardless of whether it is a matter of connections to the IT world or the integration of automation technology I/O data. In addition, even a Plug & Work connection of IO-Link devices is possible – including IODD interpretation. Flexible, as the IloT controller is freely programmable via CODESYS V3.5.

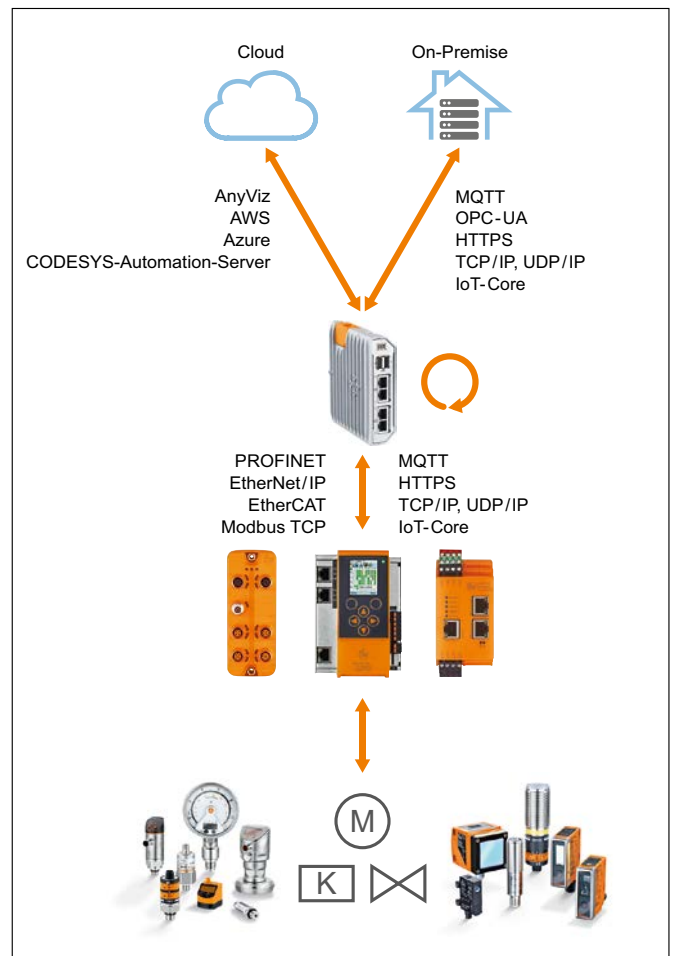
You would like to manage the device remotely? No problem, the CODESYS Automation Server enables remote debugging and remote web visualisation.

Connection to different clouds

The IloT controller allows for transmission of the recorded and prepared data to the most common cloud platforms such as AWS, Microsoft Azure and AnyViz. Furthermore, the IloT controller speaks the common standard digitisation languages such as OPC UA and MQTT.

Whenever data is to be recorded and processed in real-time, I/Os can be read and controlled by using Industrial Ethernet protocols such as Profinet, EtherCAT, EtherNet/IP or Modbus TCP.

Technical data		
Operating voltage	[V DC]	18...30 DC (PELV)
Ambient temperature	[°C]	-25...55
Housing material		die-cast aluminium passivated, stainless steel
Dimensions	[mm]	AE3100: 125 x 125 x 36 AE3400: 251 x 125 x 34
Protection rating		IP20 (AE3100) IP67 (AE3400)



BEST FRIENDS

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IO-Link master
For use in
factory automation



Smart PLC
For data exchange with the
sensor actuator level



Diagnostic electronics
Vibration monitoring of
machines and equipment



For further technical
details, please visit:
ifm.com/fs/AE3100



Secure remote access

moneo|edgeGateway S: flexible and secure

- Enables secure remote access to the automation infrastructure
- Easy and secure connection of the sensor level to the cloud with maximum flexibility
- Translation of incoming IO-Link and VSE process data into readable information



ifm – close to you!

Version	Order no.
moneo edgeGateway S	AE1400
Cloud solution for remote access	
moneo IIoT Core Cloud	QCM100

Powerful and secure

The moneo|edgeGateway S is the convenient and secure solution for remote access to systems and applications. The gateway also transmits data from the sensor level to the IT infrastructure and the cloud. Its centrepiece is the 1.4 GHz dual-core processor which works at maximum performance level in environments with ambient temperatures of up to 60°C. With its robust IP67 housing, the powerful hardware does not require an additional control cabinet.

Simple integration, simple dialogue

The moneo|edgeGateway S is not only robust and powerful, but also convenient: The guided integration into the IT structure and into the moneo|cloud simplifies set-up and enables fast and secure remote access to the automation level. Besides, the data from the system is available for further analysis in the moneo|cloud from any location. Despite its simple set-up, the gateway offers a high degree of flexibility in operation and handling that is essential for the holistic and efficient solution of comprehensive IIoT tasks.

Turns data into information

The moneo|edgeGateway S can be integrated not only into ifm's IIoT platform but also into other common cloud solutions. As the gateway converts the incoming IO-Link and VSE process data into readable information, no further programming is required.

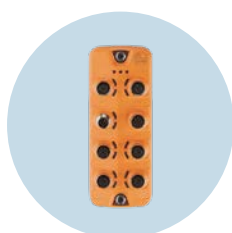
Technical data	
Communication interface	Ethernet
Protocol	TCP/IP, HTTPs, MQTTs, OPC UA
Transmission rate [Mbit/s]	10; 100
Processor	ARM 64 bits dual core 1.4 GHz
RAM memory	2 GB RAM
Mass storage	4 GB flash
Transmission rate	max. 100 process values per second
Operating system	moneo connect
Ambient temperature [°C]	-25...60
Protection rating	IP65, IP67

moneo|connect: flexibility through an open software platform

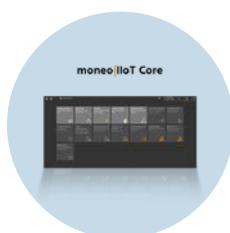
moneo edgeGateway S is a powerful edge computer with a Linux-based operating system and a flexible software platform. It records and processes data from the field and connected systems and transmits it seamlessly to downstream systems - both on-premises and in the cloud. moneo remoteConnect enables secure remote access to the infrastructure at anytime and from anywhere.

