













Automation Products for the Food Industry *Catalogue 2013/2014*

www.ifm.com/gb/food

ifm electronic - close to you!

Clean solutions for your applications



With over 40 years of experience in sensors and control systems we know how to achieve maximum process reliability and plant uptime: our portfolio covers innovative, high-quality position sensors, level, temperature and pressure sensors as well as diagnostic systems with high temperature and cleaning resistance, which comply with the required standards and directives. In addition, connectors, also with the protection rating IP 68 / 69K.

The world's leading manufacturers in the food industry rely on solutions from ifm electronic – in over 70 countries worldwide. ifm electronic – close to you!



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The company in your vicinity.



State-of-the-art communication.

With the right address – www.ifm.com – only a mouse click separates you from the world of automation technology. See the power of our products in interactive representations. Gain an impression with 3-dimension-al views of our units. Download CAD drawings for direct integration in your applications. Or order online in ifm's e-shop - fast, convenient and reliable.

We are there for you.

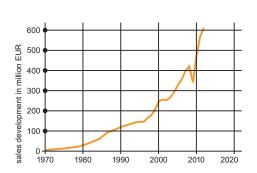
Close contact with our customers is part of our success. Therefore we have consistently developed our sales network right from the start. Today ifm electronic is represented in more than 70 countries – close to you! With application advice and service at the heart of our operation. For the introduction of new products and technologies we support you with workshops and seminars in our training centres or in your plant.

Security by success.

Since its foundation in 1969 ifm electronic has constantly grown, now having more than 4800 employees worldwide, and achieved a turnover of more than EUR 615 million in 2012. This success gives you the security of having a reliable partner for the implementation of your automation projects. Comprehensive service and a warranty of up to 5 years on standard units are just two examples of this reliability.









Not only components.

ifm stands for a large range of different sensors and systems for automation. Our range of of more than 7,800 articles guarantees flexibility and compatibility. So there is always a reliable solution for your automation projects – from the individual sensor with practical accessories to the complete system.

Availability guaranteed.

Your deadlines matter to us. That is why we are constantly optimising our production processes in order to be able to quickly and flexibly produce large quantities at a constantly high quality – and to continue to shorten delivery times. Your order is dispatched via our centralised logistics centre reliably and on time.

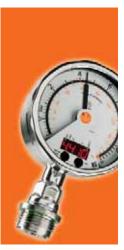
Quality as part of our philosophy.

The quality standard of our products is an integral part of our company philosophy. And we guarantee it! So we provide you, the users, with a maximum degree of security: By means of our own production technology, ifm film technology, as well as by means of extensive quality assurance measures such as 100 % final testing. By quality we understand, for example, ecologically conscious production – Made in Germany!



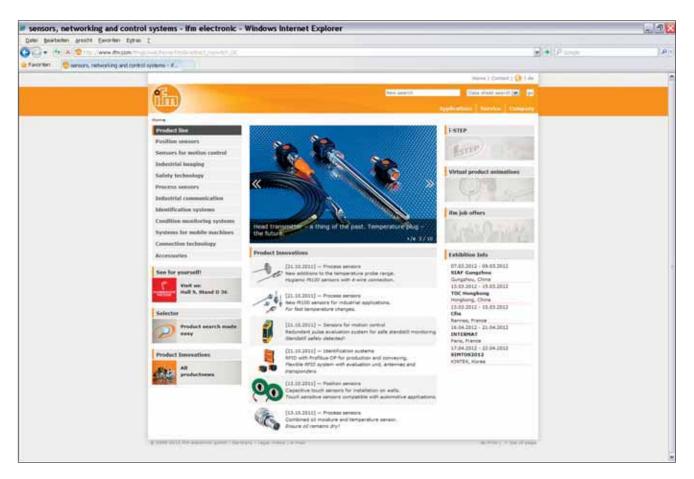






The development of innovative products is one of our core competences. From high-quality standard solutions to products specially tailored to the requirements of the individual industries – from mobile machines to the food industry.

www.ifm.com Information around the clock and around the globe in 23 languages on the internet.



Information

- product innovations
- company news
- exhibition info
- locations
- jobs

Documentation

- data sheets
- operating instructions
- manuals
- approvals
- CAD data

• Communication*

- request for documents
- recall service
- live advice
- newsletter

Selection

- interactive product selection aids
- configuration tools
- data sheet direct

• Animation

- virtual product animations
- flash movies (video sequences)

Application

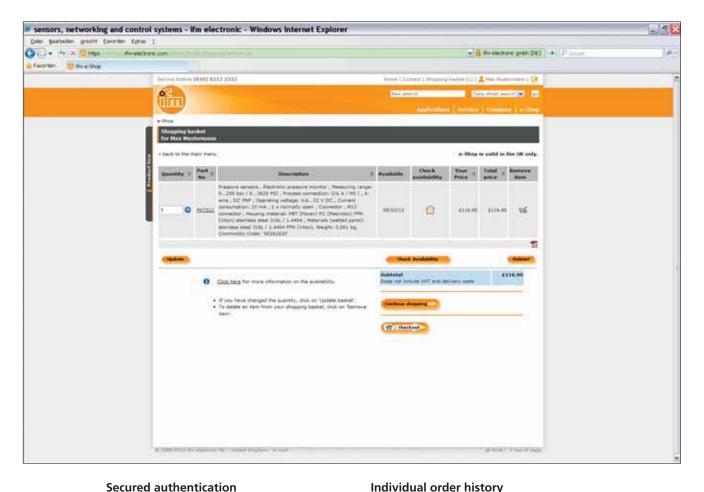
- applications
- product recommendations
- calculation aids

• Transaction*

- e-shop processing
- e-procurement catalogues

^{*}Some offered information is available country-specific

Convenient order processing via the e-shop** on the internet.



Secured authentication Individual order history

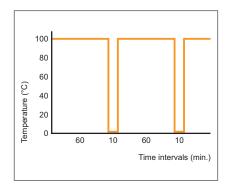
Customer-related price Convenient quick input form indication

Real time availability check Simple order processing

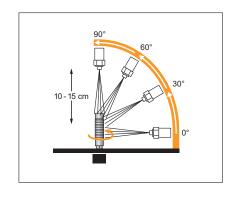
Personal product favourites Management of shipping addresses

Online parcel tracking Confirmations by e-mail

^{**} Already available in many countries.



ifm sensor Industry standard 0 0 30 250 500 Acceleration (g)



Thermal shock test

In pressure cleaning environments, proximity sensors are exposed to extreme temperature conditions. This is why ifm performs thermal shock tests on the sensors by cycling the temperature between 0 and 100 °C in short time intervals. After the test, the sensors' characteristics are tested to ensure high reliability.

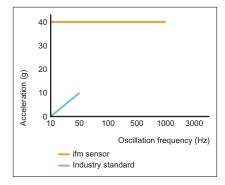
Shock test

Sensors can be exposed to high levels of shock in industrial environments. This is why ifm sensors are tested at a shock level of 500 g. This test standard sets a new benchmark for inductive sensor product development.

IP 69K high-pressure cleaning test

ifm inductive proximity sensors are tested in accordance with the IP 69K standard. The goal is to duplicate pressure cleaning conditions on a plant floor.

In the test fixture, the sensors are exposed to a 80 - 100 bar spray of water at a temperature of 80 °C. The duration of each cleaning cycle is 30 seconds. The test is performed at specified angles using a spray nozzle located at a distance of 10 - 15 cm from the sensor. ifm inductive sensors can withstand test conditions and are still operable providing 100 % of their sensing range.



Vibration test

A vibration test is performed on the sensors at a level of 40 g with the oscillation frequency spanned between 0 and 2,000 Hz. This test checks the integrity of the electronic circuit and the surface-mounted components. The vibration test is designed to far exceed manufacturing plant conditions on industrial automation machinery.

Steam boiler test

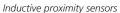
To simulate the aging process, the washdown sensors are placed in a steam boiler.

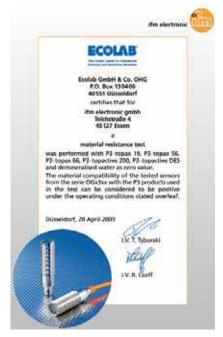
For inductive sensors: the test simulates whether penetrating water molecules can disturb the sensor behaviour. This is recognisable by a change in the sensing range.

For photoelectric sensors: the test simulates whether water can penetrate into the sensor optics. Abrupt cooling in ice water will cause any moisture to fog up the lens on the inside.

Many ifm sensors are Ecolab certified







Photoelectric sensors of the O5 series for washdown



AS-i ProcessLine modules

Ecolab certified

Ecolab® is a global leader in the development of premium cleaning, sanitizing and hygiene products for the food processing, beverage, dairy and pharmaceutical industries. The integrity and quality of ifm sensors, connectors and cables for use in washdown environments was tested in accordance with the demanding Ecolab standards.

Independent tests were performed by Ecolab on the inductive sensors, photoelectric sensors of the OG series for washdown and AS-i ProcessLine modules of ifm electronic. Ecolab certified that ifm products resisted the cleaning chemicals used in the tests. **3A**



3A Sanitary Standards, Inc. (3-A SSI) is an independent, not-for-profit corporation dedicated to advancing hygienic equipment design for the food, beverage, and pharmaceutical industries.

AS-i



Actuator-Sensor Interface. Bus system for the first binary field level.

ATEX



Atmosphère Explosible. ATEX comprises the directives of the European Union in the field of explosion protection. On the one hand there is the 94/9/EC ATEX product directive and on the other hand the 1999/92/EC ATEX operation directive.

CCC



CCC (China Compulsory Certification) is a compulsory Chinese certification for certain products put on the market in China. Which products are concerned is specified in a catalogue created by the Chinese authorities.

cCSAus



Testing a product by CSA according to the safety standards applicable in Canada and the USA.

CE



Conformité Européenne. By affixing the CE marking to a product, the manufacturer declares that it meets EU safety, health and environmental requirements.

cRUus



Testing components by UL according to the safety standards applicable in Canada and the USA. Components can be used when the "condition of acceptability" is complied with for the final product.

CSA



Canadian Standards Association. A non-governmental Canadian organisation that sets standards and tests and certifies products for their reliability. By now it is active worldwide.

cULus



Testing components by UL according to the safety standards applicable in Canada and the USA.

DIBt (WHG)



Deutsches Institut für Bautechnik (Federal Water Act). The Federal Water Act (WHG) is the essential part of the German law relating to water . It contains provisions for the protection and use of surface water and ground water and also regulations about the expansion of waters, water planning and flood protection.

DKD



The Deutscher Kalibrierdienst (DKD) is an association of calibration laboratories of industrial firms, research institutes, technical authorities, inspection and testing institutes. The DKD calibration certificates prove traceability to national standards as required in ISO 9000 and the ISO / IEC 17025. They also serve as a metrological basis for the control of measurement and test equipment within the framework of quality management.

e1



Approval by the Kraftfahrt-Bundesamt (German Federal Motor Transport Authority). The e1 type approval by the German Federal Motor Transport Authority certifies that the units comply with the automotive standards. Units with this marking are allowed to be mounted on vehicles without expiry of their operating permit.

EG 1935/2004

The Regulation EC 1935/2004 has been taken into account for fluid sensors from ifm electronic which are intended for use in contact with food. You can obtain a list of the corresponding products and detailed information on request.

EHEDG



European Hygienic Engineering & Design Group. European supervisory authority for food and drugs. This authority grants approvals for products and materials used in the food and pharmaceutical industries.

FDA



Food and Drug Administration. US-American supervisory authority for food and drugs. This authority grants approvals for products and materials used in the food and pharmaceutical industries.

FΜ



Factory Mutual Research. A US-based insurance company that specializes in loss prevention services in the property insurance market sector. They provide material research, material testing and certifications in the field of fire and explosion protection.

PROFIBUS



Process Field Bus. Fieldbus system for important data quantities. It is available in several versions such as Profibus FMS, DP or PA. Profibus DP can be used over longer distances, e.g. as fieldbus for AS-i.

ΤÜV



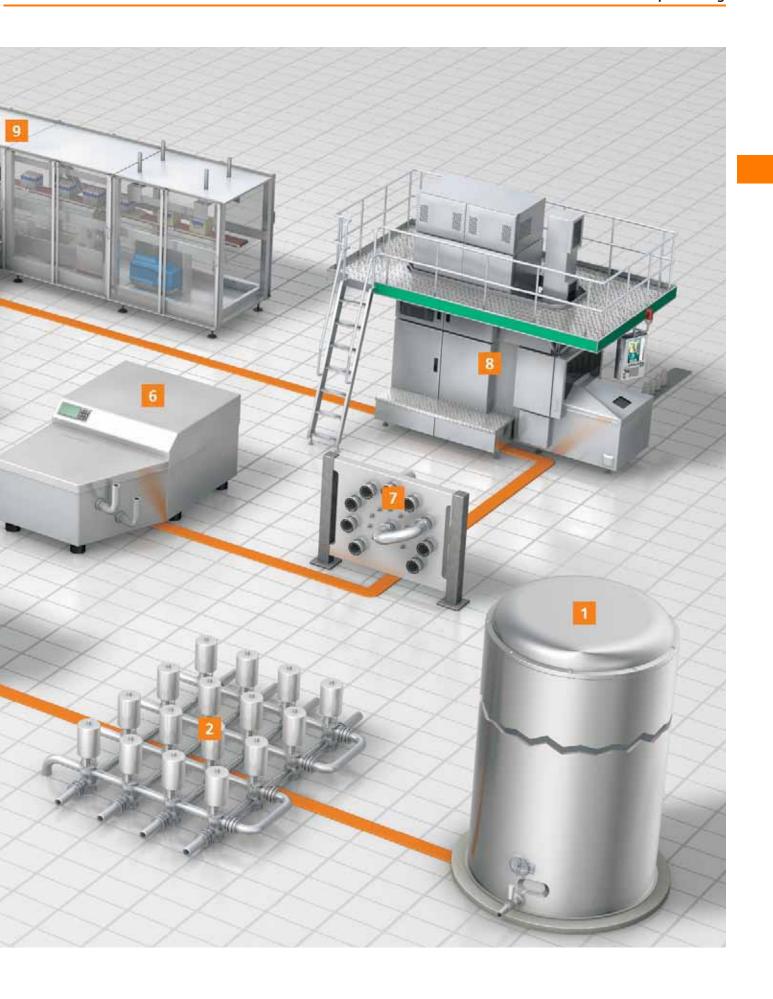
Technischer Überwachungs Verein (technical inspection association). The German TÜV is a private-sector body carrying out technical safety tests that are stipulated by government laws or instructions.

UL



Underwriters Laboratories. An organisation founded in the USA for testing and certifying products and their safety.





Machine	Application	Product group	From page			
1	Tank					
	Manway monitoring	Fail-safe inductive sensors	117			
	Level detection	Pressure sensors	135			
	Temperature measurement	Level sensors	151			
	Temperature measurement	Temperature sensors	153			
2	Valves					
.10.	Position detection	Inductive sensors	73			
THE STATE OF THE S	Valve connection with AS-i	AS-Interface devices for valves and valve actuators				
- 7	Detection of rising stem valves	Feedback systems for valves and valve actuators	169			
3	Pasteuriser					
	Pressure measurement	Pressure sensors	135			
	Flow monitoring	Flow sensors / flow meters	145			
i males	Temperature measurement	Temperature sensors	153			
4	Separator					
	Pressure measurement	Pressure sensors	135			
	Vibration monitoring	Vibration monitoring systems	193			
5	Heat exchangers					
	Pressure measurement	Pressure sensors	135			
	Flow monitoring	Flow sensors / flow meters	145			
	Temperature measurement	Temperature sensors	153			
6	Homogeniser					
	Pressure measurement	Pressure sensors	135			
100	Flow monitoring	Flow sensors / flow meters	145			
7	Distribution plate					
200	Position feedback	Inductive sensors	73			
	Position feedback	Magnetic sensors	93			

Machine	Application	Product group	From page
8	Filling / conveying technolog	у	
	End position monitoring	Inductive sensors	73
. Salar	Optical detection	Photoelectric sensors for general applications	97
	Pressure measurement	Pressure sensors	135
H THE	Level detection	Level sensors	151
	Temperature measurement	Temperature sensors	153
9	Cartoner		
	End position monitoring	Inductive sensors	73
~	Optical detection	Photoelectric sensors for general applications	97
	Monitoring of completeness	3D sensors	115
·	End position monitoring	Cylinder sensors	95
	Reading of codes	1D/2D code readers	191
10	CIP installation		
	Pressure measurement	Pressure sensors	135
Am	Level detection	Level sensors	151
	Temperature measurement	Temperature sensors	153
	AS-Interface as control system	AS-Interface controllers / gateways	173

Demanding requirements in milk processing



Milk is one of the most important staple foods. It can be processed into many different products such as cheese, yoghurt, ice cream or milk powder.

Reliable processing is essential in order to obtain a high-quality end product, with quality and food safety playing a decisive role. Sensors are an important element of these processes, for example when separating, homogenising or pasteurising milk.

Sensors from ifm electronic comply with required approvals such as EHEDG or 3A. In addition, they are resistant to CIP / SIP cleaning processes. A wide range of adapters enables easy and hygienic integration into the process equipment.

Storage in tanks



Level detection in a tank

ifm pressure sensors of the PG, PI or PM series detect the level as well as the system pressure in storage tanks.

Pressure sensors for level measurement \cdot further products from page 135

Туре	Process connection	Display LED	Measuring range [bar]	P _{overload} max. [bar]	P _{bursting} min. [bar]	U _b DC [V]	Order no.
	Aseptoflex Vario	Display unit	-0.051	10	30	2032	PI2797

Sensors for point level detection \cdot further products from page 151

Туре	Process connection	Process pressure max. [bar]	Application	Protection	Order no.
	G ½ A	-116	water, water-based medium	IP 68 / IP 69K	LMT100

Valve monitoring



Monitoring of rising stem valves

efector valvis precisely detects the position of rising stem valves. It signals up to three valve positions: valve open, valve closed and any interim position such as seat lift.

Valve sensors for feedback of the valve positions · further products from page 169

Туре	Dimensions [mm]	Sensing range [mm]	Material	υ _b [V]	Protection	f AC / DC [Hz]	I _{load} AC / DC [mA]	Order no.
	65 x 52 x 110	-	PA	1836	IP 65 / IP 67	-	100	IX5010

Valve monitoring



Monitoring of rising stem valves with AS-i connection

The connection of rising stem valves via AS-i saves time and cost.

An M12 to flat cable insulationdisplacement connector enables easy connection to the yellow flat cable.

Valve sensors for feedback of the valve positions \cdot further products from page 169

Туре	Dimensions [mm]	Sensing range [mm]	Material	U _b	Protection	f AC / DC [Hz]	I _{load} AC / DC [mA]	Order no.
	65 x 52 x 110	-	PA	26.531.6	IP 65 / IP 67	_	-	IX5030

Pump system



Pump run-dry protection

When conveying dairy products the product flow has to be monitored. Flow sensors of the SI6 series monitor the flow to avoid dry running of the pump.

Flow monitor as run-dry protection · further products from page 145

Туре	Setting range liquids / gases [cm/s]	Greatest sensitivity [cm/s]	Medium temperature [°C]	Pressure rating [bar]	Response time [s]	Probe length [mm]	Order no.
	3300 / 2003000	3100 / 200800	-2595	30	110	71.8	SI6800

Pasteuriser



Redundant temperature measurement for increased process reliability

For the life of the milk it is of high importance that the correct temperatures are kept. The self-monitoring and diagnostic functions of TAD-type temperature transmitters ensure that the process runs smoothly.

Temperature transmitter with diagnostic output for temperature measurement · further products from page 153

Туре	Measuring range [°C]	Process connection	Installation length [mm]	U _b [V]	Dynamic response T05 / T09 [s]	Order no.
	-25160	Aseptoflex Vario	87.5	1832	3/6	TAD181

Separator



Continuous bearing monitoring on a separator

The efector octavis vibration diagnostic unit monitors the bearing of the motor. Maintenance measures can then be precisely planned. This increases plant uptime.

Vibration monitoring units for bearing monitoring · further products from page 193

		_
Туре	Description	Order
31		no.



 $Vibration\ sensor\cdot for\ connection\ to\ external\ diagnostic\ electronics\cdot Connector\cdot housing:\ stainless\ steel\ 316L\ /\ 1.4404$

VSA001

Heat exchangers



Temperature monitoring on a heat exchanger

In indirect heating a heat exchanger is used for the heat transmission. For the quality of a product it is decisive that the correct temperature is kept.

Temperature sensors for temperature monitoring · further products from page 153

Туре	Measuring range [°C]	Process connection	Installation length [mm]	length		Order no.
-	-40150	Aseptoflex	63.8	-	5/14	TM0061

Homogeniser



Pressure monitoring in homogenisers

An important process is the homogenisation. For a targeted and reproducible process, the pressure conditions in the pump aggregate must be precisely monitored or regulated.

Pressure sensors for pressure monitoring of the pump aggregate · further products from page 135

Туре	Process connection	Display LED	Measuring range [bar]	P _{overload} max. [bar]	Pbursting min. [bar]	U _b DC [V]	Order no.
	Clamp fitting	Display unit	0600	800	1200	2030	PY9000

Vibration monitoring units for bearing monitoring · further products from page 193

Туре	Description	Order no.



VTV122

Splitter box



Position feedback on a distribution plate

Distribution plates with swing bends are used for manual change between different lines. T series inductive sensors detect the position of the swing bend.

Inductive sensors for position feedback \cdot further products from page 73

Туре	Dimensions [mm]	Sensing range [mm]	Material	U _b	Protection	f [Hz]	l _{load}	Order no.
	M18 / L = 90	8 f	high-grade st. steel	1036	IP 67	400	100	IGT241

f = flush / nf = non flush

Ice cream production



Optical distance sensor monitors ice-cream production

From a safe distance several efector pmd units check whether the pneumatic grippers have each picked a wafer.