BEST FRIENDS

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IO-Link masters
Field-compatible masters for all common fieldbus systems



moneo|IIoT Core
IIoT software for simple condition monitoring



Diagnostic electronics
Vibration monitoring of machines and equipment



For further technical details, please visit:
ifm.com/fs/AE1400



io-key: kickstarting digitalisation

Quick access to production data via direct cloud connection

- Easy detection and visualisation of your production data
- Seamless data transmission to the moneo Cloud
- Monitoring of local and distributed applications
- Cross-site data access – no IT involvement required



IP65



ifm – close to you!

Description	Order no.	
io-key version	World*	Europe
io-key, IIoT gateway for 2 IO-Link sensors	AIK050	AIK001
Data tariff for the io-key for data transmission once per minute	AI5972	
Data tariff for the io-key for data transmission every 10 seconds	AI5973	

* USA, Canada, EU/RED, Australia, Japan, South Africa, Malaysia, Israel

An easy way to start using the cloud

The io-key makes it effortless to get started with the Industrial IoT. Whether in remote facilities, in transport and logistics, or right in the middle of production: two IO-Link sensors can be connected directly to the io-key, and additional sensors can be added using the appropriate accessories. The io-key transmits the sensor data directly to the moneo|Cloud, where it is visualised, analysed, and monitored via an intuitive dashboard. Thanks to integrated mobile connectivity, no additional hardware or complex IT integration is needed to make effective use of the data.

Safe and reliable

The io-key is especially suitable for hard-to-reach or remote systems, thanks to wireless communication via mobile networks. It only requires a power supply to operate.

With its robust design and IP65 protection rating, the io-key also functions reliably in harsh industrial environments. Furthermore, the moneo|Cloud is operated in certified data centres and meets the highest security standards.

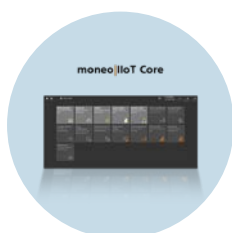
Technical data		
Operating voltage	[V DC]	18...30
Ambient temperature	[°C]	-20...50
Mobile phone transmission standards	NarrowBand IoT; 2G quad-band GSM; LTE Cat-M1	
Protection rating	IP65	

View sensor data anytime, anywhere

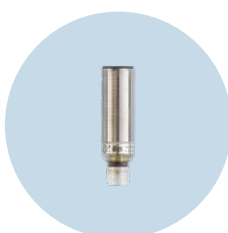
The solution is freely scalable: one moneo|Cloud licence can be used for multiple io-keys. The data is accessible at any time, enabling convenient remote monitoring of processes.

Warnings and notifications can also be configured individually: if predefined thresholds are exceeded, moneo|Cloud automatically sends email alerts, allowing responsible personnel to respond quickly and prevent downtime or equipment damage.

BEST FRIENDS



moneo|IIoT Core
IIoT software for easy
condition monitoring



UGT level sensor
Level detection
on tanks and containers



IO-Link M12 modules
Connection of binary sensors
to IO-Link masters



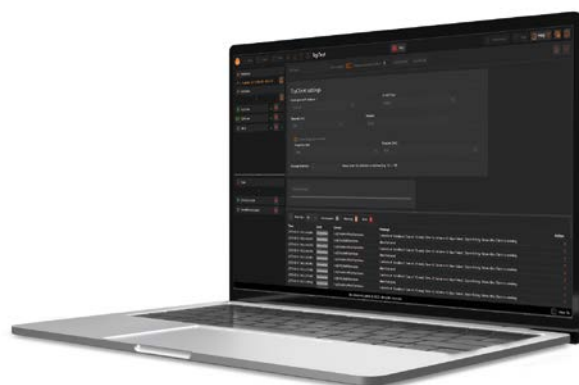
For further technical
details, please visit:
ifm.com/fs/AIK050



ifm Agent software

Seamless connectivity between machine and software

- Efficient communication between machines and software environments via multiple interfaces
- Easy installation and intuitive operation – suitable even for non-experts
- Seamless integration into both existing and new systems (brownfield and greenfield)



ifm – close to you!

Versatile interface software for Industry 4.0

The ifm Agent is a powerful interface software enabling straightforward and reliable communication between machines and software solutions. Supporting a wide range of interfaces, including Simatic S7, Modbus TCP, OPC UA and MQTT, the ifm Agent offers maximum flexibility. MQTT connectivity, for instance, also allows data transfers to external cloud systems. Whether production data need to be transferred to software solutions or information fed back to machine controllers, the ifm Agent covers a broad spectrum of application scenarios.

Thanks to its intuitive user interface, the ifm Agent is also suitable for users without high-level IT skills. This means that internal system integrators and users alike can benefit from simple operation and immediate readiness for use.

Future-proof and versatile integration

Continuous updates ensure that the ifm Agent always remains current. New interfaces allow it to meet future requirements as well.

It is suitable both for greenfield projects and retrofitting in existing systems. Thanks to bidirectional communication, it enables data exchange with moneo as well as with other destinations such as databases and MES systems¹⁾.

The ifm Agent offers flexible deployment options: It can be installed directly on Windows or Linux systems, or operated via an appliance. Regardless of the chosen set-up, the agent can be incorporated into the moneo IIoT platform where it seamlessly integrates with the moneo structure and is included in the licence management.

Experience how simple industrial communication can be with the ifm Agent.

¹⁾ For connection to MES systems, moneo|info points may be required.

Description	Order no.
ifm Agent	QLA010

Available interfaces

Communication interfaces:

ifm IO-Link masters; AMQP Client; File; FTP; HTTP; Modbus TCP; moneo; MQTT Client; MQTT Broker; OPC UA Client; Simatic S7; TCP Client; TCP Server; VSE

Functional interfaces:

Initialize; IODD Parser; Timer

And that is just the beginning!

Development of additional interfaces is already underway.

BEST FRIENDS



moneo|IIoT Core
IIoT software for simple condition monitoring



edgeGateway
For secure transmission of system data to the IT level



edgeGateway field applications
Secure data transmission from harsh industrial environments



For further technical details, please visit:
ifm.com/fs/QLA010



Turning data into information

Software moneo|IIoT Core

- Visualising or analysing production processes and monitoring deviations in real time
- Predicting impending failures and preventing unplanned downtime
- Simple maintenance planning thanks to easy connection to SAP



ifm – close to you!

From parameter setting to condition monitoring

The **moneo|IIoT Core** is the basis of the **moneo** IIoT platform and bundles the most important functions. Whether as a cloud solution or in an on-premises environment: the **moneo|IIoT Core** enables uncomplicated, manufacturer-independent parameter setting of IO-Link sensors and an increasing number of IO-Link masters. With the intuitive drag-and-drop interface, user-defined dashboards for machines and processes can be created in no time at all to clearly visualise the collected data. Comprehensive data analyses provide valuable insights that help to increase efficiency, productivity and safety. If there are deviations from the target status, the software informs you immediately so that measures can be taken in good time to avoid efficiency losses or unplanned production downtimes.

From sensor level to cloud

The **moneo|IIoT Core** also offers seamless transmission of important process data to cloud and third-party applications. Tickets created in moneo can be automatically forwarded to predefined target systems. Maintenance teams are notified in real time via the integrated SAP connection. Orders and documents can be generated directly in the SAP system – end-to-end integration of shop floor data into the ERP world.

Remote maintenance with moneo|Cloud

With **moneo|remoteConnect**, it is possible to establish secure and manufacturer-independent remote access to PLCs, servers, sensors and other network devices from **moneo|Cloud**. Thanks to end-to-end encryption and targeted access configurations, data remains protected at all times. Remote maintenance and in-depth fault analyses can be carried out using the cloud. This helps to plan on-site maintenance efficiently and effectively and to reduce it to a minimum. This reduces the workload for specialised personnel and keeps machine availability high.

Add-ons expand the range of services

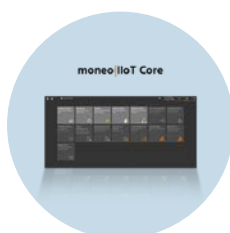
The range of services offered by the **moneo** IIoT platform can be expanded with add-ons such as **moneo|IIoT Insights**.

Description	Order no.
Cloud solution	
moneo IIoT Core Cloud	QCM100
On-premise solution	
moneo IIoT Core On-Premises	QM9112

Not yet available in all countries.

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moneo|IIoT Insights
AI-supported data analysis
and track & trace solution



IO-Link master
Field-compatible masters
with Profinet interface



Vibration diagnostics
Diagnostic electronics
for decentralised use



For further technical
details, please visit:
ifm.com/fs/QCM100



Put an end to nasty surprises

Software add-on moneo|IoT Insights

- Anomaly detection and automatic damage diagnostics for avoidance of unnecessary downtime
- Central localisation and tracking of objects in production and intralogistics
- Data-based optimisation of production processes and plant utilisation



ifm – close to you!

Comprehensive predictive maintenance thanks to AI

moneo|IIoT Insights is a software add-on for the **moneo** IIoT platform and complements the **moneo|IIoT Core**. The add-on makes it possible to analyse real-time data from production with the help of artificial intelligence.

The Industrial AI Assistant uses intelligent AI algorithms to automatically determine thresholds for individual plant behaviours in dynamic industrial processes. It can also predict the remaining service life of consumable components such as filters. If the software detects deviations from the target status, the user is informed immediately in the software.

Specific recommendations for maintenance

The asset health function complements moneo's software-supported maintenance approach with an automated damage analysis that provides specific repair recommendations for maintenance. This helps plant operators to identify maintenance requirements at an early stage and intervene in good time before efficiency losses or unplanned downtimes occur.

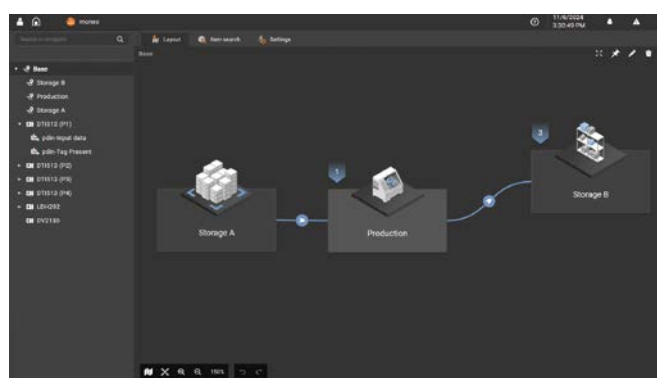
Full transparency in the inventory management process

In addition, **moneo|IIoT Insights** enables precise insights into current and past goods movements and production processes with the track & trace solution. Functions such as live localisation, KPI monitoring and fast search functions help to minimise bottlenecks and downtimes. A user-friendly drag-and-drop interface ensures intuitive operation.

The add-on can be operated both in the cloud version and in the on-premises environment of **moneo|IIoT Core**.