Optical distance sensors for detection from a safe distance · further products from page 107

	Production page 102									
Туре	Operating principle	ciple Range Sampling rate		Spot Ø at max. range [mm]	U _b	Order no.				
	Optical distance sensor	0.210 m	150	6	1830	O1D100				

Ice cream production



Position feedback on pneumatic cylinders

ifm cylinder sensors with protection rating IP 69K meet the high requirements in the food industry and reliably detect the piston position.

Cylinder sensors for position feedback \cdot further products from page 95

Туре	Dimensions [mm]	Material	U _b	f [Hz]	Protection	I _{load}	T _a [°C]	Order no.
	25 x 5 x 6.5	PA (polyamide)	1030	6000	IP 65 / IP 67 / IP 69K	100	-2585	MK5157

Cheese production



Compressed air meter monitors cheese production

Different types of presses are used to withdraw the remaining liquid from the curd. The compressed air of the pneumatic cylinders is monitored by the efector metris compressed air meter (SD series).

Compressed air meter for the measurement of compressed air consumption · further products from page 145

Туре	Process connection	Setting range	Accuracy within measuring range	Pressure rating	Response time	U _b	Order no.
		[Nm³/h]		[bar]	[s]	[V]	
	R½ (DN15)	0.675.0	A): ± (3% MW + 0.3% MEW) / B): ± (6% MW + 0.6% MEW) *	16	< 0.1	1830	SD6000

Cheese production



Photoelectric sensor monitors cheese production

In cheese presses ifm through-beam sensors of the OG wetline series monitor the correct function of the compressed air cylinders in the line in each string of the press.

Photoelectric sensors for monitoring the pressing process · further products from page 97

Туре	Operating principle	Range	Type of light	Spot Ø at max. range [mm]	Output H = light-on D = dark-on	Order no.
-	Receiver	20 m	red	-	D PNP	OGE300
=	Transmitter	20 m	red	800	-	OGS300

CIP / SIP system

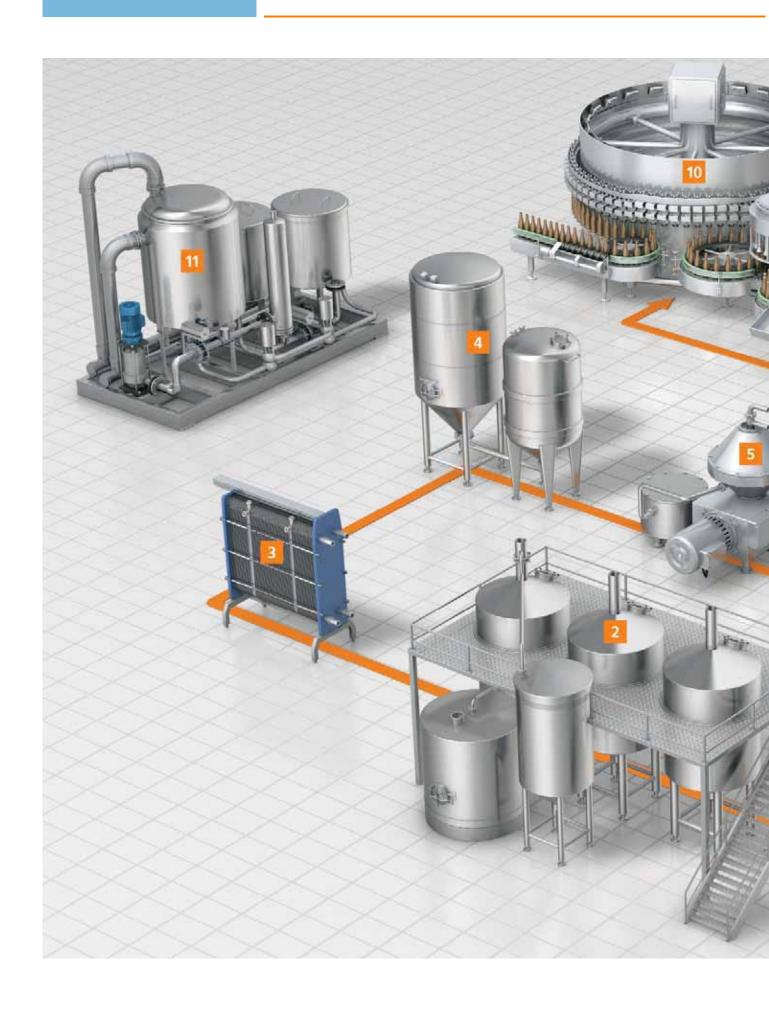


Pressure monitoring

For monitoring CIP / SIP systems ifm electronic offers many different measuring systems such as pressure and temperature sensors or electronic contact manometers.

Pressure sensors for measuring system pressure · further products from page 135

Tressure sensors for measuring system pressure further products from page 135									
Туре	Process connection	Display	Measuring range	Poverload	P _{bursting}	U _b DC	Order no.		
		LED	[bar]	max. [bar]	min. [bar]	[V]			
	Aseptoflex Vario	Display unit	-110	50	150	1832	PG2794		





Machine	Application	Product group	From page				
1	Malt mill						
	Position detection	Inductive sensors	73				
	Level detection	Capacitive sensors	91				
	Level detection	Level sensors					
	Vibration monitoring	Vibration monitoring systems	193				
2	Brewhouse tank						
	Detection of rising stem valves	Feedback systems for valves and valve actuators	169				
	Level detection	Level sensors	151				
	Level detection	Pressure sensors	135				
	Temperature measurement	Temperature sensors	153				
	Manway monitoring	Inductive sensors	73				
	Position feedback	Inductive sensors	73				
3	Wort cooler						
	Pressure measurement	Pressure sensors	135				
	Temperature measurement	Temperature sensors	153				
' >	Flow monitoring	Flow sensors / flow meters	145				
4	Fermentation / storage tanks						
	Level detection	Level sensors	151				
l e	Level detection	Pressure sensors	135				
PALA	Temperature measurement	Temperature sensors	153				
. 1 4 1	Manway monitoring	Fail-safe inductive sensors	117				
5	Separator						
	Pressure measurement	Pressure sensors	135				
	Vibration monitoring	Vibration monitoring systems	193				
6	Diatomaceous earth filter						
	Pressure / differential pressure measurement	Pressure sensors	135				
	Level detection	Level sensors	151				
M	Flow monitoring	Flow sensors / flow meters	145				

Machine	Application	Product group	From page
7	Flash pasteuriser		
	Pressure measurement	Pressure sensors	135
H	Temperature measurement	Temperature sensors	153
	Flow monitoring	Flow sensors / flow meters	145
8	Keg cleaning system		
	Optical detection	Photoelectric sensors for general applications	97
	Level detection	Level sensors	151
501	Pressure measurement	Pressure sensors	135
المالية.	Temperature measurement	Temperature sensors	153
	Flow monitoring	Flow sensors / flow meters	145
9	Palletiser		
	Position detection	Inductive sensors	73
	Optical detection	Photoelectric sensors for general applications	97
	Safety monitoring	Safety light grids	127
	Monitoring of completeness	3D sensors	115
	AS-Interface as control system	AS-Interface controllers / gateways	173
10	Filling / conveying technolog	у	
	End position monitoring	Inductive sensors	73
	Optical detection	Photoelectric sensors for general applications	97
	Safety monitoring	Fail-safe inductive sensors	117
	Monitoring of completeness	3D sensors	115
	Pressure measurement	Pressure sensors	135
	Level detection	Level sensors	151
	Vibration monitoring	Vibration monitoring systems	193
11	CIP installation		
	Pressure measurement	Pressure sensors	135
Pana	Temperature measurement	Temperature sensors	153
	Level detection	Level sensors	151
	AS-Interface as control system	AS-Interface controllers / gateways	173

For the processes in the manufacture of beverages



In most cases beverages are manufactured in individual, highly-automated processes. One of the most complex food processes is that of brewing beer.

Reliable sensors guaranteeing maximum process safety are required here so that a high-quality product results without quality fluctuations.

ifm electronic offers solutions for all areas of the manufacture of beverages. From the process and the bottling or canning of the beverages to packaging and conveying.

Sensors from ifm electronic comply with required approvals such as EHEDG or 3A. In addition, they are resistant to CIP / SIP cleaning processes. A wide range of adapters enables easy and hygienic integration into the process equipment.

VSA001

Malt mill



Continuous bearing monitoring on a malt mill

The efector octavis vibration sensor monitors the bearing on the mash pump. Wear rates can be detected continuously so as to predict downtimes and thus to increase plant uptime.

Vibration sensor for bearing monitoring · further products from page 193

Type Description Order no.



Vibration sensor · for connection to external diagnostic electronics · Connector · housing: stainless steel 316L / 1.4404

Brewhouse tank



Level detection on a brewhouse tank

PG series pressure sensors, with flush diaphragm and CIP resistance, are used for level detection in mash tuns, for example. A range of adapters offers many different possibilities for fitting.

Pressure sensor for level monitoring · further products from page 135

Туре	Process connection	Display LED	Measuring range [bar]	P _{overload} max. [bar]	P _{bursting}	U _b DC [V]	Order no.
	Aseptoflex Vario	Display unit	-0.051	10	30	1832	PG2797

Temperature transmitter with diagnostic output for temperature measurement · further products from page 153

Туре	Measuring range	Process connection	Installation length	U _b	Dynamic response T05 / T09	Order no.
	[°C]		[mm]	[V]	[s]	
	-25160	G½ A	33	1832	3/6	TAD991

Brewhouse tank



Manway monitoring on the brewhouse tank

If manways are open agitator drives and valves must be shut off. Here, fail-safe inductive sensors without magnetic target or coded actuator monitor the manway.

Fail-safe inductive sensor for monitoring manways · further products from page 117

Туре	Length [mm]	Enable zone [mm]	Housing material	U _b DC [V]	Protection	Response time in case of a safety request / enable time [ms]	Order no.
	66	1015 nf	PPE	24	IP 65 / IP 67	≤ 20 / ≤ 200	GM504S

f = flush / nf = non flush

Wort cooler



Temperature measurement on a wort cooler

Before it is fed into the fermentation tank, the wort is cooled in the wort cooler. Temperature sensors of the TAD series are used to monitor the fermentation temperature before and after the wort cooler.

Temperature transmitter with diagnostic output for temperature measurement · further products from page 153

Туре	Measuring range	Process connection	Installation length	U _b	Dynamic response T05 / T09	Order no.
	[°C]		[mm]	[V]	[s]	
	-25160	Aseptoflex Vario	33	1832	3/6	TAD981

Pressure sensor for monitoring the system pressure · further products from page 135

		,	· ·				
Туре	Process connection	Display	Measuring range	Poverload	Pbursting	U _b DC	Order no.
		LED	[bar]	max. [bar]	min. [bar]	[V]	
	Aseptoflex Vario	Display unit	-110	50	150	1832	PG2794

Valve island



Valve monitoring with AS-Interface

Inductive sensors of the T series are, for example, used for position detection on valves. All signals can be transferred to the controller via AS-Interface using a flat cable.

ProcessLine module for use in wet areas · further products from page 177

Туре	Inputs / outputs	Description	Order no.
	8 digital inputs (2 claves)	Active ProcessLine module · Version 2.1 with extended addressing mode · Protection rating IP	AC2910

Makrolon / O-ring: EPDM

Inductive sensor for detecting the valve position \cdot further products from page 73 Sensing Dimensions Material Туре Ub Protection Order range no. [V] [Hz] [mm] [mm] [mA] M12 / L = 60IFT240 3 f high-grade st. steel 10...36 IP 68 / IP 69K 100 100

f = flush / nf = non flush



Dual inductive sensor for position feedback on valve actuators.

Pneumatic valve actuators are used for the automatic control of butterfly valves in many different areas. Inductive dual sensors of the IND series provide feedback of the position.

Dual inductive sensor with actuator interface connection · further products from page 185

Туре	Dimensions	Sensing	Material	U _b	Protection	f	I _{load}	Order
.,,,,		range		-0			-load	no.
	[mm]	[mm]		[V]		[Hz]	[mA]	
	55 x 60 x 35	4 nf	PBT (Pocan)	26.531.6	IP 67	-	_	AC2316

f = flush / nf = non flush

Fermentation / storage tanks



Level detection on fermentation / storage tanks

In the cold area of the brewery there are, for example, fermentation and storage tanks. Pressure sensors of the PI series detect both the level and the pressure of the generated CO₂ in the upper part of the fermentation tank.

Pressure sensors for level measurement · further products from page 135

Туре	Process connection	Display LED	Measuring range [bar]	P _{overload} max. [bar]	P _{bursting} min. [bar]	U _b DC [V]	Order no.
	Aseptoflex Vario	Display unit	-0.1242.5	20	50	2032	PI2796

Electronic level sensor for limit value monitoring · further products from page 151

Туре	Process connection	Process pressure max. [bar]	Application	Protection	Order no.
	G ½ A	-116	water, water-based medium	IP 68 / IP 69K	LMT100



Temperature monitoring of the different cooling zones in fermentation tanks

Various temperature sensors measure the temperatures in the different cooling zones of the fermentation tanks.

Temperature transmitter with diagnostic output for temperature measurement · further products from page 153

Туре	Measuring range	Process connection	Installation length	U _b	Dynamic response T05 / T09	Order no.
	[°C]		[mm]	[V]	[s]	
	-25160	Aseptoflex Vario	87.5	1832	3/6	TAD181

Fermentation / storage tanks



Monitoring manways on fermentation / storage tanks

Fail-safe inductive proximity switches to category 4 and SIL3 detect the stainless steel lid of the tank without contact and without any specific counterpart.

Fail-safe inductive sensor for monitoring manways · further products from page 117

Туре	Length [mm]	Enable zone [mm]	Housing material	U _b DC [V]	Protection	Response time in case of a safety request / enable time [ms]	Order no.
=	39	612 nf	high-grade st. steel	24	IP 68 / IP 69K	≤ 20 / ≤ 200	GI505S

f = flush / nf = non flush

Diatomaceous earth filter



Differential pressure monitoring during filtration

After storage a variety of beers are filtered. In this respect diatomaceous earth filtering is often used. Hygienic pressure sensors of the PI series monitor the differential pressure in the filter unit.

Pressure sensor for differential pressure monitoring · further products from page 135

Туре	Process connection	Display LED	Measuring range [bar]	P _{overload} max. [bar]	Pbursting min. [bar]	U _b DC [V]	Order no.
	Aseptoflex Vario	Display unit	-0.051	10	30	2032	PI2797

Flow monitor as run-dry protection · further products from page 145

Туре	Setting range liquids / gases [cm/s]	Greatest sensitivity [cm/s]	Medium temperature [°C]	Pressure rating [bar]	Response time [s]	Probe length [mm]	Order no.
	3300 / 2003000	3100 / 200800	-2595	30	110	36.8	SI6600

Diatomaceous earth filter



Level measurement in a diatomaceous earth tank

Diatomaceous earth is mixed with the beer via a separate tank and then fed into the filter. The LMT level sensor detects the limit value for the min / max detection.

Adjustable level sensor for level measurement on diatomaceous earth tanks · further products from page 151

Туре	Process connection	Process pressure max. [bar]	Application	Protection	Order no.
	G ½ A	-140	liquid, viscous and powdery media	IP 68 / IP 69K	LMT121

Flash pasteuriser



Temperature monitoring on a flash pasteuriser

Precise temperature measurement is indispensible for flash pasteurisation. The TM hygienic temperature sensor controls this main parameter of the process in conjunction with the TP modular transmitter.

Head transmitter for the connection to a temperature sensor · further products from page 153

Туре	Measuring range [°C]	Process connection	U _b	Ambient temperature [°C]	Measuring element	Order no.
	-50300	M12	2032	-2570	for Pt100 and Pt1000 measuring elements	TP3237

Hygienic temperature sensor with Tri-Clamp process connection · further products from page 153

Туре	Measuring range [°C]	Process connection	Installation length [mm]	Sensor element	Dynamic response T05 / T09 [s]	Order no.
4	-40150	Clamp 1-1.5,, ISO 2852	30	1 x Pt 100	1/3	TM4801

CIP installation



Temperature measurement on a CIP installation

CIP cleaning is standard in the beverage industry. The TR2432 evaluation unit in conjunction with the TM4531 hygienic temperature sensor is, for example, used to monitor the cleaning temperature.

Temperature evaluation on CIP tanks · further products from page 153

Туре	Measuring range [°C]	Process connection	Display LED	U _b	Current consump. [mA]	I _{load}	Order no.
	-40300	G½ A	Display unit	1832	50	250	TR2432

Hygienic temperature sensor with Tri-Clamp process connection · further products from page 153

Туре	Measuring range [°C]	Process connection	Installation length [mm]	Sensor element	Dynamic response T05 / T09 [s]	Order no.
•	-40150	G½ with sealing cone	100	1 x Pt 100	1/3	TM4531

Bottle filling system



Flow rate measurement for water

In the filling process, water is used for example on bottle washing systems and tunnel pasteurisers. The efector mid volumetric flow sensor measures the consumed amount of water to use the resource water economically.

Flow rate measurement for water on cleaning systems and tunnel pasteurisers · further products from page 145

Туре	Process connection	Measuring range [l/min]	Medium temperature [°C]	Pressure rating [bar]	Response time [s]	U _b	Order no.
	G½	0.2525.00	-1070	16	< 0.150	1930	SM6100

Bottle filling system



Condition monitoring of pumps

Pumps convey various media in all areas of the brewery. efector octavis continuously monitors the vibration characteristics of pumps so that beginning pump damage can be detected in time.

Vibration monitoring on feeding pumps · further products from page 193

Type Description Order no.



 $Vibration\ sensor\cdot for\ connection\ to\ external\ diagnostic\ electronics\cdot Connector\cdot housing:\ stainless\ steel\ 316L\ /\ 1.4404$

Pressure sensor for measuring the system pressure \cdot further products from page 135

Туре	Process connection	Display LED	Measuring range [bar]	P _{overload} max. [bar]	P _{bursting} min. [bar]	U _b DC [V]	Order no.
	Aseptoflex Vario	Display unit	-125	100	350	2032	PI2793



Full crate inspection

The efector pmd 3d sensor can be used for checking the completeness of beverage crates. The sensor checks the volume of the object. If bottles are missing, the volume decreases and the crate is discharged.

VSA001

3D sensor for monitoring the presence of bottles \cdot further products from page 115

Туре	Operating principle	Resolution (pixels)	Angle of aperture (horizontal x vertical) [°]	Lighting	Max. sampling rate [Hz]	Ambient temperature	Order no.
	PMD 3D sensor	64 x 48	30 x 40	Infrared LED	20	-1050	O3D200

Filling / conveying technology



Photoelectric sensor for the detection of bottles

The O5G500 photoelectric sensor reliably detects glass and PET bottles on the conveyor of the filling system. All signals can be transferred to the controller via AS-Interface using a cable.

Photoelectric sensor for the detection of bottles · further products from page 109

Туре	Operating principle	Range	Type of light	Spot Ø at max. range [mm]	Output H = light-on D = dark-on	Order no.
	Polarisation filter	01.5 m	red	40 / 80	H/D PNP/NPN	O5G500

ProcessLine module for use in wet areas · further products from page 177

Туре	Inputs / outputs	Description	Order no.
	8 digital inputs (2 slaves)	Active ProcessLine module \cdot Version 2.1 with extended addressing mode \cdot Protection rating IP 69K \cdot high-grade stainless steel \cdot Digital inputs \cdot Sockets M12 x 1 \cdot high-grade stainless steel $/$	AC2910



Makrolon / O-ring: EPDM

Keg palletising



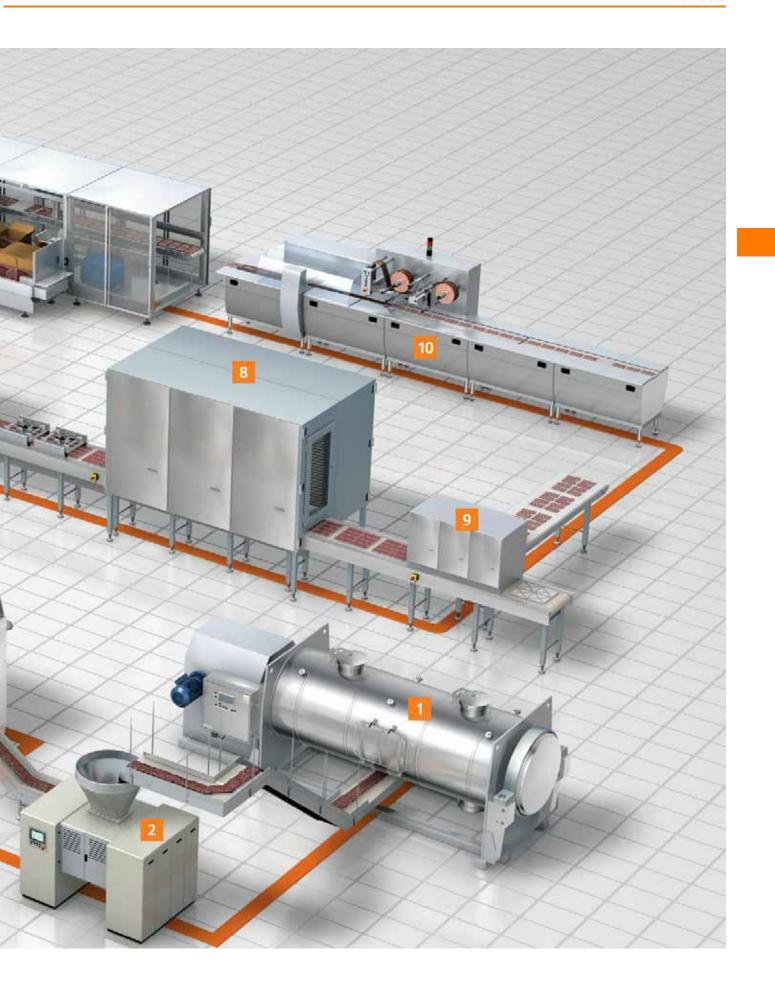
Access prevention in keg palletising

For operator protection, safety light curtains of the OY series protect accessible areas such as pallet inlet and outlet against unauthorised access. The safety light curtains correspond to type 2 or 4 to EN61496, depending on the design.