Description	Order no.
Cloud solution	
Software add-on moneo IIoT Insights Cloud	QCM500
Required basic software moneo IIoT Core Cloud	QCM100
On-premises solution	
Software add-on moneo IIoT Insights On-Premises	QM9113
Required basic software moneo IIoT Core On-Premises	QM9112

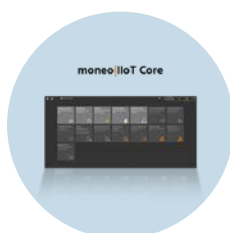
Not yet available in all countries.



The stations of your own intralogistics can be easily created and arranged in moneo|Track & Trace.

BEST FRIENDS

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moneo|IIoT Core
IIoT software for simple
condition monitoring



Vibration diagnostics
Diagnostic electronics for
decentralised use



RFID compact device
For RFID tag detection
in product tracking



For further technical
details, please visit:
ifm.com/fs/QCM500



Making the right move

ifm mate: assistance system for manual workstations

- AI-based system helps with assembly and packaging activities
- Intuitive user guidance simplifies set-up and everyday handling
- Further information on work steps facilitates the learning process
- No additional tracking items such as wristbands or VR glasses required



ifm – close to you!

Support, the easy way

With **ifm mate** you gain a patient and – theoretically – omniscient colleague for your manual workstations. Whether assembly work or packaging tasks: With **ifm mate** you can define, explain and carry out every manual work process step by step. The core of the system is an AI algorithm that recognises the worker's hands in combination with the camera mounted above the workstation – without additional and obstructive gadgets such as wristbands or VR glasses. The defined workflow of the process is shown on the display, as well as optional supporting content such as videos or graphics.

Quality assurance with a learning effect

mate also clearly indicates deviations from the defined workflow. The missed process step is repeated until it has been carried out correctly. This improves the learning curve for the worker and ensures a high quality of execution.



Description	Order no.
ifm mate worker assistance system	OXZ100
Event Logger for ifm mate	OXZ001

New opportunities for process optimisation

With the “Event Logger” licence extension, recurring errors and time-consuming sequences in assembly workflows can be easily identified. This helps to make production instructions clearer and further optimise manual work efficiency.

Sensor integration and central library

O2D5 vision sensors can be seamlessly integrated into **mate** for even more effective quality control of the workpieces, for example via target/actual contour analysis. Via REST API, the system can communicate with higher-level IT infrastructure and transmit information about the current order status or assembly progress. Dialogue with SAP is also possible so that order planning can be done centrally for the individual systems.

Learn more about the range of functions at [mate.ifm](https://mate.ifm.com).



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O2D5 2D vision sensor
For the analysis of surfaces and contours



Monitor with touch panel
For display and operation of ifm mate



Signal lamp
LED lamp with USB connection for visual status indication



For further technical details, please visit:
ifm.com/fs/OXZ100



Protected signal transmission

Screened ecolink M12 cables for machine tools

- Resistant to oils and coolants
- Protected against electromagnetic interference
- Accurate and tight mounting by hand
- Permanently secured against loosening caused by vibration



IP69K

ifm – close to you!

Description	Connector		Connector		Connector		Connector/socket		Connector/socket	
	4 pins		5 pins		5 pins		4 pins		5 pins	
	Screened		Screened		Screen connected to the housing		Screen connected to the housing on both sides		Screen connected to the housing on both sides	
	Straight	Angled	Straight	Angled	Straight	Angled	Straight/straight	Angled/angled	Straight/straight	Angled/angled
2 m	EVCB34	EVCB60	EVCB39	EVCB65	EVCB44	EVCB70	EVCB49	EVCB75	EVCB55	EVCB82
5 m	EVCB35	EVCB61	EVCB40	EVCB66	EVCB45	EVCB71	EVCB50	EVCB76	EVCB56	EVCB83
10 m	EVCB36	EVCB62	EVCB41	EVCB67	EVCB46	EVCB72	EVCB51	EVCB77	EVCB57	EVCB84
15 m	EVCB37	EVCB63	EVCB42	EVCB68	EVCB47	EVCB73	EVCB52	EVCB78	EVCB58	EVCB85
25 m	EVCB38	EVCB64	EVCB43	EVCB69	EVCB48	EVCB74	EVCB53	EVCB79	EVCB59	EVCB86

More versions available at ifm.com.

Protecting sensitive signals

In industrial production facilities, screened connection cables are indispensable for the transmission of analogue sensor signals, as these are sensitive to electromagnetic interference. Sources of interference such as machines and frequency converters can cause signal noise or distortion, which can falsify measured data. Screening protects the signals from such influences, ensuring precise data transmission. This is essential to ensure controller accuracy, production quality and operational safety.

What makes ecolink special

ecolink is a connector solution developed by ifm that stands out for its excellent reliability and durability. Thanks to its sophisticated design, the seal remains reliable over time, even with toolless mounting. A mechanical end stop protects against over-tightening and, together with the integral O-ring, provides for optimum sealing. What is more, a vibration protection with saw-tooth contour ensures that the nut remains securely fixed even under shock and vibration loads. ecolink stands for quality and safety in demanding industrial applications and is compatible with industrial M8 and M12 connections.

Technical data		
Operating voltage	[V AC / V DC]	< 50 / < 60
Total current rating	[A]	4
Core cross-section	[mm ²]	0.34
Ambient temperature	[°C]	-25...90
Moulded body material		TPU
Coupling nut		nickel-plated brass
Cable		PUR
Protection rating		IP67, IP68, IP69K

BEST FRIENDS



VSA acceleration sensor
Robust vibration sensor with high protection rating



Vibration monitor
Intuitive switch point setting via setting rings



IO-Link converter
Conversion between analogue and IO-Link signals



For further technical details, please visit:
ifm.com/fs/EVCB34



Protected from radiation and moisture

Screened ecolink M12 cables for wet areas

- Resistant to cleaning agents used in the food and beverage industry
- Protected against electromagnetic interference
- Accurate and tight mounting by hand
- Permanently secured against loosening caused by vibration

ifm – close to you!