Safety light curtains for access prevention · further products from page 121

Туре	Sensor length [mm]	Resolution / detection capacity [mm]	Protected area height [mm]	Protected area width [m]	Response time [ms]	U _b	Order no.
	1563	50	1510	04 / 312	11	24	OY090S





Machine	Application	Product group	From page
1	Mixer		
	Position detection	Inductive sensors	73
~	Safety monitoring	Fail-safe inductive sensors	117
	Optical detection	Photoelectric sensors for general applications	97
7	Level detection	Level sensors	151
	Vibration monitoring	Vibration monitoring systems	193
2	Refiner		
The same of the sa	Level detection	Level sensors	151
	Detection of pneumatic cylinders	Cylinder sensors	95
	Safety monitoring	Fail-safe inductive sensors	117
~	Vibration monitoring	Vibration monitoring systems	193
3	Conche		
	Position detection	Inductive sensors	73
-	Conveying pressure measurement	Pressure sensors	135
	Level monitoring	Pressure sensors	135
E .	Temperature measurement	Temperature sensors	153
	Vibration monitoring	Vibration monitoring systems	193
4	Tank		
1	Photoelectric level detection	Level sensors	151
7	Level detection	Level sensors	151
	Level detection	Pressure sensors	135
	Temperature measurement	Temperature sensors	153
	Vibration monitoring	Vibration monitoring systems	193
5	Tempering system		
	Pressure measurement	Pressure sensors	135
	Temperature measurement	Temperature sensors	153
6	Pipes		
J	Magnetic detection	Magnetic sensors	93
	Temperature measurement	Temperature sensors	153

Machine	Application	Product group	From page
7	Moulding system		
	Optical detection	Photoelectric sensors for general applications	97
- 11	Photoelectric level detection	Photoelectric sensors for general applications	97
A STATE OF THE STA	Mould identification / detection	RFID	189
, h	Mould testing	Vision sensors	111
	AS-Interface as control system	AS-Interface controllers / gateways	173
8	Cooling tunnel		
	Position detection	Inductive sensors	73
	Temperature measurement	Temperature sensors	153
The state of the s	Optical detection	Photoelectric sensors for general applications	97
	Mould identification / detection	RFID	189
9	Demoulding system		
	Optical detection	Photoelectric sensors for general applications	97
H m	Mould identification / detection	RFID	189
ı L H	Assessment of damage	Vision sensors	111
10	Packaging machine		
	End position monitoring	Inductive sensors	73
The state of the s	Optical detection	Photoelectric sensors for general applications	97
	AS-Interface as control system	AS-Interface controllers / gateways	173
11	Cartoner		
	Optical detection	Photoelectric sensors for general applications	97
	Monitoring of completeness	3D sensors	115
	Reading of codes	1D/2D code readers	191
	AS-Interface as control system	AS-Interface controllers / gateways	173
12	Palletiser		
	End position monitoring	Inductive sensors	73
	Optical detection	Photoelectric sensors for general applications	97
	Monitoring of completeness	3D sensors	115
	AS-Interface as control system	AS-Interface controllers / gateways	173

Highest quality in the confectionary industry



Many innovative solutions are required to manufacture products with constantly high quality. This includes photoelectric sensors for level monitoring in tanks as well as camera systems for the inspection of chocolate moulds, or the vibration monitoring of drives.

ifm electronic offers a wide range of solutions for the confectionary industry. This includes the corresponding mounting and process adapters as well as suitable connection technology.

Mixer



Monitoring manways

Fail-safe inductive sensors to category 4 / SIL 3 detect the stainless steel cover of the mixer directly and without contact. A specially coded target is not required.

Fail-safe inductive sensor for monitoring manways · further products from page 117

Туре	Length [mm]	Enable zone [mm]	Housing material	U _b DC [V]	Protection	Response time in case of a safety request / enable time [ms]	Order no.
5	39	612 nf	high-grade st. steel	24	IP 68 / IP 69K	≤ 20 / ≤ 200	GI505S

f = flush / nf = non flush

Refiner



Bearing monitoring on a refiner

efector octavis is suited for vibration monitoring on bearings and refiners. It does not only detect vibration data but also carries out the signal analysis and machine diagnosis already on the machine.

Vibration sensor for bearing monitoring on refiners. · further products from page 193

Vibration Ser	isor for bearing monitoring on refiners. • further products from page 195	
Туре	Description	Order no.
Amo	Vibration sensor \cdot for connection to external diagnostic electronics \cdot Connector \cdot Housing materials: housing: stainless steel 316L / 1.4404	VSA001
	Diagnostic electronics for vibration sensors \cdot 4 sensor inputs 010 mA \cdot Ethernet interface \cdot Combicon connection \cdot Housing materials: PA	VSE100

Refiner



Flow rate and temperature measurement of cooling water

The SM magnetic-inductive volumetric flow sensor monitors the cooling process of refiners. It detects the smallest deviations of volumetric flow quantity, e.g. in the event of leakage. Simultaneously it also monitors the cooling water temperature.

Magnetic-inductive flow meter for measuring cooling water in refiners · further products from page 145

Туре	Process connection	Measuring range [l/min]	Medium temperature [°C]	Pressure rating [bar]	Response time [s]	U _b	Order no.
	G1	0.7100.0	-1070	16	< 0.150	1930	SM8000

Conche



Pressure measurement on feeding pumps

Pressure sensors are used for measuring the conveying pressure in pipes and on pumps. The fully electronic PG manometer is used. It combines the advantages of a manometer with those of electronic pressure sensors.

VTV122

Pressure sensor for measuring the conveying pressure · further products from page 135

Туре	Process connection	Display LED	Measuring range [bar]	P _{overload} max. [bar]	P _{bursting} min. [bar]	U _b DC [V]	Order no.
	Aseptoflex Vario	Display unit	-125	100	350	1832	PG2793

Vibration sensor for bearing monitoring · further products from page 193

Type	Description	Order
		no.
		110.



Vibration transmitter \cdot Connection via M12 connector \cdot Vibration transmitter to ISO 10816 \cdot Measuring range RMS: 0...25 mm/s \cdot Analogue output 4...20 mA \cdot Housing materials: stainless steel 316L / 1.4404

Conche



Position feedback on valve actuators

The devices in the IND range contain two inductive sensors for "open / close" detection of the valve position by means of target pucks. The digital output controls the solenoid valve for the pneumatic valve actuator. It is connected directly to AS-i.

Dual inductive sensor for position feedback on valve actuators · further products from page 185

Туре	Dimensions [mm]	Sensing range [mm]	Material	U _b	Protection	f [Hz]	I _{load}	Order no.
	55 x 60 x 35	4 nf	PBT (Pocan)	26.531.6	IP 67	-	-	AC2316

f = flush / nf = non flush

Storage tank



Level monitoring on storage tanks

The O1D300 photoelectric sensor detects levels of bulk materials and non-transparent liquids without contact with the medium. It uses the time of flight measurement on the basis of a laser beam.

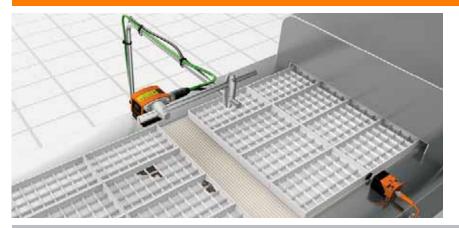
Level sensor for level detection in storage tanks · further products from page 107

Туре	Operating principle	Range	Sampling rate [Hz]	Spot Ø at max. range [mm]	U _b	Order no.
	Optical level sensor	0.210 m	133	6	1830	O1D300

Adjustable level sensor on a storage tank · further products from page 151

Туре	Process connection	Process pressure max. [bar]	Application	Protection	Order no.
	G ½ A	-140	liquid, viscous and powdery media	IP 68 / IP 69K	LMT121

Moulding plant

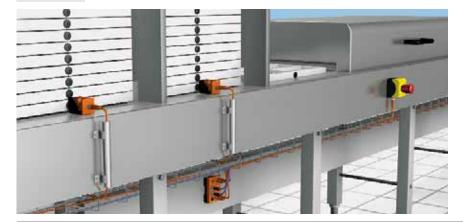


Detection of empty moulds on a moulding plant

Before the liquid chocolate is filled into moulds, it has to be ensured that the moulds are empty. The O2V vision sensor is used for this task. It checks the presence, size, position or completeness on the basis of variable features.

Vision sensor for the detection of empty chocolate moulds · further products from page 111

Туре	Operating principle	Max. field of view size [mm]	Resolution [mm]	Detection rate [Hz]	Type of light	Ambient temperature [°C]	Order no.
	CMOS image sensor B/W, VGA resolution 640 x 480	640 x 480	0.1	10	White light	-1060	O2V100



Traceability of chocolate moulds

Traceability is of great importance in the food industry. The RFID system from ifm electronic gmbh is used to identify chocolate moulds. It ensures for example that the correct mould is used.

RFID evaluation unit for the connection of up to 4 read/write heads · further products from page 189

Туре	Dimensions	Travel speed read / write	Process interface	Order no.
	[mm]	[m/s]		
0 0 0 0 = .	115 x 46.2 x 85	-	Profibus DP	DTE100

RFID antenna for the identification of chocolate moulds \cdot further products from page 189

Туре	Description	Order no.



 $Read/write\ head \cdot M12\ connector \cdot 5\ positions\ of\ the\ sensing\ face\ selectable \cdot Housing\ materials:\ housing:\ PA\ /\ Metal\ parts:\ stainless\ steel$

ANT513

Cooling line



Temperature monitoring on cooling lines

After moulding, the chocolate is cooled in a controlled manner. The ifm temperature sensors have a very good response time, a high protection rating (IP 68 / IP 69K) and a sanitary surface definition.

Temperature sensor for measurement in cooling lines · further products from page 153

Туре	Measuring range [°C]	Process connection	Installation length [mm]	Sensor element	Dynamic response T05 / T09 [s]	Order no.
+(E)	-40150	G½ with sealing cone	150	1 x Pt 100	1/3	TM4541

Evaluation units for temperature sensors \cdot further products from page 153

Туре	Measuring range [°C]	Process connection	Display LED	U _b	Current consump. [mA]	l _{load}	Order no.
	-40300	G½ A	Display unit	1832	50	250	TR2432

Packaging machine



Optical detection of chocolate on a packaging machine

The O6 photoelectric sensor is used for the optical detection of chocolate on packaging machines. It has a stainless housing with a smooth surface and a plastic lens that does not shatter in case of damage.

Photoelectric sensor for use in hygienic and wet areas · further products from page 97

Туре	Operating principle	Range	Type of light	Spot Ø at max. range [mm]	Output H = light-on D = dark-on	Order no.
	Background suppression	8200 mm	red	8	H/D PNP	О6Н300

Palletiser

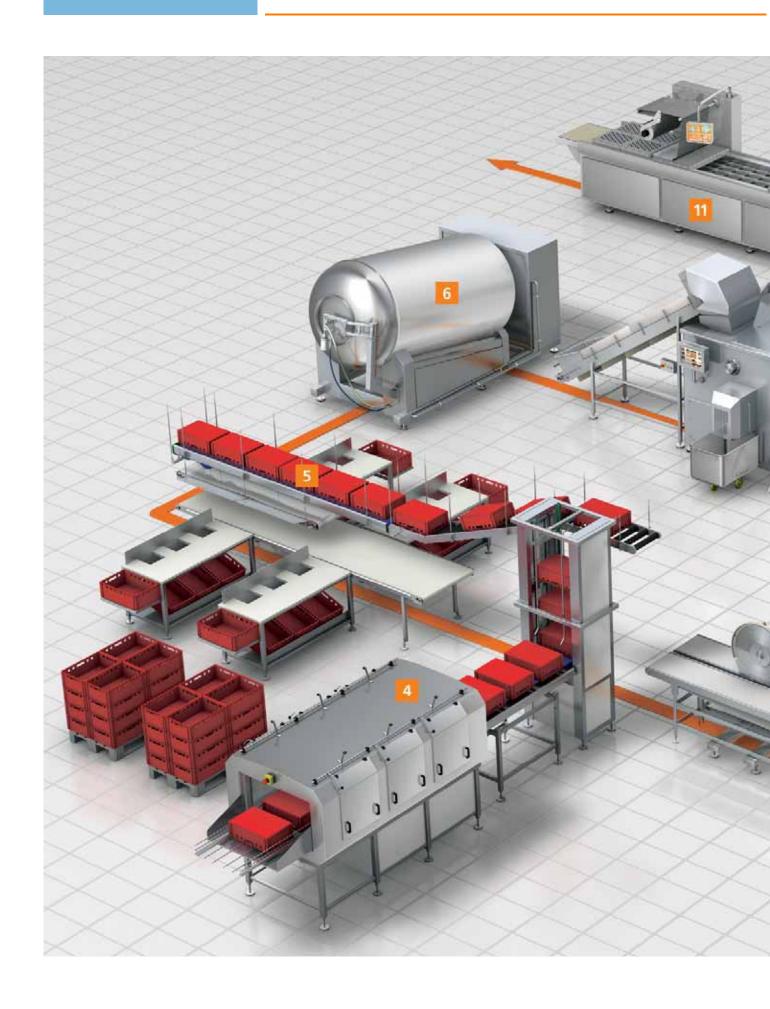


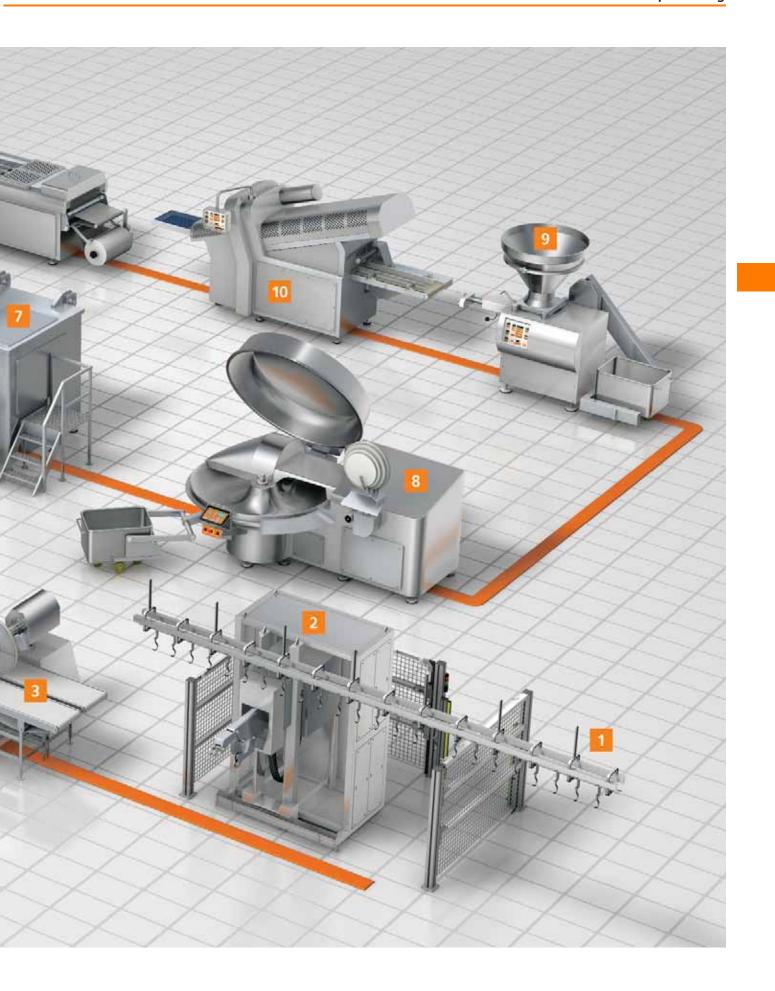
Detection of the filling status of pallets

The efector pmd 3d detects not only overfilling or underfilling but also protruding parts during palletising. The time of flight measurement used enables the evaluation of volume, distance or level.

3D vision sensor for monitoring of the palletising process \cdot further products from page 115

Type	Operating principle	Resolution (pixels)	Angle of aperture (horizontal x vertical) [°]	Lighting	Max. sampling rate [Hz]	Ambient temperature	Order no.
	PMD 3D sensor	64 x 48	30 x 40	Infrared LED	20	-1050	O3D200





Machine	Application	Product group		
1	Slaughtering plant			
	Position detection	Inductive sensors	73	
	Optical detection	Photoelectric sensors for general applications	97	
M. a	Detection of pneumatic cylinders	Cylinder sensors	95	
	Level detection	Level sensors	151	
	Traceability	RFID	189	
	Compressed air measurement	Flow sensors / flow meters	145	
	AS-Interface as control system	AS-Interface controllers / gateways	173	
2	Automatic saw slaughtering			
	Position detection	Inductive sensors	73	
	Optical detection	Photoelectric sensors for general applications	97	
	Safety monitoring	Fail-safe inductive sensors	117	
	AS-Interface as control system	AS-Interface controllers / gateways	173	
3	Automatic saw cutting			
. 66	Optical detection	Photoelectric sensors for general applications	97	
	Safety monitoring	Fail-safe inductive sensors	117	
	AS-Interface as control system	AS-Interface controllers / gateways	173	
4	Box washer			
	Optical detection	Photoelectric sensors for general applications	97	
	Level detection	Level sensors	151	
	Level detection	Pressure sensors	135	
	Temperature measurement	Temperature sensors	153	
	Flow rate measurement	Flow sensors / flow meters	145	
5	Cutting line			
	Position detection	Inductive sensors	73	
	Optical detection	Photoelectric sensors for general applications	97	
	Traceability	RFID	189	
, ,	AS-Interface as control system	AS-Interface controllers / gateways	173	
	Reading of codes	1D/2D code readers	191	

Machine	Application	Product group	From page
6	Tumbler		
	Position detection	Inductive sensors	73
	Temperature measurement	Temperature sensors	153
7	Mixer / mincer		
Side	Optical detection	Photoelectric sensors for general applications	97
	Level detection	Level sensors	151
	Safety monitoring	Fail-safe inductive sensors	117
8	Cutter		
9_	Temperature measurement	Temperature sensors	153
	Vibration monitoring	Vibration monitoring systems	193
9	Vacuum filling machine		
. \$2	Photoelectric level detection	Level sensors	151
	Vacuum measurement	Pressure sensors	135
10	Slicer		
-	Position detection	Inductive sensors	73
	Optical detection	Photoelectric sensors for general applications	97
11	Thermoforming machine		
	End position monitoring	Inductive sensors	73
die	Optical detection	Photoelectric sensors for general applications	97
	Safety monitoring	Fail-safe inductive sensors	117
	Compressed air measurement	Flow sensors / flow meters	145
	AS-Interface as control system	AS-Interface controllers / gateways	173

Sensors for the meat industry



The hygienic requirements in the meat-processing industry are particularly high. Frequent and intensive cleaning processes are normal.

High-quality housing materials of the sensors, e.g. high-grade stainless steel withstand the aggressive cleaning agents in the complete process. The sensors remain ingress-resistant even in case of steam cleaning thanks to the high protection rating IP 69K. The reliable ifm sensors allow downtime to be kept to a minimium and productivity maximised.

Sensors from ifm electronic comply with required approvals such as EHEDG or 3A. A wide range of adapters enables easy and hygienic integration into the process. Suitable connectors with high-quality housing materials and protection rating IP 69K complete the product range.

Slaughtering plant



Detection of hooks in conveyor technology

Full-metal inductive sensors detect the position of the hooks in wet areas. They are resistant to aggressive cleaning agents and temperature shocks.

Inductive sensors for detecting hook · further products from page 73

Туре	Dimensions [mm]	Sensing range [mm]	Material	U _b	Protection	f [Hz]	l _{load}	Order no.
	M30 / L = 70	25 nf	high-grade st. steel	1036	IP 65 / IP 67 / IP 68 / IP 69K	250	100	IIT231

f = flush / nf = non flush



Traceability in the slaughtering process

For traceability in the slaughtering process the RFID system from ifm electronic is used. The Profibus interface allows easy connection to the controller.

RFID system for traceability tasks in the slaughtering process · further products from page 189

,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		read / write	interface	no.
	[mm]	[m/s]		
0.0.0				
2 = .	115 x 46.2 x 85	_	Profibus DP	DTE100

Travel speed

Read / write head for the RFID system \cdot further products from page 189

Dimensions

Туре	Description	Order
		no.



 $Read/write\ head \cdot M12\ connector \cdot 5\ positions\ of\ the\ sensing\ face\ selectable \cdot Housing\ materials:\ housing:\ PA\ /\ Metal\ parts:\ stainless\ steel$

ANT513

Slaughtering plant



Protection of hazardous areas

The ifm safety light curtains with protective tube and IP 69K are used for the protection of e.g. saws or robots. They are both hygienic and robust.

Safety light curtains for securing hazardous areas · further products from page 121

Туре	Sensor length [mm]	Resolution / detection capacity [mm]	Protected area height [mm]	Protected area width [m]	Response time [ms]	U _b	Order no.
==	1680	30	1510	07 / 315	11	24	OY450S



Level monitoring on conveying systems

The LMT level sensor is installed in the upper part of the tank. The hopper is only emptied when it is completely filled. Compressed air consumption is reduced.

Level sensor on pneumatic conveyors · further products from page 151

Туре	Process connection	Process pressure max. [bar]	Application	Protection	Order no.
	G ½ A	-140	liquid, viscous and powdery media	IP 68 / IP 69K	LMT121

Compressed air meter for measuring compressed air and detecting leakage \cdot further products from page 145

Туре	Process connection	Setting range [Nm³/h]	Accuracy within measuring range	Pressure rating [bar]	Response time [s]	U _b	Order no.
	R1 (DN25)	1.8225.0	A): ± (3% MW + 0.3% MEW) / B): ± (6% MW + 0.6% MEW) *	16	< 0.1	1830	SD8000

Cutting line



Water level measurement on a box washer

Flush pressure sensors are used for level measurement. They measure, as opposed to conventional float switches, the water level continuously.

Pressure sensor for measuring the water level on a box washer · further products from page 135

Туре	Process connection	Display LED	Measuring range [bar]	P _{overload} max. [bar]	P _{bursting} min. [bar]	U _b DC [V]	Order no.
4-20	Aseptoflex Vario	Display unit	-0.01240.25	10	30	2032	PI2798



Reading the bar codes on transport boxes

After each cleaning process, new bar code labels are attached to the transport boxes. The multi code reader reads the codes, irrespective of their orientation in respect of the sensor.

Multicode reader for reading the bar codes on transport boxes · further products from page 191

Туре	Dimensions [mm]	Max. field of view size [mm]	Type of light LED	Motion speed int. / ext. lighting [m/s]	Process interface	Order no.
	60 x 42 x 53.5	64 x 48	red light	3/5	Ethernet TCP/IP, EtherNet/IP, RS-232	O2I100

Photoelectric sensor for the detection of transport boxes in a harsh environment · further products from page 97

Туре	Operating principle	Range	Type of light	Spot Ø at max. range [mm]	Output H = light-on D = dark-on	Order no.
	Background suppression	8200 mm	red	8	H/D PNP	О6Н300

Cutting line



AS-i in cutting

A variety of sensors are used in cutting. The AS-Interface bus system connects sensors and actuators with the controller with little wiring complexity.

AS-i AirBox for controlling pneumatic valve actuators · further products from page 183

Inputs / Description Туре Order outputs no.



via AS-i

2 inputs / 2 outputs; AirBox supply AS-i AirBox · 2 x 3/2-way slide valves free from overlapping · Three orientations of the flat cable are possible \cdot AS-i flat cable connection \cdot Addressing socket \cdot AS-i profile S-3.F.F \cdot PA / POM

AC5227

AC031S

Cylinder sensors for detecting the position of pistons in pneumatic cylinders · further products from page 95

Туре	Dimensions [mm]	Material	U _b	f [Hz]	Protection	l _{load}	T _a [°C]	Order no.
	25 x 5 x 6.5	PA (polyamide)	1030	10000	IP 65 / IP 67 / IP 69K	100	-2585	MK5111



AS-i Safety at Work on conveying systems

In the field of conveying systems there are many areas where safety technology is absolutely necessary. This is where AS-i Safety at Work (control category 4) to EN 954-1 (IEC 61508 / SIL 3) is used.

AS-i Safety at Work for detecting safety-related signals · further products from page 187

Туре	Description	Order
		no.



AS-i safety monitor · Extended functionality and integrated safe slave for triggering a safe AS-i output · 1-channel · Control category 4 to EN954-1, IEC 61508 / SIL 3 and EN ISO 13849 - 1 PL e Configuration and setup by configuration software ASIMON V3.0 Screw terminal · Housing materials: polyamide black

Tumbler



Temperature measurement on a tumbler

Before further processing, the meat is massaged under vacuum in the tumbler. The TA temperature transmitter is used for measuring the temperature in the tumbler.

Probes for measuring the temperature on a tumbler · further products from page 153

Туре	Measuring range [°C]	Process connection	Installation length [mm]	U _b [V]	Dynamic response T05 / T09 [s]	Order no.
	-10150	G½ A	87.5	1030	1/3	TA3431

Inductive sensors for detecting the end position on a tumbler \cdot further products from page 73

Туре	Dimensions	Sensing range	Material	U _b	Protection	f	l _{load}	Order no.
	[mm]	[mm]		[V]		[Hz]	[mA]	
	M18 / L = 51	12 nf	high-grade st. steel	1036	IP 68 / IP 69K	300	100	IGT200

f = flush / nf = non flush



Vacuum measurement on a tumbler

Vacuum sensors of type PA have an accuracy of 0.5 %. The ceramic-capacitive measuring cell ensures reliable and long-term stable analogue values.

Vacuum sensor for measuring the vacuum on a tumbler · further products from page 135

	<u> </u>						
Туре	Process connection	Display	Measuring range	Poverload	P _{bursting}	U _b DC	Order no.
		LED	[bar]	max. [bar]	min. [bar]	[V]	
	G1⁄4 I	-	-10	10	30	9.632	PA3029

Mixer / mincer



Level detection on a mixer / mincer

The meat is chopped in the mincer. The LMT121 is especially suited to detect the level. It can be adjusted to liquid and viscous media as well as bulk materials via IO-Link.

Adjustable level sensor on a mixer / mincer \cdot further products from page 151

Туре	Process connection	Process pressure max. [bar]	Application	Protection	Order no.
	G ½ A	-140	liquid, viscous and powdery media	IP 68 / IP 69K	LMT121



Detection of trolleys at a mixer / mincer

The diffuse reflection sensors of the OGH series used for position detection of tanks are especially suited for environments where vapour can occur as an interfering factor.

Photoelectric sensor for wet areas to detect trolleys on a mixer / mincer · further products from page 97

Туре	Operating principle	Range	Type of light	Spot Ø at max. range [mm]	Output H = light-on D = dark-on	Order no.
:::::[III	Background suppression	20200 mm	red	17	H/D PNP	OGH314

Cutter



Bearing monitoring on a cutter

On a cutter, knife and bowl bearings rotate at high rpm. The VSA001 vibration sensor detects bearing damage at an early stage, which allows planning of the downtimes.

Vibration sensor for monitoring the bearing on a cutter · further products from page 193

Type Description Order no.



Vibration sensor · for connection to external diagnostic electronics · Connector · Housing materials: housing: stainless steel 316L /

VSA001



Diagnostic electronics for vibration sensors \cdot 4 sensor inputs 0...10 mA \cdot Ethernet interface \cdot Combicon connection \cdot Housing materials: PA

VSE100



Temperature measurement on a cutter

To measure temperature in the cutter, temperature transmitters of the TAD series are used. The integrated selfmonitoring increases process reliability.

Temperature sensor for measuring the temperature on a cutter · further products from page 153

- Tanapanana Janapanana da Maranana da Maranana da Maranana da Maranana Maranana da Maranana da Maranana da Ma							
Туре	Measuring Process range connection		Installation U _b		Dynamic response T05 / T09	Order no.	
	[°C]		[mm]	[V]	[s]		
	-25160	G½ A	33	1832	3/6	TAD991	

Filling machine



Level detection on a hopper

The O1D photoelectric level sensor can be installed at a safe distance from the goods to be detected. It replaces manual level monitoring by the operators.

Photoelectric level sensor for level detection · further products from page 107

Туре	Operating principle	Range	Sampling rate [Hz]	Spot Ø at max. range [mm]	U _b	Order no.
	Optical level sensor	0.210 m	133	6	1830	O1D300

Protective cover for the photoelectric level sensor \cdot further products from page 203

Туре	Description	Order no.



Protective cover \cdot O1D \cdot Housing materials: bezel: ZnAl4Cu1 finish black / window: PMMA transparent and colourless / sealing: FPM 75+/-5 Shore A black / screws: stainless steel

E21133



Vacuum measurement on a filling machine

The sausage meat is fed via a hopper and sucked by the vacuum. The vacuum sensors of type PA transfer the measured value to the controller via the analogue output.

Vacuum sensor for measuring the vacuum on a filling machine · further products from page 135

Туре	Process connection	Display LED	Measuring range [bar]	P _{overload} max. [bar]	Pbursting min. [bar]	U _b DC [V]	Order no.
	G¼ I	-	-10	10	30	9.632	PA3029

Thermoforming machine



Controlling a deep-draw packaging machine

A number of sensors are installed on a packaging machine. The AS-Interface bus system allows fast connection to sensors, actuators and modules.

AS-Interface for controlling a deep-draw machine · further products from page 173

Туре	Number of AS-i masters	Description	Order no.
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 $AS-i\ DP\ controller\ E\cdot AS-i\ PLC\ with\ Profibus-DP\ interface\cdot Full\ master\ functions\cdot Graphic\ display\cdot Housing$ materials: aluminium / steel sheet galvanised

AS-i AirBox for controlling pneumatic valve actuators · further products from page 183

_		5 14	
Type	Inputs / outputs	Description	Order
	outputs		no.



via AS-i

2 inputs / 2 outputs; AirBox supply AS-i AirBox · 2 x 3/2-way slide valves free from overlapping · Three orientations of the flat cable are possible \cdot AS-i flat cable connection \cdot Addressing socket \cdot AS-i profile S-3.F.F \cdot PA / POM

AC5227

AC1365



Pressure measurement on a deep-draw packaging machine

The film is formed to the requested end product by means of vacuum and compressed air. The precise and fastswitching IO-Link pressure sensors are suited for this task.

Pressure sensor to measure the pressure on a thermoforming machine · further products from page 135

Туре	Process connection	Display LED	Measuring range [bar]	P _{overload} max. [bar]	Pbursting min. [bar]	U _b DC [V]	Order no.
	G¼ I	Display unit	-110	75	150	1832	PN2024

Order no.	Approvals	Catalogue page	Order no.	Approvals	Catalogue page
AC003S	CE, CUL	187	AC5222	CE, CUL	181
AC004S	CE, CUL	187	AC5225	CE, CUL	181
AC005S	CE, CUL	187	AC5228	CE, CUL	181
AC006S	CE	187	AC5235	CE, CUL	181
AC007S	CE, CUL	187	AC5246	CE, CUL	181
AC009S	CE, CRUUS	187	AC5270	CE, CUL	181
AC010S	CE, CUL	187	ANT512	CE, CUL	189
AC015S	CE, CRUUS	187	ANT513	CE, CUL	189
AC016S	CE, CUL	119	DTE100	CE, CUL, PI	189
AC030S	CE, CUL	187	E10137		204
AC041S	CE, CUL	187	E10191		89
AC1154	CE	177, 183	E10200		89
AC1212	CE, CUL	175	E10735		203
AC1218	CE, CRUUS	175	E10736		203
AC1220	CE, CRUUS, CUL	175	E10737		203
AC1221	CE, CRUUS, CUL	175	E11231		111, 113
AC1236	CE, CRUUS, CUL	175	E11232		201
AC1244	CE, CRUUS, CUL	175	E11311		201
AC1318	CE, CUL	173	E11416		185
AC1324	CE, CUL	173	E11421		185
AC1327	CE, CUL	173	E11426		185
AC1337	CE, CUL	173	E11533		203
AC1375	CE, CUL	173	E11534		203
AC1376	CE, CUL	173	E11569		119
AC1401	CE, CUL, PI	173	E11803		93
AC1402	CE, CUL, PI	173	E11806		201
AC2211	CE	175	E11807		201
AC2216	CE, CUL	177	E11898		111, 113
AC2218	CE, CUL	177	E11900		171
AC2220	CE, CUL	177	E11950		111, 113
AC2225	CE	175	E11976		95
AC2250	CE, CRUUS	177	E11979		95
AC2251	CE, CRUUS	177	E11989		171
AC2255	CE, CRUUS	177	E12008		193
AC2257	CE, CRUUS	177	E12079		193
AC2258	CE, CRUUS	177	E12123		171
AC2264	CE, CRUUS	177	E12166		121, 123
AC2315	CE, CUL	185	E12167		201
AC2316	CE, CUL	185	E12168		127, 201
AC2402	CE	183	E12169		201
AC2403	CE	183	E12170		171
AC2451	CE, CUL	183	E12208		204
AC2452	CE, CUL	183	E12209		204
AC2900	CE, CUL	179	E12212		204
AC2904	CE, CUL	179	E12291		93
AC2910	CE, CUL	179	E17320		169, 185
AC2916	CE, CUL	179	E17327		169, 185
AC5204	CE, CUL	181	E17328		169, 185
AC5214	CE, CUL	181	E20005		101, 203, 97
AC5215	CE, CUL	181	E20722		109

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E20869		203	E33622	EHEDG, FDA	137, 141
E20870		203	E33701	EHEDG, FDA	210
E20956		203	E33702	EHEDG, FDA	210
E21087		204	E33711	EHEDG, FDA	210
E21133		107	E33712	EHEDG, FDA	210
E21166		205	E33713	EHEDG, FDA	210
E21224		107	E33721	EHEDG, FDA	210
E21267		203	E33722	EHEDG, FDA	210
E21268		103, 104, 203	E33731	EHEDG, FDA	210
E21269		103, 104, 203	E33732	EHEDG, FDA	210
E21270		203	E33901		215
E2D110		204	E33902		215
E2D200		111	E33910		215
E2I200		191	E3D103		205
E2V100		113	E3D200		115
E30009		215	E40124		147
E30013	EHEDG, FDA	137, 141	E40178		206
E30017		159	E40191		206
E30018		159	E40193		206
E30055	EHEDG, FDA	163, 167	E40199		206
E30056	EHEDG, FDA	212	E40200		206
E30070		214	E43300	EHEDG, FDA	151, 161
E30071		215	E43301	EHEDG, FDA	151, 161
E30072	FDA	214	E43304	EHEDG, FDA	213
E30122	EHEDG, FDA	208	E43305	EHEDG, FDA	213
E30123	FDA	209	E43306	EHEDG, FDA	212
E30124	FDA	209	E43307	EHEDG, FDA	212
E30128	EHEDG, FDA	209, 211	E43308	EHEDG	213
E30130	EHEDG, FDA	135, 139	E43309	EHEDG, FDA	213
E30396	CE	204	E43310	EHEDG, FDA	213
E30398	CE, CUL	204	E43311	EHEDG, FDA	163, 167
E33201	EHEDG, FDA	208	E43312	EHEDG, FDA	163, 167
E33202	EHEDG, FDA	208	E7007S	CE	187
E33208	EHEDG, FDA	135, 139	E70213		177, 183
E33209	EHEDG, FDA	135, 139	E70297		179
E33211	EHEDG, FDA	209	E70354	CUL	179
E33212	EHEDG, FDA	209	E70355		181
E33213	EHEDG, FDA	209	E70377	CUL	179
E33221	EHEDG, FDA	208	E70423		181
E33222	EHEDG, FDA	208	E70454	CUL	179
E33228	EHEDG, FDA	208	E74000		173
E33229	EHEDG, FDA	208	E74010		173
E33242	FDA	209	E74300		173
E33304	FDA	209	E74310		173
E33340	FDA	209	E75232		181
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E33601	EHEDG, FDA	137, 141	E80371		189
E33612	EHEDG, FDA	137, 141	EC2080		193

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EVT001	CRUUS	101, 103	EY2005	CE	205
EVT002	CRUUS	198	EY3004	CE	205
EVT003	CRUUS	198	G1501S	CE, CUL, TuevNord	133
EVT004	CRUUS	101, 107	G1502S	CE, CUL, TuevNord	133
EVT005	CRUUS	199	G1503S	CE, CUL, TuevNord	133
EVT006	CRUUS	199	G2001S	CE	133
EVT007	CRUUS	199	GF711S	CE, CUL, TuevNord	117
EVT008	CRUUS	199	GG505S	CE, CUL, TuevNord	119
EVT009	CRUUS	199	GG507S	CE, CUL, TuevNord	119
EVT010	CRUUS	121, 123	GG711S	CE, CUL, TuevNord	117
EVT011	CRUUS	199	GG712S	CE, CUL, TuevNord	117
EVT012	CRUUS	199	GI505S	CE, CUL, TuevNord	119
EVT013	CRUUS	127, 171	GI701S	CE, CUL, TuevNord	117
EVT014	CRUUS	199	GI711S	CE, CUL, TuevNord	117
EVT015	CRUUS	199	GI712S	CE, CUL, TuevNord	117
EVT040	CRUUS	197	GM504S	CE, CUL, TuevNord	119
EVT041	CRUUS	197	GM505S	CE, CUL, TuevNord	119
EVT042	CRUUS	197	GM701S	CE, CUL, TuevNord	117
EVT043	CRUUS	153, 155	GM705S	CE, CUL, TuevNord	117
EVT044	CRUUS	197	IFT200	CE, CUL, (CCC)	77
EVT058	CRUUS	197	IFT201	CE, CUL, (CCC)	77
EVT059	CRUUS	197	IFT202	CE, CUL, (CCC)	77
EVT060	CRUUS	197	IFT203	CE, CUL, (CCC)	77
EVT061	CRUUS	197	IFT204	CE, CUL, (CCC)	77
EVT062	CRUUS	189, 197	IFT205	CE, CUL, (CCC)	77
EVT063	CRUUS	189	IFT206	CE, CUL, (CCC)	79
EVT123	CRUUS	197	IFT207	CE, CUL, (CCC)	79
EVT124	CRUUS	197	IFT208	CE, CUL, (CCC)	79
EVT125	CRUUS	197	IFT209	CE, CUL, (CCC)	79
EVT127	CRUUS	198	IFT212	CE, CUL	79
EVT128	CRUUS	198	IFT213	CE, CUL, (CCC)	79
EVT129	CRUUS	198	IFT240	CE, CUL, (CCC)	73
EVT131	CRUUS	198	IFT244	CE, CUL, (CCC)	75
EVT132	CRUUS	198	IFT245	CE, CUL, (CCC)	73
EVT133	CRUUS	198	IFT246	CE, CUL, (CCC)	75
EVT135	CRUUS	198	IGT001	CCC, CE, CUL	89
EVT136	CRUUS	198	IGT002	CCC, CE, CUL	89
EVT137	CRUUS	198	IGT200	CE, CUL, (CCC)	81
EVT139	CRUUS	198	IGT201	CE, CUL, (CCC)	81
EVT140	CRUUS	198	IGT202	CE, CUL, (CCC)	81
EVT141	CRUUS	198	IGT203	CE, CUL, (CCC)	81
EY1004	CE	129	IGT204	CE, CUL, (CCC)	81
EY1006	CE	129	IGT205	CE, CUL, (CCC)	81
EY1007	CE	129	IGT206	CE, CUL, (CCC)	83
EY1011	CE	129	IGT207	CE, CUL, (CCC)	83
EY1013	CE	129	IGT208	CE, CUL, (CCC)	83
EY2001	CE	205	IGT209	CE, CUL, (CCC)	83
EY2002	CE	205	IGT213	CE, CUL, (CCC)	83
EY2003	CE	205	IGT214	CE, CUL, (CCC)	83
EY2004	CE	205	IGT215	CE, CUL, (CCC)	83

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IGT247	CE, CUL, (CCC)	73	O1D300	CE, CUL, (CCC)	107
IGT248	CE, CUL, (CCC)	75	O2D220	CE, CUL, (CCC)	111
IGT249	CE, CUL, (CCC)	73	O2D222	CE, CUL, (CCC)	111
IGT250	CE, CUL, (CCC)	75	O2D224	CE, CUL, (CCC)	111
IIT001	CCC, CE, CUL	89	O2D225	CE, CUL, (CCC)	111
IIT002	CCC, CE, CUL	89	O2D227	CE, CUL, (CCC)	111
IIT200	CE, CUL, (CCC)	85	O2D229	CE, CUL, (CCC)	111
IIT202	CE, CUL, (CCC)	85	O2I100	CE, CUL, (CCC)	191
IIT204	CE, CUL, (CCC)	85	O2I101	CE, CUL, (CCC)	191
IIT205	CE, CUL, (CCC)	85	O2I102	CE, CUL, (CCC)	191
IIT206	CE, CUL, (CCC)	87	O2I103	CE, CUL, (CCC)	191
IIT207	CE, CUL, (CCC)	87	O2I104	CE, CUL, (CCC)	191
IIT208	CE, CUL, (CCC)	87	O2I105	CE, CUL, (CCC)	191
IIT209	CE, CUL, (CCC)	87	O2V100	CE, CUL, (CCC)	113
IIT210	CE, CUL, (CCC)	87	O2V101	CE, CUL, (CCC)	113
IIT212	CE, CUL, (CCC)	85	O2V102	CE, CUL, (CCC)	113
IIT213	CE, CUL, (CCC)	85	O2V103	CE, CUL, (CCC)	113
IIT228	CE, CUL, (CCC)	73	O2V104	CE, CUL, (CCC)	113
IIT230	CE, CUL, (CCC)	75	O2V105	CE, CUL, (CCC)	113
IIT231	CE, CUL, (CCC)	73	O3D200	CE, CUL, (CCC)	115
IIT232	CE, CUL, (CCC)	75	O5C500	CE, CUL, (CCC)	109
IN0117	CCC, CE, CSA	169	O5G500	CE, CUL, (CCC)	109
IN5224	CE, (CCC)	169	O5K500	CE, CUL, (CCC)	109
IN5327	CE, CUL, (CCC)	169	O6E300	CE, UL, (CCC)	103
IN5409	CE, (CCC)	169	O6E301	CE, (CCC)	103
IX5010	CE, (CCC)	171	O6E304	CE, UL, (CCC)	105
IX5030	CE, (CCC)	171	O6E305	CE, (CCC)	105
KG0016	CCC, CE	91	O6H300	CE, UL, (CCC)	103
KG5057	CE, (CCC)	91	O6H301	CE, (CCC)	103
KI0016	CCC, CE, CUL	91	O6H304	CE, UL, (CCC)	105
KI5002	CE, CUL, (CCC)	91	O6H305	CE, (CCC)	105
KI5087	CE, CUL	91	O6P300	CE, UL, (CCC)	103
KQ6005	CE, CUL	91	O6P301	CE, (CCC)	103
LMT100	CE, CUL, EHEDG, FDA	151	O6P304	CE, UL, (CCC)	105
LMT110	CE, CUL, EHEDG, FDA	151	O6P305	CE, (CCC)	105
LMT121	CE, CUL, EHEDG, FDA	151	O6S300	CE, UL, (CCC)	103, 105
MFT202	CE, CUL, (CCC)	93	O6S301	CE, (CCC)	103, 105
MGT201	CE, (CCC)	93	O6T300	CE, UL, (CCC)	103
MGT203	CE, CUL, (CCC)	93	O6T301	CE, (CCC)	103
MK5110	CE, CUL, (CCC)	95	O6T304	CE, UL, (CCC)	105
MK5111	CE, CUL, (CCC)	95	O6T305	CE, (CCC)	105
MK5157	CE, CUL, (CCC)	95	OGE300	CE, CUL, (CCC)	97
MK5158	CE, CUL, (CCC)	95	OGE301	CE, CUL, (CCC)	97
MK5186	CE, UL, (CCC)	95	OGE302	CE, CUL, (CCC)	99
O1D100	CE, CUL, (CCC)	107	OGE303	CE, CUL, (CCC)	99
O1D101	CE, CUL, (CCC)	107	OGE380	CE, CUL, (CCC)	101
O1D103	CE, CUL, (CCC)	107	OGE381	CE, CUL, (CCC)	101
O1D104	CE, CUL, (CCC)	107	OGE382	CE, CUL, (CCC)	101