IP69K

Description	Straight socket		Straight socket		Straight socket		Connector/socket		Connector/socket	
	4 pins		5 pins		5 pins		4 pins		5 pins	
	Screened		Screened		Screen connected to the housing		Screen connected to the housing on both sides		Screen connected to the housing on both sides	
	Straight	Angled	Straight	Angled	Straight	Angled	Straight/straight	Angled/angled	Straight/straight	Angled/angled
2 m	EVF381	EVF385	EVF389	EVF393	EVF405	EVF409	EVF700	EVF714	EVF705	EVF719
5 m	EVF382	EVF386	EVF390	EVF394	EVF406	EVF410	EVF701	EVF715	EVF706	EVF720
10 m	EVF383	EVF387	EVF391	EVF395	EVF407	EVF411	EVF702	EVF716	EVF707	EVF721
15 m	EVF416	EVF711	EVF710	EVF712	EVF699	EVF713	EVF703	EVF717	EVF708	EVF722
25 m	EVF384	EVF388	EVF392	EVF396	EVF408	EVF412	EVF704	EVF718	EVF709	EVF723

More versions available at ifm.com

Protecting sensitive signals

In food and beverage production facilities, screened connection cables are indispensable for the transmission of analogue sensor signals, as these are sensitive to electromagnetic interference. Sources of interference such as machines and frequency converters can cause signal noise or distortion, which can falsify measured data. Screening protects the signals from such influences, ensuring precise data transmission. This is essential to ensure controller accuracy, production quality and operational safety.

What makes ecolink special

ecolink is a connector solution developed by ifm that stands out for its excellent reliability and durability. Thanks to its sophisticated design, the seal remains reliable over time, even with toolless mounting. A mechanical end stop protects against over-tightening and, together with the integral O-ring, provides for optimum sealing. What is more, a vibration protection with saw-tooth contour ensures that the nut remains securely fixed even under shock and vibration loads. ecolink stands for quality and safety in demanding industrial applications and is compatible with industrial M8 and M12 connections.

Technical data		
Operating voltage	[V AC / V DC]	< 50 / < 60
Total current rating	[A]	4
Core cross-section	[mm²]	0.34
Ambient temperature	[°C]	-25...100
Moulded body material		PP
Coupling nut		stainless steel 1.4404
Cable		MPPE
Protection rating		IP67, IP68, IP69K

BEST FRIENDS



Vibration transmitter
Permanent monitoring of the overall vibration level



VSA acceleration sensor
Robust vibration sensor with high protection rating



IO-Link converter
Analogue converter especially for the food industry



For further technical details, please visit:
ifm.com/fs/EVF381



No more screws. Just plug it in.

Passive splitter with ecolink Fast Connect technology

- Secure connection via simple plug-in
- Tool-free, ultra-fast and error-free installation
- High protection against shock and vibration
- IP69 – ideal for wet areas and the food industry



IP69

FAST
CONNECT

ifm – close to you!

Connection cable	8x 1-signal ports	8x 1-signal ports + LEDs	8x 2-signal ports	8x 2-signal ports + LEDs
5 m	EBF018	EBF022	EBF026	EBF030
10 m	EBF019	EBF023	EBF027	EBF031
15 m	EBF020	EBF024	EBF028	EBF032
20 m	–	–	EBF029	EBF033
25 m	EBF021	EBF025	–	–

Operating principle

Passive splitter boxes with M12 connectors are robust, decentralised interfaces for connecting multiple sensors and actuators to a central controller in industrial automation technology. They do not have their own electronics; they transmit signals and power purely mechanically and electrically. Thanks to their compact design and standardised M12 connectors, they enable fast, error-free installation directly on the machine or system.

New: ecolink Fast Connect technology

The new ecolink Fast Connect technology makes installation particularly quick and easy: Instead of screwing on the coupling nut, which is time-consuming, simply press the plug onto the module. This creates immediately a secure, tight and vibration-resistant connection, with no need for additional installation work. This saves valuable time and increases process reliability. It is, of course, compatible with all M12 connectors that comply with the IEC 61076-2-101 standard. The connection is released simply by turning the coupling nut.

Applications

Typical areas of application in the food and beverage industry include production and filling lines, conveyor systems, as well as processing and packaging machinery. Thanks to their IP69 protection rating, the devices are resistant to high-pressure cleaning with hot water, as well as aggressive cleaning agents and disinfectants. The housing is made of a food-grade material, allowing it to be used directly in hygiene-sensitive areas.

Technical data		
Operating voltage with LED without LED		< 30 V DC < 50 V AC / < 60 V DC
Current rating per port	[A]	4
Material Housing Socket Seal Cable		polyamide stainless steel EPDM MPPE
Ambient temperature	[°C]	-25...80
Protection rating		IP69

BEST FRIENDS



EVF connection cable
For wet areas and hygienic applications



Stainless steel cap
Cover for unused ports



Y splitter
For two sensors on one M12 connection



For further technical details, please visit:
ifm.com/fs/EBF018



Current all around

L-coded 16 A power distributors

- Field modules with reliable ecolink M12 screw connection
- Robust thanks to full potting
- Permanently reliable sealing even when fastened by hand
- Versions for coolant and food applications



IP67

IP69K

ifm – close to you!

Application	Protection rating	Housing material	Socket / connector	Order no.
Coolant	IP67	PA orange	nickel-plated brass	EBC171
Food	IP69K	PA grey	stainless steel	EBF017

For powerful consumers

The L-coded passive power distributors are similar in principle to “multiple sockets” and provide a load capacity of up to 16 A. This makes them ideal for supplying powerful devices such as valve heads, quarter-turn sensors, motor controls, IO-Link masters or control components.