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OGH300	CE, CUL, (CCC)	97	OY114S	CE, CUL, (CCC)	127
OGH301	CE, CUL, (CCC)	97	OY115S	CE, CUL, (CCC)	127
OGH302	CE, CUL, (CCC)	97	OY116S	CE, CUL, (CCC)	127
OGH303	CE, CUL, (CCC)	97	OY403S	CE, CUL, (CCC)	125
OGH304	CE, CUL, (CCC)	97	OY405S	CE, CUL, (CCC)	125
OGH305	CE, CUL, (CCC)	97	OY407S	CE, CUL, (CCC)	125
OGH306	CE, CUL, (CCC)	99	OY411S	CE, CUL, (CCC)	131
OGH307	CE, CUL, (CCC)	99	OY4125	CE, CUL, (CCC)	131
OGH308	CE, CUL, (CCC)	99	OY413S	CE, CUL, (CCC)	131
OGH309	CE, CUL, (CCC)	99	OY421S	CE, CUL, (CCC)	131
OGH310	CE, CUL, (CCC)	99	OY422S	CE, CUL, (CCC)	131
OGH311	CE, CUL, (CCC)	99	OY423S	CE, CUL, (CCC)	131
OGH380	CE, CUL, (CCC)	101	OY433S	CE, CUL, (CCC)	125
OGH381	CE, CUL, (CCC)	101	OY434S	CE, CUL, (CCC)	125
OGH382	CE, CUL, (CCC)	101	OY435S	CE, CUL, (CCC)	125
OGH383	CE, CUL, (CCC)	101	OY436S	CE, CUL, (CCC)	125
OGP300	CE, CUL, (CCC)	97	OY437S	CE, CUL, (CCC)	125
OGP301	CE, CUL, (CCC)	97	OY438S	CE, CUL, (CCC)	125
OGP302	CE, CUL, (CCC)	99	OY439S	CE, CUL, (CCC)	125
OGP303	CE, CUL, (CCC)	99	OY440S	CE, CUL, (CCC)	125
OGS300	CE, CUL, (CCC)	97	OY443S	CE, CUL, (CCC)	125
OGS301	CE, CUL, (CCC)	99	OY444S	CE, CUL, (CCC)	125
OGS380	CE, CUL, (CCC)	101	OY445S	CE, CUL, (CCC)	125
OY034S	CE, CUL, (CCC)	121	OY446S	CE, CUL, (CCC)	125
OY036S	CE, CUL, (CCC)	121	OY447S	CE, CUL, (CCC)	125
OY038S	CE, CUL, (CCC)	121	OY448S	CE, CUL, (CCC)	125
OY044S	CE, CUL, (CCC)	121	OY449S	CE, CUL, (CCC)	125
OY046S	CE, CUL, (CCC)	121	OY450S	CE, CUL, (CCC)	125
OY048S OY054S	CE, CUL, (CCC) CE, CUL, (CCC)	121 121	OY901S OY902S	CE, CUL, (CCC)	129 129
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OY058S	CE, CUL, (CCC) CE, CUL, (CCC)	121	PG2789	CE, CUL, (CCC) CE, EHEDG, FDA	139
OY064S	CE, CUL, (CCC)	121	PG2793	CE, CUL, EHEDG, FDA	139
OY066S	CE, CUL, (CCC)	121	PG2794	CE, CUL, EHEDG, FDA	139
OY068S	CE, CUL, (CCC)	121	PG2795	CE, CUL, EHEDG, FDA	139
OY074S	CE, CUL, (CCC)	123	PG2796	CE, CUL, EHEDG, FDA	139
OY076S	CE, CUL, (CCC)	123	PG2797	CE, CUL, EHEDG, FDA	139
OY078S	CE, CUL, (CCC)	123	PG2798	CE, CUL, EHEDG, FDA	139
OY084S	CE, CUL, (CCC)	123	PG2799	CE, CUL, EHEDG, FDA	139
OY086S	CE, CUL, (CCC)	123	PG2889	CE, CUL, EHEDG, FDA	141
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More than just sensors: ifm electronic offers a wide range of solutions for the food industry. On the following pages you will find an overview of all the products summarized into categories. In addition to the system descriptions we will also show you the most important features of the units. For more information please visit us online at www.ifm.com

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Full-metal inductive sensors 3-wire DC PNP, connector



- Sensing face and stainless-steel housing protect against damage
- Resistant to industrial alkalis and acids
- High temperature range up to 100 °C, temperature shock resistant
- Absolutely ingress-resistant to IP 68 / IP 69K, resists high-pressure and steam cleaning
- Clearly visible switch point indication via LED for quick and safe mounting















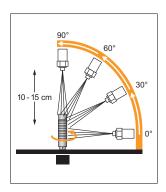
For high temperatures in the food and beverage industry

The ifm full metal sensors with sensing face made of stainless steel are made for position detection in extreme environments as in the food and beverage industry. The high-grade stainless steel sensor housing is resistant to industrial cleaning agents. The 100 % ingress-resistant sensor housing with protection rating IP 69K prevents the penetration of liquids during high-pressure and steam cleaning. The high-grade stainless steel housing resists damage caused by impact e.g. in distribution plates.

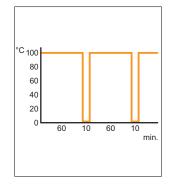
Tested to extremes

Stainless steel sensors from ifm are subjected to numerous tests to ensure reliable functioning in the application.





High-pressure cleaning test IP 69K: Spray test with 100 bar from a distance of 10 to 15 cm. The hot water at 80 °C is sprayed in cycles of 30 seconds.



Temperature shock test: The sensors are subjected to temperature fluctuations from 0 to 100 °C in short intervals.

Full metal	sensors for h	ygienic ar	nd wet areas					
Туре	Dimensions	Sensing range	Material	U _b	Protection	f	lload	Order no.
	[mm]	[mm]		[V]		[Hz]	[mA]	
M12 connecto	or · Output function	n · 3-wi	re · DC PNP					
	M12 / L = 60	3 f	high-grade st. steel	1036	IP 68 / IP 69K	100	100	IFT240
6-11	M12 / L = 70	6 nf	high-grade st. steel	1036	IP 65 / IP 67 / IP 68 / IP 69K	500	100	IFT245
-==	M18 / L = 70	5 f	high-grade st. steel	1036	IP 68 / IP 69K	100	100	IGT247
	M18 / L = 70	12 nf	high-grade st. steel	1036	IP 65 / IP 67 / IP 68 / IP 69K	500	100	IGT249
	M30 / L = 70	10 f	high-grade st. steel	1036	IP 68 / IP 69K	50	100	IIT228
=	M30 / L = 70	25 nf	high-grade st. steel	1036	IP 65 / IP 67 / IP 68 / IP 69K	250	100	IIT231

Connector	rs							
Туре	Cable	Wire specification	Material housing / nut	U [V]	T _a [°C]	Pro- tection	LEDs	Order no.
Socket 12, 5/4	1-pole, 4-wire							
	5 m orange PVC cable	4 x 0.34 mm², Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT004
	5 m orange PVC cable	4 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT001



Full-metal inductive sensors 3-wire DC NPN, connector



- Sensing face and stainless-steel housing protect against damage
- Resistant to industrial alkalis and acids
- High temperature range up to 100 °C, temperature shock resistant
- Absolutely ingress-resistant to IP 68 / IP 69K resists high-pressure and steam cleaning
- Clearly visible switch point indication via LED for quick and safe mounting















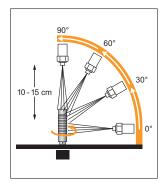
For high temperatures in the food and beverage industry

The ifm full metal sensors with sensing face made of stainless steel are made for position detection in extreme environments as in the food and beverage industry. The high-grade stainless steel sensor housing is resistant to industrial cleaning agents. The 100 % ingress-resistant sensor housing with protection rating IP 69K prevents the penetration of liquids during high-pressure and steam cleaning. The high-grade stainless steel housing resists damage caused by impact e.g. in distribution plates.

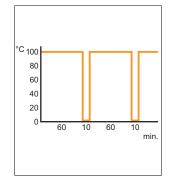
Tested to extremes

Stainless steel sensors from ifm are subjected to numerous tests to ensure reliable functioning in the application.





High-pressure cleaning test IP 69K: Spray test with 100 bar from a distance of 10 to 15 cm. The hot water at 80 °C is sprayed in cycles of 30 seconds.



Full metal	sensors for h	ygienic ar	nd wet areas					
Туре	Dimensions	Sensing range	Material	U _b	Protection	f	lload	Order no.
	[mm]	[mm]		[V]		[Hz]	[mA]	
M12 connecto	or · Output function	n · 3-wi	re · DC NPN					
	M12 / L = 60	3 f	high-grade st. steel	1036	IP 68 / IP 69K	100	100	IFT244
54 1	M12 / L = 70	6 nf	high-grade st. steel	1036	IP 65 / IP 67 / IP 68 / IP 69K	500	100	IFT246
	M18 / L = 70	5 f	high-grade st. steel	1036	IP 68 / IP 69K	100	100	IGT248
	M18 / L = 70	12 nf	high-grade st. steel	1036	IP 65 / IP 67 / IP 68 / IP 69K	500	100	IGT250
-	M30 / L = 70	10 f	high-grade st. steel	1036	IP 68 / IP 69K	50	100	IIT230
=	M30 / L = 70	25 nf	high-grade st. steel	1036	IP 65 / IP 67 / IP 68 / IP 69K	250	100	IIT232

Connector	'S							
Туре	Cable	Wire specification	Material housing / nut	U [V]	T _a [°C]	Pro- tection	LEDs	Order no.
Socket 12, 5/4	-pole, 4-wire							
	5 m orange PVC cable	4 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT004
	5 m orange PVC cable	4 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT001



Inductive sensors, M12 3-wire DC PNP / 2-wire DC PNP / NPN, connector



- High-grade stainless steel housing with IP 68 / IP 69K, resists even high-pressure cleaning
- Extended sensing range reduces the risk of mechanical damage
- Food-grade and temperature-resistant housing (PEEK), gold-plated contacts
- Ecolab certified resistant to cleaning agents and rough environments
- Clearly visible switch point indication via LED for quick and safe mounting















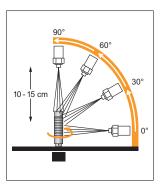
Position detection in the food and beverage industry

These inductive sensors have been designed for the reliable position detection in the food and beverage industry. Two output functions are available: 3-wire DC PNP and 2-wire DC PNP / NPN. The high-grade stainless steel housing with protection rating IP 69K prevents the penetration of liquids in environments with high-pressure cleaning. The material of the active face made of FDA approved PEEK is resistant to extreme temperature fluctuations from 0 to 100 °C.

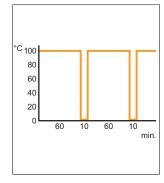
Increased sensing range

The sensing range of the inductive ifm sensors is up to twice as long as that of conventional sensors with the same housing length. The distance between the sensors and the object to be detected can be long, which is an additional protection against mechanical damage.





High-pressure cleaning test IP 69K: Spray test with 100 bar from a distance of 10 to 15 cm. The hot water at 80 °C is sprayed in cycles of 30 seconds.



Sensors fo	or hygienic and	d wet are	as with incr	rease	ed sens	sing r	ange			
Туре	Dimensions	Sensing range	Material		U _b		Protection	f	l _{load}	Order no.
	[mm]	[mm]			[V]			[Hz]	[mA]	
M12 connecto	or · Output function	ı · 3-wi	re · DC PNP							
	M12 / L = 45	4 f	high-grade st. ste	eel	1036		IP 68 / IP 69K	800	100	IFT203
	M12 / L = 50	7 nf	high-grade st. ste	eel	1036		IP 68 / IP 69K	800	100	IFT200
M12 connecto	or · Output function	ı	re · DC PNP							
	M12 / L = 45	4 f	high-grade st. ste	eel	1036		IP 68 / IP 69K	800	100	IFT204
	M12 / L = 50	7 nf	high-grade st. ste	eel	1036		IP 68 / IP 69K	800	100	IFT201
M12 connecto	or · Output function	ı · 3-wi	re · 3-wire DC P	NP·2	-wire DC	PNP/N	PN			
	M12 / L = 70	4 f	high-grade st. ste	eel	1036		IP 68 / IP 69K	500	100	IFT205
	M12 / L = 70	7 nf	high-grade st. ste	eel	1030		IP 68 / IP 69K	700	100	IFT202
f = flush / nf =	= non flush									
Connecto	rs									
Туре	Cable		ire ication	Mate housi nu	ng /	U [V]	T _a [°C]	Pro- tection	LEDs	Order no.
Socket 12, 5/4	1-pole, 4-wire									
	5 m orange PVC cable	4 x 0.34 mm	,	PVC stainless 316L / 1	s steel	250 A0 300 D0		IP 67 / IP 68 / IP 69K	-	EVT004
	5 m orange PVC cable	4 x 0.34 mm		PVC stainless 316L / 1	s steel	250 A0 300 D0		IP 67 / IP 68 / IP 69K	-	EVT001



Inductive sensors, M12 3-wire DC PNP, connection cable



- High-grade stainless steel housing with IP 68 / IP 69K, resists even high-pressure cleaning
- Extended sensing range reduces the risk of mechanical damage
- Food-grade and temperature-resistant housing (PEEK), gold-plated contacts
- Ecolab certified resistant to cleaning agents and rough environments
- Clearly visible LED switch point indication for quick and safe mounting















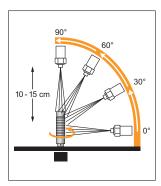
Position detection in the food and beverage industry

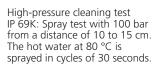
These inductive sensors have been designed for the reliable position detection in the food and beverage industry. A 3-wire DC PNP connection is available for output functions. The high-grade stainless steel housing with protection rating IP 69K prevents the penetration of liquids in environments with high-pressure cleaning. The material of the active face made of FDA approved PEEK is resistant to extreme temperature fluctuations from 0 to 100 °C.

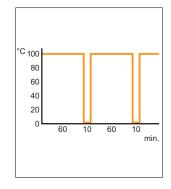
Increased sensing range

The sensing range of the inductive ifm sensors is up to twice as long as that of conventional sensors with the same housing length. The distance between the sensors and the object to be detected can be long, which is an additional protection against mechanical damage.









Temperature shock test: The sensors are subjected to temperature fluctuations from 0 to 100 °C in short intervals.

Sensors fo	r hygienic an	d wet are	as with increa	sed sensing	range					
Туре	Dimensions	Sensing range	Material	Ub	Protection	f	l _{load}	Order no.		
	[mm]	[mm]		[V]		[Hz]	[mA]			
Cable 6 m · Ou	utput function —	_ · 3-wire · D	C PNP							
	M12 / L = 50	4 f	high-grade st. steel	1036	IP 68 / IP 69K	800	100	IFT206		
	M12 / L = 61	7 nf	high-grade st. steel	1036	IP 68 / IP 69K	800	100	IFT208		
Cable 6 m · Output function · 3-wire · 3-wire DC PNP · 2-wire DC PNP/NPN										
	M12 / L = 79	7 nf	high-grade st. steel	1030	IP 68 / IP 69K	700	100	IFT213		
Cable 10 m · C	Output function _	· 3-wire ·	DC PNP							
	M12 / L = 50	4 f	high-grade st. steel	1036	IP 68 / IP 69K	800	100	IFT207		
	M12 / L = 61	7 nf	high-grade st. steel	1036	IP 68 / IP 69K	800	100	IFT209		
Cable 20 m · C	Output function _	· 3-wire ·	DC PNP							
	M12 / L = 61	7 nf	high-grade st. steel	1036	IP 68 / IP 69K	800	100	IFT212		



Inductive sensors, M18 3-wire DC PNP / 2-wire DC PNP / NPN, connector



- High-grade stainless steel housing with IP 68 / IP 69K, resists even high-pressure cleaning
- Extended sensing range reduces the risk of mechanical damage
- Food-grade and temperature-resistant housing (PEEK), gold-plated contacts
- Ecolab certified resistant to cleaning agents and rough environments
- Clearly visible LED switch point indication for quick and safe mounting















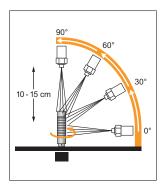
Position detection in the food and beverage industry

These inductive sensors have been designed for the reliable position detection in the food and beverage industry. Two output functions are available: 3-wire DC PNP and 2-wire DC PNP / NPN. The high-grade stainless steel housing with protection rating IP 69K prevents the penetration of liquids in environments with high-pressure cleaning. The material of the active face made of FDA approved PEEK is resistant to extreme temperature fluctuations from 0 to 100 °C.

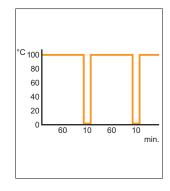
Increased sensing range

The sensing range of the inductive ifm sensors is up to twice as long as that of conventional sensors with the same housing length. The distance between the sensors and the object to be detected can be long, which is an additional protection against mechanical damage.





High-pressure cleaning test IP 69K: Spray test with 100 bar from a distance of 10 to 15 cm. The hot water at 80 °C is sprayed in cycles of 30 seconds.



Туре	Dimensions	Sensing range	Materia	al	Ub		P	rotection	f	l _{load}	Order no.
	[mm]	[mm]			[V]				[Hz]	[mA]	
/112 connecto	r · Output function	n · 3-w	ire · DC PNP								
	M18 / L = 46	8 f	high-grade st	t. steel	103	36	IP	68 / IP 69K	600	100	IGT20
	M18 / L = 51	12 nf	high-grade st	t. steel	103	86	IP	68 / IP 69K	300	100	IGT20
	M18 / L = 70	8 f	high-grade st	t. steel	103	86	IP	68 / IP 69K	400	100	IGT21
	M18 / L = 70	12 nf	high-grade st	t. steel	103	36	IP	68 / IP 69K	300	100	IGT22
/112 connecto	r · Output function	n <u> </u>	ire · DC PNP								
	M18 / L = 46	8 f	high-grade st	t. steel	103	36	IP	68 / IP 69K	600	100	IGT20
	M18 / L = 51	12 nf	high-grade st	t. steel	103	36	IP	68 / IP 69K	300	100	IGT20
/112 connecto	r · Output function	n · 3-w	ire · 3-wire D	C PNP ·	2-wire D	C PNP/	NPN				
	M18 / L = 70	8 f	high-grade st	t. steel	103	36	IP	68 / IP 69K	400	100	IGT20
	M18 / L = 70	12 nf	high-grade st	t. steel	103	30	IP	68 / IP 69K	300	100	IGT20
= flush / nf =	non flush										
Connector	s										
Туре	Cable		Vire fication	hou	terial Ising / nut	U [V]	l	T _a [°C]	Pro- tection	LEDs	Order no.
ocket 12, 5/4	-pole, 4-wire										
	5 m orange PVC cable	4 x 0.34 mr	m², Ø 4.9 mm	stainle	VC / ess steel / 1.4404	250 / 300 [-25100	IP 67 / IP 68 / IP 69K	-	EVT00
				B	VC /						



Inductive sensors, M18 3-wire DC PNP, connection cable



- High-grade stainless steel housing with IP 68 / IP 69K, resists even high-pressure cleaning
- **Extended sensing range reduces** the risk of mechanical damage
- Food-grade and temperature-resistant housing (PEEK), gold-plated contacts
- Ecolab certified resistant to cleaning agents and rough environments
- Clearly visible LED switch point indication for quick and safe mounting















Position detection in the food and beverage industry

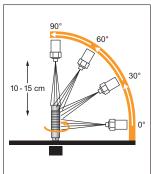
These inductive sensors have been designed for the reliable position detection in the food and beverage industry. A 3-wire DC PNP connection is available for output functions. The high-grade stainless steel housing with protection rating IP 69K prevents the penetration of liquids in environments with high-pressure cleaning. The material of the active face made of FDA approved PEEK is resistant to extreme temperature fluctuations from 0 to 100 °C.

Increased sensing range

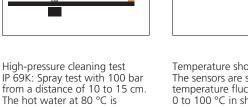
The sensing range of the inductive ifm sensors is up to twice as long as that of conventional sensors with the same housing length. The distance between the sensors and the object to be detected can be long, which is an additional protection against mechanical damage.