They are often connected directly to power supply units in order to increase the number of available outputs. However, thanks to convenient distribution options, the modules can also be used flexibly in the field to supply devices with power.

Robust for demanding applications

The fully potted modules and the ecolink M12 connectors are specially developed to withstand shock and vibration loads over the long term. Another advantage: The ecolink connections are compatible with all common M12 connectors used in industrial applications. For maximum ingress resistance, the use of ifm ecolink connectors is recommended.

The version with grey housing is optimally adapted to the requirements of the food and beverage industry. The robust PA housing, the stainless steel connectors and the high protection rating IP69K ensure reliable operation even with frequent and intensive cleaning processes.

Technical data		
Operating voltage	[V DC]	20...30
Current rating		16 A (US) 16 A (UA)
Ambient temperature	[°C]	-25...60

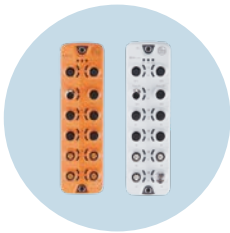
BEST FRIENDS



IP67 power supply
24 volt supply in the field,
controllable via IO-Link



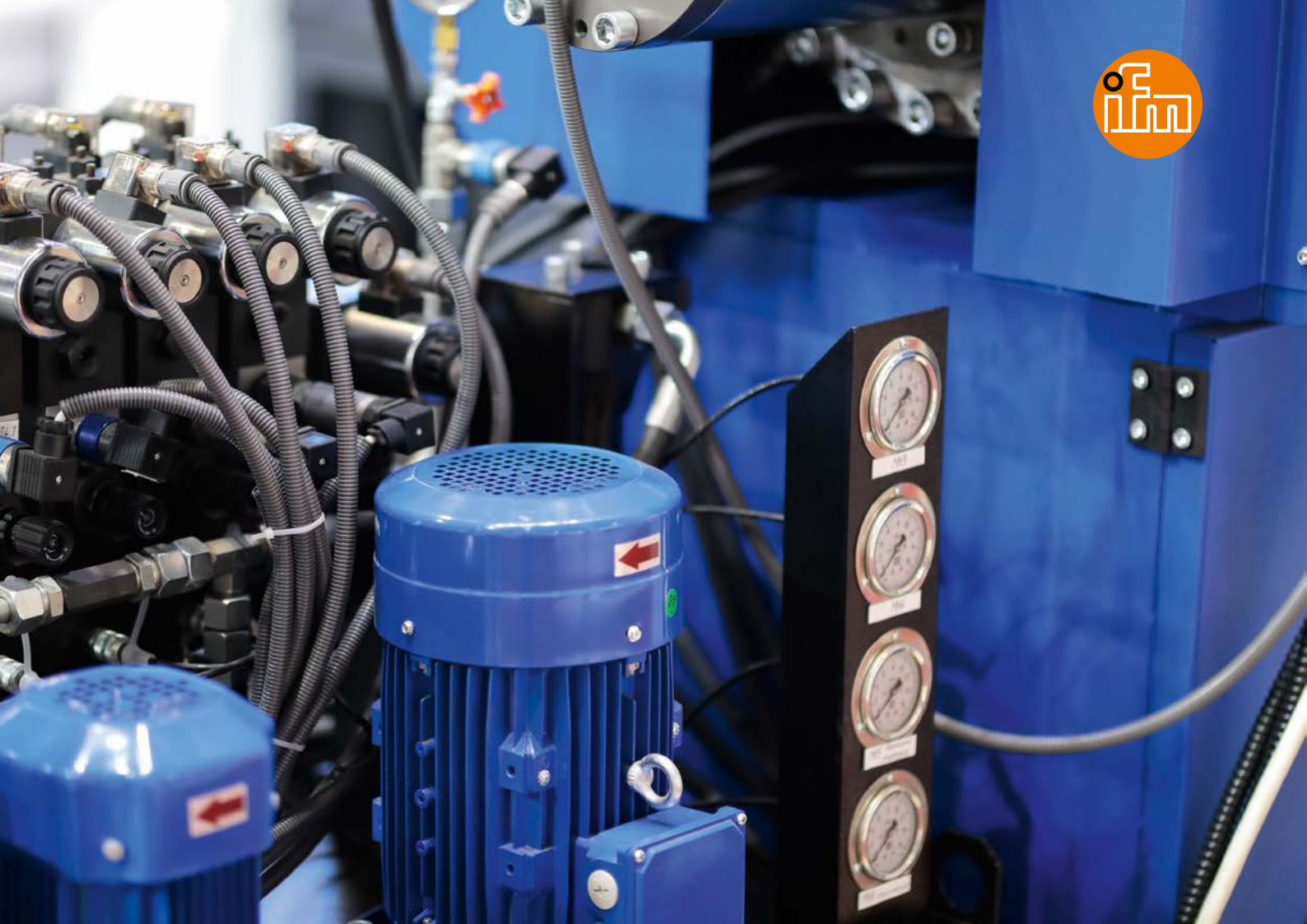
L-coded jumpers
Large cable cross-section for
transmitting high currents



IO-Link masters
Field-compatible PerformanceLine,
up to 2 A per port



For further technical
details, please visit:
ifm.com/fs/EBC171



Square-shaped design, easy-to-use and always tight

DIN A valve plug with ecolink technology

- All the benefits of the tried-and-tested M12 ecolink technology can now also be found on valve plugs
- Maximum tightness and fastening by hand
- Protection against unintended loosening, e.g. caused by vibration
- Status LED ring that is visible from all sides



IP69K

ifm – close to you!

Cable length [m]	Order no.		
	Connection cable with straight connector	Connection cable with angled connector	Connection cable with open cable end
0.3	EVCB06	EVCB14	EVCB22
0.6	EVCB07	EVCB15	EVCB23
1	EVCB08	EVCB16	EVCB24
1.5	EVCB09	EVCB17	EVCB25
2	EVCB10	EVCB18	EVCB26
3	EVCB11	EVCB19	EVCB27
5	EVCB12	EVCB20	EVCB28
10	EVCB13	EVCB21	EVCB29

Valve plugs now also feature all the benefits of ecolink

Fastening by hand

The special contour of the central fastening screw allows fastening by hand to the optimum tightening torque. An end stop prevents over-tightening, while recesses provide a secure grip.

Protection against unintended loosening

Unintended loosening of the centre screw, even in the event of vibrations, is prevented by a lock-in-place mechanism.

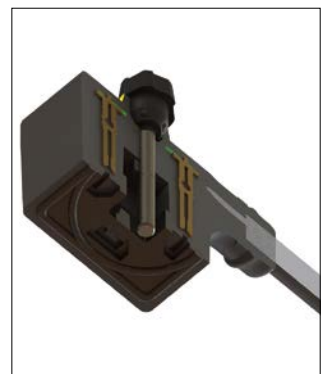
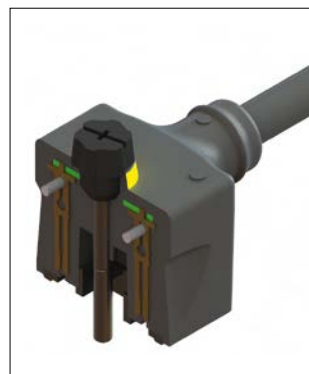
LED display

The LED ring that is visible from all sides combines status display and sealing function.

Optimum sealing

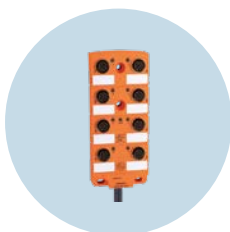
The mechanical end stop compresses the seal to a maximum of 30 %, thus ensuring maximum protection against moisture. The seal is captive and compatible with various counter contours.

Technical data	
Overvoltage protection	yes (VDR)
Housing material	PA
Sealing material	HNBR
Connection cable material	PUR
Protection rating	IP67, IP69K



The reliable ecolink connection technology is now also available for plug connectors.

BEST FRIENDS



Splitter box
Distributed integration of
sensors and actuators



ioControl
Decentralised connection of
sensors, freely programmable



Y-splitter
For various inputs and outputs
in confined spaces



For further technical
details, please visit:
ifm.com/fs/EVCB06



Intelligent voltage supply

Directly in the field

- Field mounting reduces voltage losses due to long cable runs
- No control cabinet required thanks to protection class IP67
- Outputs protected by electronic fuses
- Output voltage adjustable, current for each output can be set separately
- Status and diagnostic LEDs



ifm – close to you!

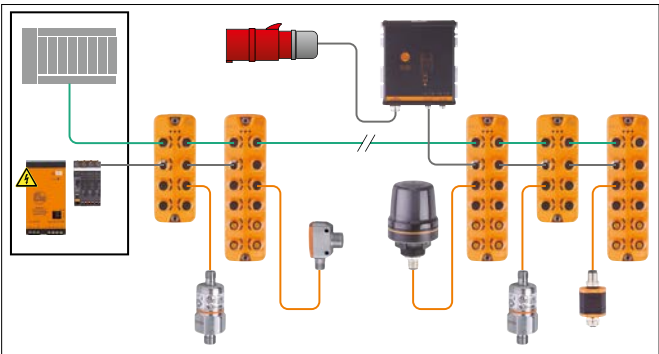
Operating voltage [V AC]	IO-Link	Output power (permanent) [W]	Number of output circuits	Plug for output circuits	Order no.
380...480 ±15% (3-phase)	–	500	4	2x M12, L-coded	DN4234
380...480 ±15% (3-phase)	•	500	4	2x M12, L-coded	DN4237
110...250 ±15% (1-phase)	•	300	4	2x M12, A-coded	DN4218
110...250 ±15% (1-phase)	•	200	2	1x M12, A-coded	DN4217

Power supply directly in the field

More and more users mount control components decentrally on the machine instead of in the control cabinet, for example IO-Link masters or other field modules. With classic power supply from the control cabinet, critical voltage drops occur due to the high currents through the long cables. To prevent this, ifm offers a powerful power supply for mounting directly in the field.

Protection in the secondary circuit

Integrated electronic fuses reliably protect the components connected to the 24 V power supply against excessive current and short circuits.



Use of the power supply directly in the field

More reliability

Electronic fuses reliably detect short circuits even with high line resistances. Due to the four individually fused output circuits, a faulty circuit is selectively switched off, the intact circuits continue to function reliably. Even with high current peaks, such as when switching capacitive loads, the supply is guaranteed.

Additional IO-Link functions

- Setting of the output voltage
- Transmission of the actual voltage on the primary and secondary side
- Transmission of the present current per channel
- Transmission of the triggered channel in case of a fault
- Resetting of the triggered channel

BEST FRIENDS

We reserve the right to make technical alterations without prior notice. · 04.2025
ifm electronic gmbh · Friedrichstr. 1 · 45128 Essen



IO-Link masters
Field-compatible
PerformanceLine, up to
2 A per port



IO-Link M12 modules
Connection of binary sensors
to IO-Link masters



Vibration diagnostics
Diagnostic electronics for
decentralised use



For further technical
details, please visit:
ifm.com/fs/DN4234

Turning the dream of clockwork into reality

How the IIoT can help you achieve a perfectly synchronised supply chain

Reference 57260, Aeternitas Mega 4, Calibre 89. If this name gets you excited, then you are definitely someone who is fascinated by the art of watchmaking. And that is totally understandable. It really is incredible to see how countless complications – as a horologist calls the different functions of a watch – can be implemented in such a small space. It's all down to precise interaction of cogs, springs, levers and shafts. Of course, a work of art like this doesn't come about overnight.