60 40 20



sprayed in cycles of 30 seconds.



range [mm] [v] [V] Cable 6 m · Output function				range	sed sensing	as with increa	d wet are	or hygienic an	Sensors fo
Cable 6 m · Output function	oad Order no.	l _{load}	f	Protection	U _b	Material		Dimensions	Туре
M18 / L = 57 8 f high-grade st. steel 1036 IP 68 / IP 69 K 600 M18 / L = 62 12 nf high-grade st. steel 1036 IP 68 / IP 69 K 300	nA]	[mA]	[Hz]		[V]		[mm]	[mm]	
M18 / L = 62 12 nf high-grade st. steel 1036 IP 68 / IP 69 K 300						OC PNP	_ · 3-wire · D	utput function —	Cable 6 m · Ou
	00 IGT206	100	600	IP 68 / IP 69K	1036	high-grade st. steel	8 f	M18 / L = 57	
Cable 10 m · Output function · 3-wire · DC PNP	00 IGT208	100	300	IP 68 / IP 69K	1036	high-grade st. steel	12 nf	M18 / L = 62	
						DC PNP	· 3-wire ·	Output function _	Cable 10 m · C
M18 / L = 57 8 f high-grade st. steel 1036 IP 68 / IP 69 K 600	00 IGT207	100	600	IP 68 / IP 69K	1036	high-grade st. steel	8 f	M18 / L = 57	
M18 / L = 62 12 nf high-grade st. steel 1036 IP 68 / IP 69 K 300	00 IGT209	100	300	IP 68 / IP 69K	1036	high-grade st. steel	12 nf	M18 / L = 62	
Cable 10 m · Output function · 3-wire · 3-wire DC PNP · 2-wire DC PNP/NPN				I	vire DC PNP/NPN	3-wire DC PNP · 2-v	· 3-wire ·	Output function _	Cable 10 m · C
M18 / L = 81 12 nf high-grade st. steel 1030 IP 68 / IP 69 K 300	00 IGT213	100	300	IP 68 / IP 69K	1030	high-grade st. steel	12 nf	M18 / L = 81	
M12 connector · Output function · 3-wire · 3-wire DC PNP · 2-wire DC PNP/NPN				NPN	· 2-wire DC PNP/	re · 3-wire DC PNP	n · 3-wi	or · Output function	M12 connecto
M18 / L = 70 5 f high-grade st. steel 1030 IP 68 / IP 69K 400	00 IGT214	100	400	IP 68 / IP 69K	1030	high-grade st. steel	5 f	M18 / L = 70	
Cable 25 m · Output function — · 3-wire · DC PNP						DC PNP	· 3-wire ·	Output function _	Cable 25 m · C
M18 / L = 62 12 nf high-grade st. steel 1036 IP 68 / IP 69K 300	00 IGT215	100	300	IP 68 / IP 69K	1036	high-grade st. steel	12 nf	M18 / L = 62	



Inductive sensors, M30 3-wire DC PNP / 2-wire DC PNP / NPN, connector



- High-grade stainless steel housing with IP 68 / IP 69K, resists even high-pressure cleaning
- Extended sensing range reduces the risk of mechanical damage
- Food-grade and temperature-resistant housing (PEEK), gold-plated contacts
- Ecolab certified resistant to cleaning agents and rough environments
- Clearly visible LED switch point indication for quick and safe mounting













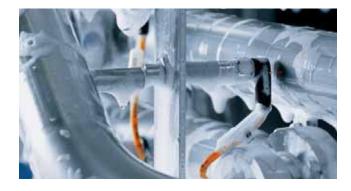


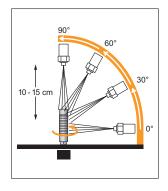
Position detection in the food and beverage industry

These inductive sensors have been designed for the reliable position detection in the food and beverage industry. Two output functions are available: 3-wire DC PNP and 2-wire DC PNP / NPN. The high-grade stainless steel housing with protection rating IP 69K prevents the penetration of liquids in environments with high-pressure cleaning. The material of the active face made of FDA approved PEEK is resistant to extreme temperature fluctuations from 0 to 100 °C.

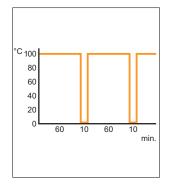
Increased sensing range

The sensing range of the inductive ifm sensors is up to twice as long as that of conventional sensors with the same housing length. The distance between the sensors and the object to be detected can be long, which is an additional protection against mechanical damage.





High-pressure cleaning test IP 69K: Spray test with 100 bar from a distance of 10 to 15 cm. The hot water at 80 °C is sprayed in cycles of 30 seconds.



Туре	Dimensions	Sensing range	Materia	ı	Ub		Pro	otection	f	l _{load}	Order no.
	[mm]	[mm]			[V]				[Hz]	[mA]	
VI12 connecto	or · Output function	n · 3-wi	re · DC PNP								
	M30 / L = 50	14 f	high-grade st	. steel	103	86	IP 6	8 / IP 69K	100	100	IIT205
	M30 / L = 50	22 nf	high-grade st	. steel	103	36	IP 6	8 / IP 69K	100	100	IIT200
	M30 / L = 70	15 f	high-grade st	. steel	103	36	IP 6	8 / IP 69K	100	100	IIT212
	M30 / L = 70	22 nf	high-grade st	. steel	103	86	IP 6	8 / IP 69K	100	100	IIT213
VI12 connecto	or · Output function	n · 3-wi	re · 3-wire Do	C PNP	2-wire D	C PNP/I	NPN				
	M30 / L = 70	14 f	high-grade st	. steel	103	36	IP 6	8 / IP 69K	50	100	IIT204
	M30 / L = 70	22 nf	high-grade st	. steel	103	36	IP 6	8 / IP 69K	100	100	IIT202
= flush / nf =	non flush										
Connecto	rs										
Туре	Cable		lire ication	hou	aterial using / nut	U [V]		T _a [°C]	Pro- tection	LEDs	Order no.
Socket 12, 5/4	1-pole, 4-wire										
	5 m orange PVC cable	4 x 0.34 mn	n², Ø 4.9 mm	stain	VC / less steel / 1.4404	250 A 300 [-25100	IP 67 / IP 68 / IP 69K	_	EVT00



Inductive sensors, M30 3-wire DC PNP / 2-wire DC PNP / NPN, connection cable



- High-grade stainless steel housing with IP 68 / IP 69K, resists even high-pressure cleaning
- Extended sensing range reduces the risk of mechanical damage
- Food-grade and temperature-resistant housing (PEEK), gold-plated contacts
- Ecolab certified resistant to cleaning agents and rough environments
- Clearly visible LED switch point indication for quick and safe mounting















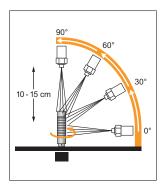
Position detection in the food and beverage industry

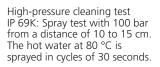
These inductive sensors have been designed for the reliable position detection in the food and beverage industry. Two output functions are available: 3-wire DC PNP and 2-wire DC PNP / NPN. The high-grade stainless steel housing with protection rating IP 69K prevents the penetration of liquids in environments with high-pressure cleaning. The material of the active face made of FDA approved PEEK is resistant to extreme temperature fluctuations from 0 to 100 °C.

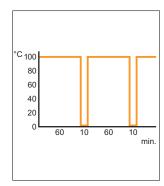
Increased sensing range

The sensing range of the inductive ifm sensors is up to twice as long as that of conventional sensors with the same housing length. The distance between the sensors and the object to be detected can be long, which is an additional protection against mechanical damage.









Temperature shock test: The sensors are subjected to temperature fluctuations from 0 to 100 °C in short intervals.

Sensors fo	or hygienic an	d wet are	as with increa	sed sensing	range			
Туре	Dimensions	Sensing range	Material	U _b	Protection	f	l _{load}	Order no.
	[mm]	[mm]		[V]		[Hz]	[mA]	
Cable 6 m · Ou	utput function —	_ · 3-wire · D	C PNP					
	M30 / L = 59	22 nf	high-grade st. steel	1036	IP 68 / IP 69K	100	100	IIT207
	M30 / L = 59	14 f	high-grade st. steel	1036	IP 68 / IP 69K	100	100	IIT209
Cable 10 m · C	Output function _	· 3-wire ·	DC PNP					
	M30 / L = 59	14 f	high-grade st. steel	1036	IP 68 / IP 69K	100	100	IIT206
	M30 / L = 59	22 nf	high-grade st. steel	1036	IP 68 / IP 69K	100	100	IIT208
Cable 10 m · C	Output function _	· 3-wire ·	3-wire DC PNP · 2-w	vire DC PNP/NPN				
	M30 / L = 81	14 f	high-grade st. steel	1036	IP 68 / IP 69K	100	100	IIT210



Inductive sensors 2-wire AC/DC, connector



- High-grade stainless steel housing with IP 68 / IP 69K, resists even high-pressure cleaning
- Extended sensing range reduces the risk of mechanical damage
- Food-grade and temperature-resistant housing (PEEK), gold-plated contacts
- Ecolab certified resistant to cleaning agents and rough environments
- Clearly visible LED switch point indication for quick and safe mounting















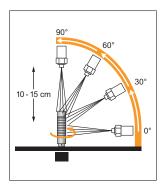
Inductive AC/DC sensors for the food and beverage industry

These inductive sensors have been designed for the reliable position detection in the food and beverage industry. The high-grade stainless steel housing with protection rating IP 69K prevents the penetration of liquids in environments with high-pressure cleaning. The material of the active face made of FDA approved PEEK is resistant to extreme temperature fluctuations from 0 to 100 °C.

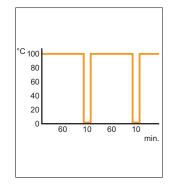
Increased sensing range

The sensing range of the inductive ifm sensors is up to twice as long as that of conventional sensors with the same housing length. The distance between the sensors and the object to be detected can be long, which is an additional protection against mechanical damage.





High-pressure cleaning test IP 69K: Spray test with 100 bar from a distance of 10 to 15 cm. The hot water at 80 °C is sprayed in cycles of 30 seconds.



Туре	Dimensions	Sensing range	Material	U _b	Protection	f	l _{load}	Order no.
	[mm]	[mm]		[V]		[Hz]	[mA]	
1/2" UNF-Con	nector · Output fu	nction	2-wire · AC/DC					
	M18 / L = 70	5 f	high-grade st. steel	20140	IP 68 / IP 69K	25 / 400	200	IGT002
	M18 / L = 70	12 nf	high-grade st. steel	20140	IP 68 / IP 69K	25/300	200	IGT001
	M30 / L = 70	14 f	high-grade st. steel	20140	IP 68 / IP 69K	25 / 100	200	IIT001
	M30 / L = 70	22 nf	high-grade st. steel	20140	IP 68 / IP 69K	25 / 100	200	IIT002

f	— fl	ıısh	/nf	= nor	n fliid	sh

1/2" socke	ets for industri	al applications						
Туре	Cable	Wire specification	Material housing / nut	U [V]	T _a [°C]	Pro- tection	LEDs	Order no.
1/2" connecto	or 5 m · 3-wire · AC/[OC .						
A	-	-	TPU	250	IP 67	-	-	E10200
130	-	-	TPU	250	IP 67	-	-	E10191

Capacitive sensors



- High noise immunity guarantees high operational reliability
- Sensing range adjustable by means of a potentiometer or pushbuttons
- Plastic or metal housing for different applications
- Capacitive sensors for position and level detection
- Different mounting accessories for tank and sight glass (bypass)











Capacitive sensors

Capacitive sensors are used for the non-contact detection of any objects as well as for level monitoring. In contrast to inductive sensors, which only detect metallic objects, capacitive sensors can also detect non-metallic materials.

Typical applications are in the wood, paper, glass, plastic, food and chemical industries. In packaging systems, capacitive sensors might check the presence of cardboard boxes, or monitor the medium level in a carton (e.g. full / empty check in milk cartons). Another application is the detection of sheets of glass or wood panels on a roller conveyor.



	or industrial a							
Type	Dimensions	Sensing range	Material	U _b	Protection	f AC / DC	I _{load} AC / DC	Order no.
	[mm]	[mm]		[V]		[Hz]	[mA]	
Cable 2 m · O	utput function —	_ · AC/DC						
	M30 / L = 81	15 nf	PBT	20250	IP 65	25 / 40	250	KI0016*
Cable 2 m · O	utput function —	_ · DC PNP						
	M30 / L = 81	15 nf	PBT	1036	IP 65	40	250	KI5002
M12 connecto	or · Output function	n/_Ł	· DC PNP					
	M30 / L = 90	15 nf	high-grade st. steel	1036	IP 65 / IP 67	10	100	KI5087
M12 connecto	or · Output function	n · DC P	NP					
	M18 / L = 93.8	8 nf	PBT	1036	IP 67	50	250	KG5057
1/2" UNF-Con	nector · Output fu	nction/	L · AC/DC					
	M18 / L = 87	12 nf	PBT	20250	IP 65 / IP 67	10	150	KG0016*
Cable with co	nnector 0.1 m · Ou	tput function	/_t · 1x o	pen collector DC	: PNP			
	20 x 14 x 48	12 nf	PBT	1036	IP 65 / IP 67	10	100	KQ6005

* Note for AC and AC/DC units

 $\label{eq:miniature fuse to IEC60127-2 sheet 1, ≤ 2 A (fast acting) Recommendation: check the unit for reliable function after a short (1.5) and (1.5) are the sum of th$ circuit.

Connector	rs							
Туре	Cable	Wire specification	Material housing / nut	U [V]	T _a [°C]	Pro- tection	LEDs	Order no.
Socket 12, 5/4	l-pole, 4-wire							
	5 m orange PVC cable	4 x 0.34 mm², Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT004
	5 m orange PVC cable	4 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT001



Magnetic sensors



- Absolutely ingress-resistant to IP 68 / IP 69K, resists high-pressure and steam cleaning
- Small housings with extended sensing ranges up to 100 mm
- Stainless steel sensing face and housing protect against damage
- High temperature range up to 100 °C, temperature shock resistant









Detection through covers

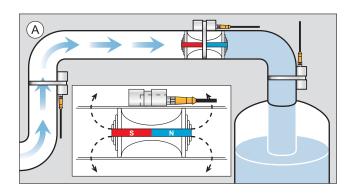
Magnetic sensors allow non-contact position detection even at high switching frequencies. They can detect a magnet through materials such as stainless steel, non-ferrous metal, aluminium, plastic or wood.

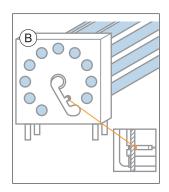
Long sensing range and high switching frequency

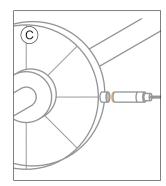
Thanks to the GMR technology (giant magneto resistive) the magnetic sensors have very long sensing ranges compared to inductive sensors. They detect magnets up to a distance of 100 mm. The maximum switching frequency of 5,000 Hz applies over the complete temperature range.

Examples:

- (A) Detection of a pig during the cleaning of pipes.
- (B) Magnetic sensors detect the U-tube position on a distribution plate by sensing a magnet through a stainless steel plate.
- (C) Reliable detection: The magnetic sensor from ifm is used for pulse evaluation at high speed.







Туре	Dimensions	Sensing range	Material	Ub		Protection	f	l _{load}	Order no.
	[mm]	[mm]		[V]			[Hz]	[mA]	
M12 connect	or · Output function	· DC PI	NP .						
	M12 / L = 60	60	high-grade st. steel	103	o ^{II}	P 65 / IP 68 / IP 69K	5000	100	MFT202
	M18 / L = 60	70	high-grade st. steel	103	o II	P 65 / IP 68 / IP 69K	5000	100	MGT203
	M18 / L = 60	100	high-grade st. steel	103) II	P 68 / IP 69K	-	200	MGT201
Accessori	es damping ma	agnets							
Туре			D	escription					Order no.
	Damping magnet · M 3	:.1 · Housing mat	erials: Barium ferrite /	stainless steel					E12291
	Damping magnet · M 4	I.1 · Housing mat	erials: Barium ferrite /	' stainless steel					E11803
Connecto	rs								
Туре	Cable	Wii specifio		laterial ousing / nut	U [V]	T _a [°C]	Pro- tection	LEDs	Order no.
	4-pole, 4-wire								
Socket 12, 5/-									
Socket 12, 5/-	5 m orange PVC cable	4 x 0.34 mm ²	, Ø 4.9 mm stai	PVC / nless steel L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT004

T-slot cylinder sensors



- Wear-free, without mechanical components (in contrast to reed switches)
- Simple installation on round cylinder by means of protective bracket and a jubilee clip
- High switching frequencies and travel speed possible
- Mounting accessories and adapters for different cylinder types







Compact housing and simple mounting for washdown environments

The small cylinder sensors can be easily mounted on clean line cylinders, even if space is at a premium. A protective bracket available as accessory protects the sensor in the application.

Advantages compared to reed switches

In contrast to reed switches the cylinder sensors work without mechanical components and thus without wear. This guarantees an unlimited number of switching cycles.

Mechanical wear of reed switches can lead to switch point drift.

The cylinder sensors from ifm however have a very good repeatability permanently. ifm sensors also function in case of weak magnetic fields. Reed switches require a higher field intensity. The cylinder sensors are also characterised by a fast response time.



Туре	Dimensions	Material	U _b	f	Protection	l _{load}	Ta	Order no.
	[mm]		[V]	[Hz]		[mA]	[°C]	
able 2 m · O	output function	_ · DC PNP						
CT .	25 x 5 x 6.5	PA (polyamide)	1030	10000	IP 65 / IP 67 / IP 69K	100	-2585	MK511
-	25 x 5 x 6.5	PA (polyamide)	1030	6000	IP 65 / IP 67 / IP 69K	100	-2585	MK51
able with co	onnector 0.3 m · Out	put function · DC	PNP					
	25 x 5 x 6.5	PA (polyamide)	1030	10000	IP 65 / IP 67 / IP 69K	100	-2585	MK51
	25 x 5 x 6.5	PA (polyamide)	1030	6000	IP 65 / IP 67 / IP 69K	100	-2585	MK51
able with co	onnector 0.3 m · Out	put function · DC	NPN					
	25 x 5 x 6.5	PA (polyamide)	1030	6000	IP 65 / IP 67 / IP 69K	100	-2585	MK51
ixing str	aps for clean li	ne cylinders						
Туре			Descriptio	n				Orde no.
	Fixing strap for clean-lir strap: stainless steel	ne cylinders · Piston diameter 2	025 mm · for ty	ype MKT · Hou:	sing materials: ada	apter: stainless st	eel / Fixing	E1197
	Fixing strap for clean-lir stainless steel	ne cylinders · Piston diameter 5	0 mm · for type N	MKT · Housing	materials: adapter	: stainless steel /	Fixing strap:	E119
onnecto	rs							
Туре	Cable	Wire specification	Material housing / nut	U [V]	T _a [°C]	Pro- tection	LEDs	Orde no.
ocket 12, 5/	4-pole, 4-wire							
	5 m orange PVC cable	4 x 0.34 mm², Ø 4.9 mm	PVC / stainless stee 316L / 1.4404	30010		IP 67 / IP 68 / IP 69K	-	EVT0
	5 m orange		PVC /	, 250 AC		IP 67 / IP 68 /		



Photoelectric sensors M18 design, connector



- Industrially compatible high-grade stainless steel M18 housing
- Ecolab certified resistant to cleaning agents and harsh environments
- Visible red light simplifies alignment and maintenance
- Plastic lens, avoids glass splinters in case of damage
- Mounting accessories in stainless steel















For washdown applications

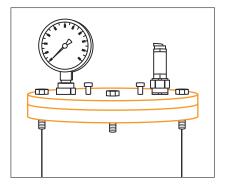
The OG series photoelectric sensors have been designed and tested for reliable detection even in extreme washdown conditions. The industrially compatible M18 housing is made of high-grade stainless steel. It is perfectly suited for food and beverage applications.

The visible red light simplifies alignment and maintenance. Extensive accessories made of stainless steel ensure fast and safe installation.

Ecolab-certified for food and beverage

The Ecolab-certified sensors are resistant to chemical solutions used in cleaning. Even in case of high-pressure cleaning the sensor remains absolutely ingress-resistant to IP 69K.





Tested to extremes: To simulate the aging process, the sensors are alternately put into hot water at 80 °C and into ice water several times.

Гуре	Operating princ	ple	Range	Type of light	9	Spot Ø at max. range [mm]	Outp H = ligl D = dar	nt-on	Ord no
use refle	ction sensor · M12 co	nnector	· 1036 DC · hig	h-grade stainles	s steel · IP6	67 / IP68 / IP6	59K		
	Background suppre	ssion	100 mm	red		9	H PN	NP	OGH
	Background suppre	ssion	100 mm	red		9	D PN	NP	OGH
	Background suppre	ssion	200 mm	red		17	H PN	NP	OGH
	Background suppre	ssion	200 mm	red		17	D PN	NP	OGH
	Background suppre	ssion	300 mm	red		25	H PN	NP.	OGH
	Background suppre	ssion	300 mm	red		25	D PN	NP	OGH
ough-bea	ım sensor · M12 conr	ector · 1	036 DC · high-	grade stainless s	teel · IP67	/ IP68 / IP69k	(
	Transmitter		20 m	red		800	-		ogs
	Receiver		20 m	red		-	D PN	NP.	OGE
	Receiver		20 m	red		-	H PN	NP	OGE
ro-reflect	ive sensor · M12 con	nector · 1	036 DC · high	-grade stainless	steel · IP67	/ IP68 / IP69	K		
	Polarisation filte	er	0.034 m	red		160	D PN	NP.	OGP
	Polarisation filte	er	0.034 m	red		160	H PN	NP	OGP
stem co	omponents								
Туре				Description					Ord
	Prismatic reflector · Ø 8	0 mm · rou	nd · for red light an	d infrared light retro	-reflective ser	nsors · Housing I	materials: plastics		E200
nnecto	ors								
Туре	Cable	sp	Wire ecification	Material housing / nut	U [V]	T _a [°C]	Pro- tection	LEDs	Ord
ket 12, 5/	4-pole, 4-wire								
	5 m orange PVC cable	4 x 0.34	ŀ mm², Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	_	EVT
-									



Photoelectric sensors M18 housing, connection cable



- Industrially compatible high-grade stainless steel M18 housing
- Ecolab certified resistant to cleaning agents and rough environments
- Visible red light simplifies alignment and maintenance
- Plastic lens, avoids glass splinters in case of damage
- Mounting accessories in stainless steel















For washdown applications

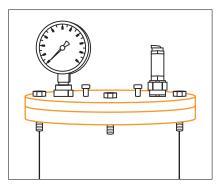
The OG series photoelectric sensors have been designed and tested for reliable detection even in extreme washdown conditions. The industrially compatible M18 housing is made of high-grade stainless steel. It is perfectly suited for food and beverage applications.

The visible red light simplifies alignment and maintenance. Extensive accessories made of stainless steel ensure fast and safe installation.

Ecolab-certified for food and beverage

The Ecolab-certified sensors are resistant to chemical solutions used in cleaning. Even in case of high-pressure cleaning the sensor remains absolutely ingress-resistant to IP 69K.



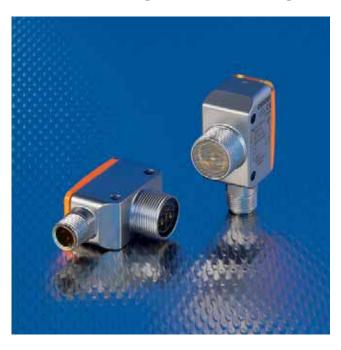


Tested to extremes: To simulate the aging process, the sensors are alternately put into hot water at 80 °C and into ice water several times.

ype	Operating principle	Range	Type of light	Spot Ø at max. range [mm]	Output H = light-on D = dark-on	Order no.
ıse reflec	tion sensor · Cable 6 m · 10	.36 DC · high-grade s	stainless steel · II	P67 / IP68 / IP69K		
	Background suppression	100 mm	red	9	H PNP	OGH30
	Background suppression	100 mm	red	9	D PNP	OGH30
_	Background suppression	200 mm	red	17	H PNP	OGH30
_	Background suppression	200 mm	red	17	D PNP	OGH30
	Background suppression	300 mm	red	25	H PNP	OGH31
	Background suppression	300 mm	red	25	D PNP	OGH31
-reflecti	ve sensor · Cable 6 m · 1030	6 DC · high-grade sta	inless steel · IP6	7 / IP68 / IP69K		
	Polarisation filter	0.034 m	red	160	D PNP	OGP30
	Polarisation filter	0.034 m	red	160	H PNP	OGP30
ıgh-bear	m sensor · Cable 6 m · 1036	DC · high-grade stai	inless steel · IP67	7 / IP68 / IP69K		
	Transmitter	20 m	red	800	-	OGS30
	Receiver	20 m	red	-	D PNP	OGE30
	Receiver	20 m	red	-	H PNP	OGE30
tem co	mponents					
Туре			Description			Orde no.



Photoelectric sensors with rectangular housing.



- Selected materials, suited for food applications.
- Consistent implementation of ifm's application know-how.
- Ideal sealing concept, IP 67, IP 68 and IP 69K.
- Fixed ranges –easy set-up (plug & play).







Photoelectric sensors for washdown

The OG series photoelectric sensors have been designed and tested for reliable detection of positions even in extreme washdown conditions. The industrially compatible housing is made of high-grade stainless steel and is perfectly suited for applications in the food industry, e.g. cheese plants, breweries or the meat industry. A visible red light source simplifies installation and maintenance. Stainless steel accessories are available for quick installation.

The 100 % ingress-resistant sensor design prevents the penetration of moisture during high-pressure cleaning.

The sensor has a plastic lens to prevent glass splinters from getting into the process in case of damage to the sensor. This is a special requirement in the food and beverage industry.



The photoelectric sensors are also 100 % ingress-resistant in case of steam cleaning.

Туре	Operating princi	ple Range	Type of light		oot Ø at max. range [mm]	Outp H = ligh D = dar	nt-on	Order no.
iffuse reflec	ction sensor · M12 co	nnector · 1030 DC · hi	gh-grade stainless s	steel · IP67	7 / IP68 / IP6	59K		
	Background suppre	ssion 100 mm	red		7	H PN	IP	OGH38
	Background suppre	ssion 200 mm	red		13	H PN	IP	OGH38
	Background suppre	ssion 100 mm	red		7	H NF	PN	OGH38
	Background suppre	ssion 200 mm	red		13	H NF	PN	OGH38
hrough-bea	m sensor · M12 conn	ector · 1030 DC · high	-grade stainless ste	el · IP67 /	IP68 / IP69k	(
	Transmitter	15 m	red		800	-		OGS38
	Receiver	15 m	red		-	D PN	IP	OGE38
	Receiver	15 m	red		-	H PN	IP	OGE38
	Receiver	15 m	red		-	D NF	PN	OGE38
System co	omponents							
Type			Description					Order no.
	Prismatic reflector · Ø 80	0 mm · round · for red light a	nd infrared light retro-re	flective sens	ors · Housing ı	materials: plastics		E2000
Connecto	rs							
Туре	Cable	Wire specification	Material housing / nut	U [V]	T _a [°C]	Pro- tection	LEDs	Order no.
Socket 12, 5/4	4-pole, 4-wire							
	5 m orange	40.24	PVC / stainless steel	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	_	EVT00
	PVC cable	4 x 0.34 mm ² , Ø 4.9 mm	316L / 1.4404	300 DC		11 0510		

Photoelectric sensors O6 WetLine series, PNP, connector



- Stainless steel housing with protection rating IP 65 / IP 67 / IP 68 / IP 69K
- Easy adjustment by potentiometer
- Diffuse reflection sensors with reliable background suppression
- Colour of the object has no influence on the range
- Also available as through-beam or retro-reflective system











Best optical performance

The optimised diffuse reflection sensors suppress background interference effectively. Even highly reflective backgrounds like stainless steel have no influence on the background suppression. The sensing range is independent of the characteristics and colour of the object to be detected. A special feature is the automatic sensitivity compensation that guarantees reliable operation even in steam, smoke or highly reflective environments. The clean round light spot in the operating area ensures a consistent light distribution in the light cone. Scattered light around the light spot potentially disturbing other sensors due to reflections is avoided. This provides additional safety.

Perfectly sealed

The compact O6 offers maximum ingress protection. A double seal protects the two setting potentiometers. The front pane and the potentiometers are embedded flush to allow residue-free cleaning. The stainless steel housing has the high protection ratings IP 68 / IP 69 K. A transparent black housing cover provides a good contrast to the integrated LEDs (operating status, switch point) for optimum visibility from any angle even in bright lighting conditions. The coated front pane is made of resistant, shatterproof plastic.



e	Operating principle	Range	Type of light	Spot Ø at max. range [mm]	Output H = light-o D = dark-o	n	Ord no
with N	M12 connector 0,3 m · 10	30 DC · IP 65 / IP 67	' / IP 68 / IP 69K				
	Diffuse reflection senso	r 5500 mm	red	15	H/D PNP		ОбТ
	Background suppression	n 8200 mm	red	8	H/D PNP		O6F
	Transmitter	10 m	red	300	-		069
	Receiver	10 m	red	-	H/D PNP		061
	Polarisation filter	0,0055 m	red	150	H/D PNP		O6F
2 m · 1	1030 DC · IP 65 / IP 67 /	IP 68 / IP 69K					
	Diffuse reflection senso	r 5500 mm	red	15	H/D PNP		061
	Background suppression	n 8200 mm	red	8	H/D PNP		O6H
	Transmitter	10 m	red	300	-		069
	Receiver	10 m	red	-	H/D PNP		061
	Polarisation filter	0,0055 m	red	150	H/D PNP		O6F
					_		
	omponents		Description				Or n
	omponents Prismatic reflector · 56 x 38	mm · rectangular · Housin		lidchem · up to 140 °C			n
			g materials: plastics So				E21
Type	Prismatic reflector · 56 x 38 Prismatic reflector · 48 x 48 r		g materials: plastics So				
rype	Prismatic reflector · 56 x 38 Prismatic reflector · 48 x 48 r		g materials: plastics So		Pro- tection	LEDs	E21
nnecto	Prismatic reflector · 56 x 38 Prismatic reflector · 48 x 48 I	mm · rectangular · Housing Wire	g materials: plastics So g materials: plastics Sol Material housing /	idchem · up to 140 °C		LEDs	E21

Photoelectric sensors O6 WetLine series, NPN, connector



- Stainless steel housing with protection rating IP 65 / IP 67 / IP 68 / IP 69K
- Easy adjustment by potentiometer
- Diffuse reflection sensors with reliable background suppression
- Colour of the object has no influence on the range
- Also available as through-beam or retro-reflective system









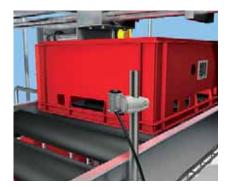


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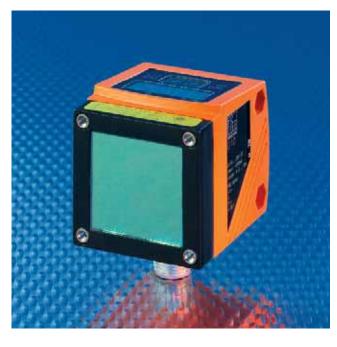
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e	Operating principle	Range	Type of light	Spot Ø a max. range [mm]	at	Outp H = ligh D = darl	t-on	Ord no
with N	√112 connector 0,3 m · 10	30 DC · IP 65 / IP 67	7 / IP 68 / IP 69K					
	Diffuse reflection senso	or 5500 mm	red	15		H/D N	PN	ОбТ
	Background suppressio	n 8200 mm	red	8		H/D N	PN	О6Н
	Transmitter	10 m	red	300		-		065
	Receiver	10 m	red	-		H/D N	PN	O6E
	Polarisation filter	0,0055 m	red	150		H/D N	PN	O6P
2 m ⋅ 1	1030 DC · IP 65 / IP 67 /	' IP 68 / IP 69K						
	Diffuse reflection senso	or 5500 mm	red	15		H/D N	PN	061
	Background suppressio	n 8200 mm	red	8		H/D N	PN	O6F
	Transmitter	10 m	red	300		-		069
	Receiver	10 m	red	-		H/D N	PN	061
	Polarisation filter	0,0055 m						
	i diansation inter	0,0033111	red	150		H/D N	PN	061
	omponents	0,0033 111	Description	150		H/D Ni	PN	Ore
			Description		1 ℃	H/D N	PN	Or n
	omponents	mm · rectangular · Housin	Description In a second sec	lidchem · up to 140		H/D N	PN	Or n
Type	Omponents Prismatic reflector · 56 x 38 Prismatic reflector · 48 x 48 (mm · rectangular · Housin	Description In a second sec	lidchem · up to 140		H/D N	PN	Ore no
Type	Omponents Prismatic reflector · 56 x 38 Prismatic reflector · 48 x 48 (mm · rectangular · Housin	Description In a second sec	lidchem · up to 140	°C	Pro- tection	PN LEDs	Orn n
nnecto	Omponents Prismatic reflector · 56 x 38 Prismatic reflector · 48 x 48 i	mm · rectangular · Housing	Description In g materials: plastics Sol g materials: plastics Sol Material housing /	lidchem · up to 140	°C	Pro-		Orn n E21

Laser distance and level sensors



- Compact distance sensor with extremely good price / performance ratio
- Ideal for applications with long ranges and background suppression
- Level detection with the O1D300, e.g. non-transparent liquids
- Teach mode for fast set-up
- Big 4-digit alphanumeric display for measured values









Detection of objects with long ranges

The O1D laser sensor provides non-contact distance measurement up to 10 metres. The O1D106 measures long distances of up to 75 m using a reflector.

Non-contact level measurement

O1D300 has been designed especially to measure the level in food processing. The range is 10 m.

Compact and flexible

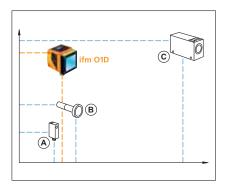
The sensors in a compact robust metal housing of only 42 x 42 mm are suited for use in the food and beverage industry. They can be mounted easily in applications where space is at a premium.

The outputs can be programmed for two switch points or one switch point and one analogue output. The display can also provide the measured values in inches, millimetres or metres.

Combined advantages

Photoelectric systems with background suppression (A, see graph to the right) and ultrasonic sensors (B) are inexpensive alternatives for distance measurement, however their ranges are shorter. Traditional time-of-flight systems (C) offer an improved level of performance but are much higher in cost. The O1D combines the advantages of these systems at an attractive price.





Price / performance comparison: The O1D combines the advantages of background suppression (A), ultrasonic sensors (B) and traditional time-of-flight systems (C).

Туре	Operating principle	Range	Samp rat	e	Spot Ø max rang	е	Ub	Orde no.
	tion OUT1: normally op 010 V, scalable)	oen / closed programm	able OUT2: norm		closed prog		[V] r analogue	è
	Optical distance sensor	0.36 m	1	33	6		1830	O1D1
ectangu	ılar O1 housing f	or optical distan	ce measuren	nent, las	er class 2	2		
Туре	Operating principle	Range	Samp rat [H:	e	Spot @ max rang [mm	e.	U _b	Orde no.
utput func	tion OUT1: normally oր 010 V, scalable)	en / closed programm	able OUT2: norm	ally open /	closed prog	rammable o	r analogue	•
	Optical distance sensor	175 m	1	33	150		1830	O1D1
	Optical distance sensor	0.210 m	1	50	6		1830	O1D1
	Optical distance sensor	0.210 m	1	50	6		1830	O1D1
	Optical level sensor	0.210 m	1	33	6		1830	O1D3
utput func	tion/t							
	Background suppression	n 0.210 m	5		6		1030	O1D1
	Background suppression	0.210 m	5		6		1030	O1D1
ccessori	ies O1 housing							
Туре			Description					Orde no.
					01D			
		for optical distance sensors stainless steel 316L / 1.4404				arent / screws: h	igh-grade	E212
	Housing materials: flange: stainless steel Protective cover · O1D · H		4 / sealing: Viton / Pro 4Cu1 finish black / w	tective cover:	PMMA transpa		igh-grade	
onnecto	Housing materials: flange: stainless steel Protective cover · O1D · H sealing: FPM 75+/-5 Shore	stainless steel 316L / 1.4404 busing materials: bezel: ZnAl	4 / sealing: Viton / Pro 4Cu1 finish black / w	tective cover:	PMMA transpa		igh-grade	E212
onnecto	Housing materials: flange: stainless steel Protective cover · O1D · H sealing: FPM 75+/-5 Shore	stainless steel 316L / 1.4404 busing materials: bezel: ZnAl	4 / sealing: Viton / Pro 4Cu1 finish black / w	tective cover:	PMMA transpa		igh-grade	
Туре	Housing materials: flange: stainless steel Protective cover · O1D · H sealing: FPM 75+/-5 Shore	ousing materials: bezel: ZnAl A black / screws: stainless st	4 / sealing: Viton / Pro 4 Cu1 finish black / w teel Material housing /	indow: PMM/	PMMA transpar A transparent a	nd colourless /		E211
Туре	Housing materials: flange: stainless steel Protective cover · O1D · H sealing: FPM 75+/-5 Shore	ousing materials: bezel: ZnAl A black / screws: stainless st	4 / sealing: Viton / Pro 4 Cu1 finish black / w teel Material housing /	indow: PMM/	PMMA transpar A transparent a	nd colourless /		E211

Colour, contrast sensor and sensor for transparent objects



- The colour sensor detects even tiny colour nuances, 5 tolerance steps can be selected
- Contrast sensor with teach function for automatic transmitted light colour
- The sensor for transparent objects detects among others glass, films and PET bottles
- High switching frequencies for fast moving applications
- Auto-Detect for PNP / NPN configuration, time-saving teach functions











Colour sensor for production control

The colour sensor detects objects based on their colour and is particularly suited for applications in the food and beverage industry. With five selectable tolerance steps the user defines the permissible colour differences. An adjustment to the application is made via pushbuttons. The high switching frequency of 2,000 Hz allows precise colour detection even for very fast applications.

Contrast sensor for object detection

The powerful type O5K contrast sensor can be used in many applications in the packaging, assembly, material handling and printing industries. It detects registration marks or printed colour bars by determining the difference between the target and the background. The high colour contrast sensitivity and resolution guarantee reliable detection.

Detection of transparent objects

The O5G series sensors are suited for one of the most difficult photoelectric applications: the detection of transparent objects such as film, glass, PET / plastic bottles or transparent packagings. Normal photoelectric sensors are not suited for this. Their excess gain is too high and they look through the transparent material without detecting it.







Туре	Operating princip	e Measuring range	dian	spot neter m]	U _b	consu	rent nption A]	Sampling switching t	frequency	Order no.
/112 connect	or · Output function	light-on / dark-on	programm	able · DC P	NP/NPI	N				
	Colour sensor	1519 mm	2.5	x 6	1030	5 5	0	200	00	O5C500
Contrast :	sensors									
Туре	Operating princi	ple Rar	nge	Type of ligh	t	Spot Ø a max. range [mm]	t	Outp H = ligh D = dar	it-on	Order no.
M12 connect	or · 1036 DC · plasti	cs · IP67								
	Diffuse contrast ser	nsor 182	2 mm	RGB		1.5 x 5		H/D PNP	/NPN	O5K500
	Polarisation filte	r 01	.5 m	red		40 / 80		H/D PNP	/NPN	O5G500
Prismatic	reflector									
Туре			Ι	Description						Order no.
	Prismatic reflector · 50 x Housing materials: plasti		for retro-refle	ctive laser sei	nsors and	l glass and film	detection	۱٠		E20722
	rc									
Connecto	13									
Type	Cable	Wire specification		Material lousing / nut	(V		a C]	Pro- tection	LEDs	Order no.
Туре				ousing /					LEDs	
Туре	Cable		mm sta	ousing /		AC 2E	c]		LEDs _	

Contour sensor efector dualis



- Object inspection by means of defined shapes and contours
- For applications in production and quality control
- Robust housing for harsh industrial environments
- Wizard for easy parameter setting















Orientation-independent detection of contours

The contour sensor efector dualis detects shape and object on the basis of their contour. It is ideal in applications where the object's shape is repeatable and defined. Quality control is a typical application. Adjustment with a reference model allows to detect faulty parts or object features and provides one signal per switching output. Fast image capture and evaluation allow precise evaluation even for fast processes or moving parts.

Type	Operating principle	Max. field of view size	Resolution	Detection rate	Type of light	Ambient temperature	Orde no.
		[mm]	[mm]	[Hz]		[°C]	
pe O2D2 ·	M12 plug, 8 poles · M12 socket	, 4 poles · metal · Do	C · PNP				
	CMOS image sensor B/W, VGA resolution 640 x 480	400 x 300	0.08	10	infrared	-1060	O2D2
	CMOS image sensor B/W, VGA resolution 640 x 480	640 x 480	0.1	10	infrared	-1060	O2D22
	CMOS image sensor B/W, VGA resolution 640 x 480	1320 x 945	0.3	10	infrared	-1060	O2D22
ensors f	or object recognition v	vith NPN outpu	ut function	l			
Туре	Operating principle	Max. field of view size	Resolution	Detection rate	Type of light	Ambient temperature	Order
		[mm]	[mm]	[Hz]		[°C]	
ype O2D2 ·	M12 plug, 8 poles · M12 socket	, 4 poles · metal · Do	C · NPN				
	CMOS image sensor B/W, VGA resolution 640 x 480	400 x 300	0.08	10	infrared	-1060	O2D2
	CMOS image sensor B/W, VGA resolution 640 x 480	640 x 480	0.1	10	infrared	-1060	O2D22
	CMOS image sensor B/W, VGA resolution 640 x 480	1320 x 945	0.3	10	infrared	-1060	O2D22
onnecti	on cables for 2D and 3I	Sensors					
Туре		D	escription				Orde no.
19 09	Jumper · straight / straight · Ethernet	· Cross-over patch cable	· 2 m · Housing m	naterials: PUR / PC			E1189
· Comment	Socket · angled · Free from silicone ·	Free from halogen · gold	-plated contacts ·	M12 connector · 2	2 m · Housing m	naterials: PUR	E1123
N. Contract of the Contract of	Socket · straight · Free from halogen	· M12 connector · 2 m ·	Housing materials	: PUR			E1195
oftware							
		D	escription				Orde no.
Туре							110.

Pixel counter efector dualis



- Object inspection based on variable features
- For applications in production and quality control
- CMOS image element and powerful digital signal processor
- Robust housing for harsh industrial environments
- Wizard for easy parameter setting











Detection based on variable features

Whereas conventional vision sensors verify components based on defined contours, such as the efector dualis O2D contour sensor, the O2V pixel counter uses variable features for comparison.

Instead of a defined contour the user determines relative features used by the sensor to assess an object or a scene. Within freely selectable tolerances the sensor determines features such as area, size, roundness or compactness of an object.

Grey-scale values can also be used for assessment.

Compact and robust

The pixel counter can solve a variety of error-proofing and inspection applications throughout the complete manufacturing process. It includes evaluation electronics and integrated lighting in a robust die-cast metal housing that withstands harsh environments.





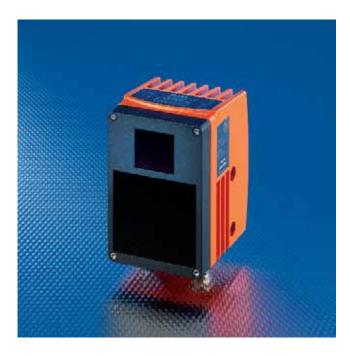
(A) A packing crate is filled in several layers, in this case with packs of chewing gum.



(B) The pixel counter detects if one layer is missing by means of the visible area at the inside of the cardboard box

Туре	Operating principle	Max. field of view size	Resolution	Detection rate	Type of light	Ambient temperature	Orde no.
		[mm]	[mm]	[Hz]		[°C]	
oe O2V · N	M12 plug, 8 poles · M12 socket,	4 poles · metal · DC	· PNP				
	CMOS image sensor B/W, VGA resolution 640 x 480	640 x 480	0.1	10	White light	-1060	O2V1
	CMOS image sensor B/W, VGA resolution 640 x 480	1320 x 945	0.3	10	White light	-1060	O2V1
	CMOS image sensor B/W, VGA resolution 640 x 480	400 x 300	0.08	10	White light	-1060	O2V1
ensors f	or optical object inspec	ction with NPN	l switching	outputs			
Туре	Operating principle	Max. field of view size	Resolution	Detection rate	Type of light	Ambient temperature	Ordo
		[mm]	[mm]	[Hz]		[°C]	
pe O2V · N	M12 plug, 8 poles · M12 socket,	4 poles · metal · DC	· NPN				
	CMOS image sensor B/W, VGA resolution 640 x 480	640 x 480	0.1	10	White light	-1060	O2V1
	CMOS image sensor B/W, VGA resolution 640 x 480	1320 x 945	0.3	10	White light	-1060	O2V1
	CMOS image sensor B/W, VGA resolution 640 x 480	400 x 300	0.08	10	White light	-1060	O2V1
onnecti	on cables for 2D and 3I) sensors					
Туре		D	escription				Ord no
	Jumper · straight / straight · Ethernet	· Cross-over patch cable	· 2 m · Housing m	naterials: PUR / PC			E118
	Socket · angled · Free from silicone ·	Free from halogen · gold	l-plated contacts ·	M12 connector ·	2 m · Housing m	aterials: PUR	E112
N. Contract of the Contract of	Socket · straight · Free from halogen	· M12 connector · 2 m ·	Housing materials	s: PUR			E119
oftware							
oftware Type		D	escription				Ordo

3D sensor



- First industrially compatible 3D sensor
- Photoelectric level detection in silos or on vibratory conveyors
- Alternative for point level sensors that only monitor one reference point
- Operating principle:
 Time of flight measurement with
 64 x 48 pixels (PMD technology)













Volume detection

Irrespective of the distance between the sensor and the object the efector pmd3d determines the volume of any object in applications.