It took around eight years for the 2,826 components of the Reference 57260 to be conceived, developed, produced and assembled, resulting in no less than 31 hands that provide 57 different functions. Sorry, we mean complications.

Complicated? It doesn't have to be that way.

The issue of time (and unfortunately sometimes also the issue of complications) plays a crucial role in supply chain management. Every unused or wasted unit of time costs money. Efficiency is to a supply chain manager what perfection is to a watchmaker. And they are essentially one and the same thing. To achieve maximum efficiency, all the units involved need to engage perfectly with one another, like clockwork, at all times. That is the only way to deliver the best possible results across all functions – ideally without any complications getting in the way. It sounds complicated but it's not really. At least not if you look for experienced supply chain specialists to perform the task, just like a watchmaker. They have perfected the craft of composing and synchronising all the cogs in the supply chain over many decades.

The first bit of good news is that you've already found these experts. The second bit of good news is that our seamless combination of sensors and software can turn your dream of perfectly clean, well-oiled and pleasantly whirring clockwork into a reality much more quickly than the example we talked about earlier.

Bringing two worlds together: GIB SCX meets Industry 4.0

How does it work? Very easy: We bring the production and IT levels closer together, ideally using existing frameworks. No matter whether we are talking about machine maintenance requirements, production capacity or intralogistic material flows: in Industry 4.0 they are all recorded using sensors, forwarded to the IT level and converted into readable information, for example using the moneo IIoT software. Our native "Shop Floor Integration" interface sends the information to SAP in real time. There, thanks to our "GIB SCX" supply chain solution, which also has native SAP integration and certification, all of the operational and strategic units involved access the exact same standardised data. This creates transparency and ensures that all subprocesses are perfectly synchronised. This means that everyone from purchasing to shipping can respond very quickly to even unscheduled maintenance requirements or spur-of-the-moment large orders. Everything is integrated and coordinated.

One cog engages with the other. Complex operations that were previously carried out manually run automatically in the background. Like the delicate work of art behind a clock face. An onlooker only sees the information displayed. But they know that the clockwork is running.

Precisely, cleanly and reliably. We turn the dream into a reality.



Everything the automation heart desires.

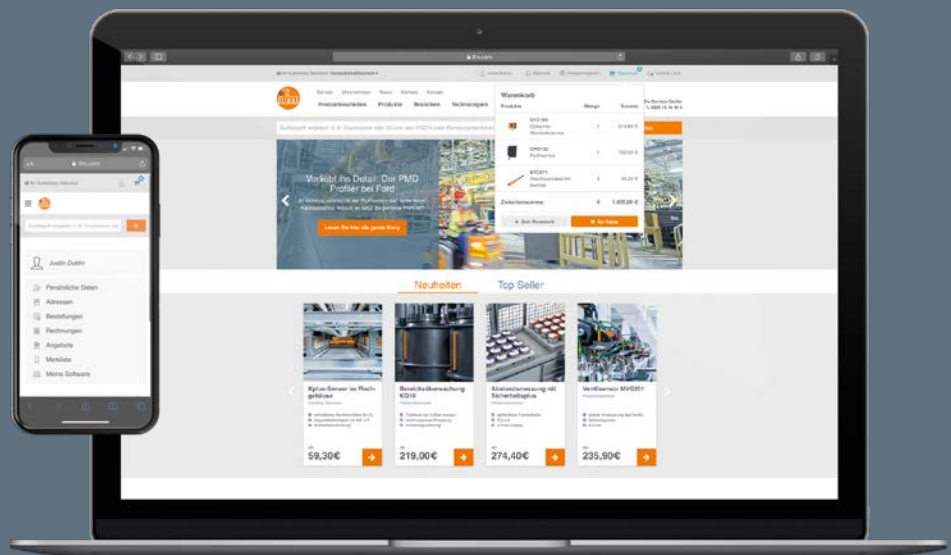
The online shop: Find more, search less.

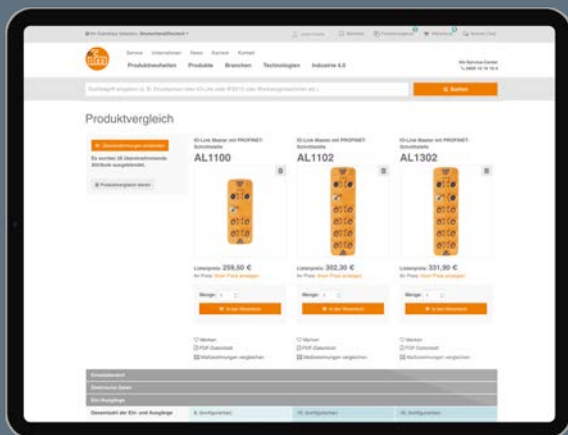
Where does efficient plant automation start? We think: when shopping! And that's why our online shop is designed to guide you to your desired product as quickly as possible. At the same time, we also want to offer you maximum service when shopping online. For example, the selectors help you to narrow down the search to the suitable product versions. In your personal my ifm account you can easily import comprehensive order lists, create your own offers in no time and convert them into an order with just one click.

Products, accessories and interesting facts

Are you looking for the suitable accessories for your product? No problem! We have compiled everything you need to know about installation, parameter setting and set-up and added it to the respective product page. Of course, in our online shop you will also find lots of interesting information about the technologies in our sensors, inspiration in the form of application reports, factory certificates for free download, and, and, and...

So if you are thinking about how to shop more efficiently, a visit to ifm.com is definitely worthwhile!





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