Level detection

The sensor determines the level above the previously defined background in the search zone. The shape of the bulk material does not matter.

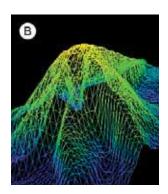
Examples:

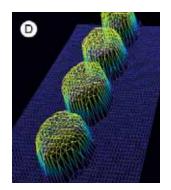
- (A) Level with an irregular surface: Level measurement of any bulk materials such as granulates, cereals or vegetables in silos.
- (B) The level monitored irrespective of shape, colour or material as shown here for the processing of deep-frozen vegetables.
- (C), (D) Checked for completeness: By means of volume measurement the filling status of conveyor belts or pallets is detected

It is also possible to monitor whether vessels are completely empty.









Sansors f	or 3D object	recognition					
Туре	Operating principle	Resolution (pixels)	Angle of aperture (horizontal x vertical) [°]	Lighting	Max. sampling rate [Hz]	Ambient temperature	Order no.
PMD 3D sens	sor · Type O3D · N	ا د د د د د د د د د د د د د د د د د د د	metal · DC				
	PMD 3D sensor	64 x 48	30 x 40	Infrared LED	20	-1050	O3D200
Connection	on cables for	2D and 3D	sensors				
Туре			Description				Order no.
W d	Jumper · straight / s	straight · Ethernet · C	Fross-over patch cable · 2 m · Hou	ısing materials: PUR / PC	<u>-</u>		E11898
-	Socket · angled · Fr	ee from silicone · Fre	e from halogen · gold-plated con	tacts · M12 connector ·	2 m · Housing ma	aterials: PUR	E11231
1	Socket · straight · F	ree from halogen · N	112 connector · 2 m · Housing ma	aterials: PUR			E11950
Software							
Туре			Description				Order no.
	Operating software	for PMD 3D sensor	· O3D				E3D200

Fail-safe inductive sensors



- No special key or coded magnet is required as target
- High tolerance to misalignment and nuisance tripping
- Self-monitoring sensor function
- Rated up to SIL 2 or SIL 3 according to IEC 61508













Safe and sound.

The non-contact fail-safe inductive sensors detect standard targets made of metal such as stainless steel or mild steel. Coded magnets or special mechanical keys are not required as targets. This reduces the installation time considerably and avoids misalignment issues and nuisance tripping. The sensors continuously monitor the sensing window for target position and dwell time. They can be used with all standard safety relays, PLCs and bus systems.

Critical applications

The sensor can be used to monitor safety applications including high-speed door monitoring, open and closed valve position, part presence, lift positions or the travel range of robots and robotic arms.





The ifm fail-safe sensors are installed quickly, no coded target is required. This saves time and money.

Туре	Length	Enable zone	Housing material	U _b DC	Protection		esponse time in f a safety reque enable time		Order no.
	[mm]	[mm]		[V]			[ms]		
/112 connecto	or · Output	function 2	x OSSD (A1 and A2) · 4	-wire · DC PNP					
=	45	0.54 nf	high-grade st. steel	24	IP 65 / IP 67		≤1/≤1		GF711:
	35	18 nf	high-grade st. steel	24	IP 65 / IP 67		≤1/≤1		GG711
	44.5	15 f	brass	24	IP 65 / IP 67		≤1/≤1		GG712
	30	115 nf	high-grade st. steel	24	IP 65 / IP 67		≤ 10 / ≤ 1		GI711
	45	110 f	high-grade st. steel	24	IP 65 / IP 67		≤ 10 / ≤ 1		GI712
		for safe	ty-related applic	ations 2 v	USSD SII	3 DI a			
		for safe	ty-related applica Housing material	U _b	OSSD, SIL Protection	Re	esponse time in f a safety reque		Orde no.
nductive	sensors	Enable	Housing	U _b		Re			
Type	Sensors Length [mm]	Enable zone [mm]	Housing	U _b DC [V]		Re	f a safety reque enable time		
Type	Sensors Length [mm]	Enable zone [mm]	Housing material	U _b DC [V]		Re o	f a safety reque enable time		no.
Type	Length [mm] or · Output	Enable zone [mm]	Housing material x OSSD (A1 and A2) · 4 high-grade st. steel	U _b DC [V] -wire · DC PNP	Protection	Re o	f a safety reque enable time [ms]		no.
Type 112 connecte	Length [mm] or · Output	Enable zone [mm] function 2 :	Housing material x OSSD (A1 and A2) · 4 high-grade st. steel	U _b DC [V] -wire · DC PNP	Protection IP 68 / IP 69K	Re o	f a safety reque enable time [ms]		GI701
Type 112 connecte	Length [mm] or · Output · 39 66 66 = non flush	Enable zone [mm] function 2 : 612 nf	Housing material x OSSD (A1 and A2) · 4 high-grade st. steel	U _b DC [V] -wire · DC PNP	Protection IP 68 / IP 69K IP 65 / IP 67	Re o	f a safety reque enable time [ms] ≤ 50 / ≤ 200		GI701
Type 112 connecte	Length [mm] or · Output · 39 66 66 = non flush	Enable zone [mm] function 2 : 612 nf	Housing material x OSSD (A1 and A2) · 4 high-grade st. steel	U _b DC [V] -wire · DC PNP	Protection IP 68 / IP 69K IP 65 / IP 67	Re o	f a safety reque enable time [ms] ≤ 50 / ≤ 200		Orde no. GI701 GM70
Type 112 connecte = flush / nf =	Length [mm] or · Output · 39 66 66 = non flush	Enable zone [mm] function 2 : 612 nf 1015 nf	Housing material x OSSD (A1 and A2) · 4 high-grade st. steel	U _b DC [V] -wire · DC PNP	Protection IP 68 / IP 69K IP 65 / IP 67	Re o	f a safety reque enable time [ms] ≤ 50 / ≤ 200		GI701
Type 112 connecto 1 flush / nf =	Length [mm] or · Output · 39 66 66 = non flush rs	Enable zone [mm] function 2 : 612 nf 1015 nf 420 nf	Housing material x OSSD (A1 and A2) · 4 high-grade st. steel PPE PPE Wire	U _b DC [V] -wire · DC PNP 24 24 24 24	Protection IP 68 / IP 69K IP 65 / IP 67 IP 65 / IP 67	Reco	f a safety reque enable time [ms] ≤ 50 / ≤ 200 ≤ 50 / ≤ 200 ≤ 50 / ≤ 200	est /	GI701 GM70 GM70
Type 112 connecto Flush / nf =	Length [mm] or · Output · 39 66 66 = non flush rs	Enable zone [mm] function 2: 612 nf 1015 nf 420 nf	Housing material x OSSD (A1 and A2) · 4 high-grade st. steel PPE PPE Wire	U _b DC [V] -wire · DC PNP 24 24 24 24	Protection IP 68 / IP 69K IP 65 / IP 67 IP 65 / IP 67	Reco	f a safety reque enable time [ms] ≤ 50 / ≤ 200 ≤ 50 / ≤ 200 ≤ 50 / ≤ 200	est /	GI701 GM70 GM70



Fail-safe inductive sensors



- No special key or coded magnet is required as target
- High tolerance to misalignment and nuisance tripping
- Self-monitoring sensor function
- Rated up to SIL 2 or SIL 3 according to IEC 61508













Safe and sound.

The non-contact fail-safe inductive sensors detect standard targets made of metal such as stainless steel or mild steel. Coded magnets or special mechanical keys are not required as targets. This reduces the installation time considerably and avoids misalignment issues and nuisance tripping. The sensors continuously monitor the sensing window for target position and dwell time. They can be used with all standard safety relays, PLCs and bus systems.

Critical applications

The sensor can be used to monitor safety applications including high-speed door monitoring, open and closed valve positions, part presence, escalators and lift position, and the travel range of robots and robotic arms.





The clocked fail-safe sensors can be connected in series with up to 10 sensors – even in combination with mechanical safety switches.

Туре	Length	Enable zone	Housing material	U _b DC	Protection		esponse time in f a safety reque enable time		Order no.
	[mm]	[mm]		[V]			[ms]		
/112 connec	tor · Output	function C	lock signal · 4-wire · DC	:					
	55	36 nf	high-grade st. steel	24	IP 68 / IP 69K		≤ 20 / ≤ 200		GG50!
=	65	14 f	brass	24	IP 68 / IP 69K		≤ 20 / ≤ 200		GG50
	39	612 nt	high-grade st. steel	24	IP 68 / IP 69K		≤ 20 / ≤ 200		GI505
* 76	66	1015 n	f PPE	24	IP 65 / IP 67		≤ 20 / ≤ 200		GM50
	66	1020 n	f PPE	24	IP 65 / IP 67		≤ 20 / ≤ 200		GM50
Type	Work			Description					
	Safe active A		e module · AS-i version 2.1 · safe inductive sensors of the	IR addressing possil					no.
	Safe active A	ection of fail-	e module · AS-i version 2.1 · safe inductive sensors of the ments: ISO 13849-1: categor	IR addressing possil control category 4	· Sockets M12 x	1 · Housing n			no.
Туре	Safe active A For the conne Complies wit	ection of fail-	safe inductive sensors of the	IR addressing possil control category 4	· Sockets M12 x	1 · Housing n			no.
Туре	Safe active A For the conne Complies wit	ection of fail-	safe inductive sensors of the	IR addressing possil control category 4	· Sockets M12 x	1 · Housing n			AC010
Type	Safe active A For the conn Complies wit	ection of fail- th the require	safe inductive sensors of the	IR addressing possil control category 4 y 4 · ISO 13849-1: Description	· Sockets M12 x PL e · IEC 61508	1 · Housing n	naterials: PBT		AC016
Type	Safe active A For the connection Complies with Complies with Complies Safety T-split Housing materials	ection of fail- th the require	safe inductive sensors of the ments: ISO 13849-1: categor	IR addressing possil control category 4 y 4 · ISO 13849-1: Description	· Sockets M12 x PL e · IEC 61508	1 · Housing n	naterials: PBT		Orde no.
Type	Safe active A For the connection Complies with Complies with Complies Safety T-split Housing materials	ection of fail- th the require ter · M12 soc erials: PUR	safe inductive sensors of the ments: ISO 13849-1: categor	IR addressing possil control category 4 y 4 · ISO 13849-1: Description	· Sockets M12 x PL e · IEC 61508	1 · Housing n	naterials: PBT		AC010
Type Accessori Type Connector Type	Safe active A For the conne Complies with Ses Safety T-split Housing mate	ection of fail- th the require ter · M12 soc erials: PUR	safe inductive sensors of the ments: ISO 13849-1: categor ket - 1 M12 connector / 1 M	IR addressing possi control category 4 y 4 · ISO 13849-1: Description 12 socket · T-piece Material housing /	· Sockets M12 x PL e · IEC 61508 for the pseudo-s	1 · Housing n : SIL 3	naterials: PBT ion of fail-safe ser	nsors ·	Ordeno.
Type Accessori Type Connector Type	Safe active A For the conne Complies with Ces Safety T-split Housing mate	ection of fail- th the require ter · M12 soc erials: PUR	safe inductive sensors of the ments: ISO 13849-1: categor ket - 1 M12 connector / 1 M	IR addressing possi control category 4 y 4 · ISO 13849-1: Description 12 socket · T-piece Material housing /	· Sockets M12 x PL e · IEC 61508 for the pseudo-s	1 · Housing n : SIL 3	naterials: PBT ion of fail-safe ser	nsors ·	Orde no.

Safety light curtains Hand protection



- Safety light curtains type 2 and type 4 to IEC 61496
- With SIL to IEC 61508 and PL to ISO 13849
- Compact housing dimensions (28 x 30 mm), can be installed in L shape without dead band
- Up to 12 metre protected area width
- Light curtains for hand protection offer protected area heights of 610 mm to 1210 mm













Protection for the plant personnel

Safety light curtains prevent unsafe access to or reaching inside dangerous machinery and work areas.

They consist of a transmitter and receiver pair that create a multi-beam barrier of infrared light in front of, or around, a hazardous area. When any of the beams are broken by intrusion in the sensing field, the light curtain sends a signal to stop the machine.

Point-of-operation guarding

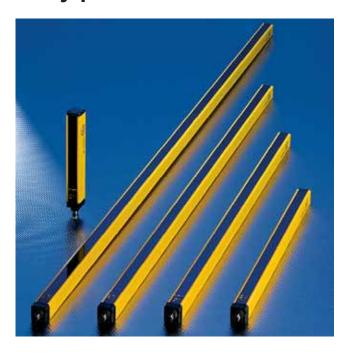
Light curtains can protect an operator from the hazards associated with material positioning, such as on mechanical and hydraulic power presses, moulding presses, stamping, forming and assembly machines.

See www.ifm.com for safety light curtains with additional protected heights and widths.



Туре	Sensor	Resolution /	Protected area	Protected area	a Re	esponse	Ub	Orde
21	length	detection capacity	height	width		time		no.
	[mm]	[mm]	[mm]	[m]		[ms]	[V]	
112 connecto	r							
	663	30	610	04 / 312		9.5	24	OY034
	963	30	910	04 / 312		12.5	24	OY03
m _ m	1263	30	1210	04 / 312		16	24	OY03
Tas W	663	40	610	04 / 312		7	24	OY05
	963	40	910	04 / 312		9.5	24	OY05
	1263	40	1210	04 / 312		11.5	24	OY05
afety ligh	nt curtains ty	pe 4, SIL 3, PL e, p	protected ar	ea width up	to 12	m		
Туре	Sensor length	Resolution / detection capacity	Protected area height	Protected area width	a Re	esponse time	U _b	Orde no.
	[mm]	[mm]	[mm]	[m]		[ms]	[V]	
12 connecto	r							
	663	30	610	04 / 312		8.5	24	OY04
	963	30	910	04 / 312		12	24	OY04
	1263	30	1210	04 / 312		15.5	24	OY04
Too to	663	40	610	04 / 312		6.5	24	OY06
	963	40	910	04 / 312		9	24	OY06
	1263	40	1210	04 / 312		11	24	OY06
onnector	S							
Туре	Cable	Wire specification	Material housing / nut	U [V]	т _а [°С]	Pro- tection	LEDs	Orde no.
cket 12, 5-p	ole, 5-wire							
S S	5 m orange PVC cable	5 x 0.34 mm², Ø 5.1 mn	PVC / n stainless steel 316L / 1.4404		-25100	IP 67 / IP 68 / IP 69K	-	EVT0
cket 12. 8/7:	-pole, 8-wire							

Safety light curtains Body protection



- Safety light curtains type 2 and type 4 to IEC 61496
- With SIL to IEC 61508 and PL to ISO 13849
- Compact housing dimensions (28 x 30 mm), can be installed in L shape without dead band
- Up to 12 metre protected area width
- Light curtains for body protection offer protected heights of 610 mm to 1210 mm















Protection for the plant personnel

Safety light curtains prevent unsafe access to or reaching inside dangerous machinery and work areas.

They consist of a transmitter and receiver pair that create a multi-beam barrier of infrared light in front of, or around, a hazardous area. When any of the beams are broken by intrusion in the sensing field, the light curtain sends a signal to stop the machine.

Perimeter guarding

To safeguard a larger area in a plant, light curtains can be placed horizontally along the floor to detect foot traffic of plant personnel.

See www.ifm.com for safety light curtains with additional protected heights and widths.





Туре	Sensor length	Resolution / detection capacity	Protected area height	Protected area width	a Re	esponse time	U _b	Order no.
	[mm]	[mm]	[mm]	[m]		[ms]	[V]	
/112 connector								
	663	50	610	04 / 312		6	24	OY074
	963	50	910	04 / 312		8	24	OY076
	1263	50	1210	04 / 312		10	24	OY078
	663	90	610	04 / 312		4	24	OY094
	963	90	910	04 / 312		5	24	OY096
	1263	90	1210	04 / 312		6	24	OY098
afety ligh	t curtains tw	oe 4, SIL 3, PL e,	protected ar	es width ur	a to 12	m		
		Resolution /	Protected area	Protected area		esponse	11.	Orde
Туре	Sensor length	detection capacity	height	width	a Ke	time	U _b	no.
	[mm]	[mm]	[mm]	[m]		[ms]	[V]	
112 connector								
	663	50	610	04 / 312		5.5	24	OY084
	963	50	910	04 / 312		7.5	24	OY086
	1263	50	1210	04 / 312		9	24	OY088
TOE TOE	663	90	610	04 / 312		4	24	OY104
	963	90	910	04 / 312		5	24	OY106
	1263	90	1210	04 / 312		5.5	24	OY108
Connectors	5							
Туре	Cable	Wire	Material	U	Ta	Pro-	LEDs	Orde
		specification	housing / nut	[V]	[°C]	tection		no.
ocket 12, 5-pc	ole, 5-wire							
	5 m orange PVC cable	5 x 0.34 mm², Ø 5.1 m	PVC / m stainless steel 316L / 1.4404	36 D	-25100	IP 67 / IP 68 / IP 69K	-	EVT01
ocket 12, 8/7-	pole, 8-wire							



Safety light curtains for washdown, IP 69K



- Safety light curtains with protection IP 69K
- Resistant to steam and high-pressure cleaning
- With SIL to IEC 61508 and PL to ISO 13849
- Both type 2 / SIL 2 and type 4 / SIL 3 versions available
- Up to 15 metre protected area width

















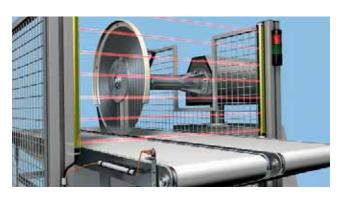
Hygienic design

The new safety light curtains with protective tube and protection rating IP 69K are designed without corners and edges. They can be used for perimeter guarding, access prevention and point-of-operation guarding. The safety light curtains are housed in a hygienic PMMA transparent tubing with IP 69K protection rating. They are thus resistant to high-pressure and steam cleaning.

Features:

- A heater element coupled with sealing O-rings prevents moisture build-up inside the tubing
- Highly-visible LEDs provide status, setup and troubleshooting indication
- Easy installation using integrated slots
- Delivered fully assembled this reduces the installation costs

See www.ifm.com for safety light curtains with additional protected heights and widths.



Туре	Sensor length	Resolution / detection capacity	Protected area height	Protected area width	Response time	U _b	Order no.
	[mm]	[mm]	[mm]	[m]	[ms]	[V]	
Cable 15 m							
	630	14	460	02 / 15	7.5	24	OY403
	930	14	760	02 / 15	11	24	OY405
	1230	14	1060	02 / 15	14.5	24	OY407
Safety lig	ht curtains t	ype 2, SIL 2, PL d	, protected ar	ea width up to	10 m		
Туре	Sensor length	Resolution / detection capacity	Protected area height	Protected area width	Response time	Ub	Ordei no.
	[mm]	[mm]	[mm]	[m]	[ms]	[v]	
Cable 15 m							
	630	30	460	03 / 210	8	24	OY433
	780	30	610	03 / 210	9.5	24	OY434
	930	30	760	03 / 210	11	24	OY43
	1080	30	910	03 / 210	12.5	24	OY436
	1230	30	1060	03 / 210	14.5	24	OY437
	1380	30	1210	03 / 210	16	24	OY438
	1530	30	1360	03 / 210	17.5	24	OY439
	1680	30	1510	03 / 210	19.5	24	OY440
afety lig	ht curtains t	ype 4, SIL 3, PL e	, protected ar	ea width up to	15 m		
Туре	Sensor length	Resolution / detection capacity	Protected area height	Protected area width	Response time	U _b	Orde no.
	[mm]	[mm]	[mm]	[m]	[ms]	[V]	
able 15 m							
							OY443
	630	30	460	07 / 315	5	24	01445
	630 780	30	460 610	07 / 315	5 6	24	
							OY444 OY444
	780	30	610	07 / 315	6	24	OY444 OY44!
	780 930	30 30	610 760	07/315	6.5	24 24	OY444 OY444
	780 930 1080	30 30 30	610 760 910	07/315 07/315 07/315	6 6.5 7.5	24 24 24	OY444
	780 930 1080 1230	30 30 30 30	610 760 910 1060	07/315 07/315 07/315 07/315	6 6.5 7.5 8.5	24 24 24 24	OY444 OY444 OY444

Safety light grid Body protection



- Type 2 and type 4 safety light curtains to IEC 61496
- With SIL to IEC 61508 and PL to ISO 13849
- Compact housing dimensions (28 x 30 mm), can be installed in L shape without dead band
- Up to 12 metre protected area width
- 2-, 3- or 4-beam versions available













Protection for the plant personnel

Safety light grids prevent unsafe access to or reaching inside dangerous machinery and work areas.

They consist of a transmitter and receiver pair that create a multi-beam barrier of infrared light in front of, or around, a hazardous area. When any of the beams are broken by intrusion in the sensing field, the light grid sends a signal to stop the machine.

If the area is to be protected from several sides, corner mirrors can be used.

See www.ifm.com for safety light grids with additional protected heights and widths.



Туре	Dimensions	Number of beams	Protected area heigh		Protected area width	R	esponse time	U _b	Order no.
	[mm]		[mm]		[m]		[ms]	[V]	
112 connect	tor								
	L x 28 x 30	2	510		04 / 312		3	24	OY111
THE THE	L x 28 x 30	3	810		04 / 312		3.5	24	OY112
	L x 28 x 30	4	910		04/312		3.5	24	OY113
afety lig	ıht grids type	e 4, SIL 3, F	PL e, 2, 3, 4	beams, pi	otected a	rea widt	th up to 12	2 m	
Туре	Dimensions	Number of beams	Protected area heigh		Protected area width	R	esponse time	U _b	Orde
	[mm]	Of Dealits	[mm]	ıı	[m]		[ms]	[V]	no.
112 connect	tor								
	L x 28 x 30	2	510		04/312		2.5	24	OY11
	L x 28 x 30	3	810		04 / 312		3	24	OY11
	L x 28 x 30	4	910		04 / 312		3	24	OY11
Connecto	ors								
Туре	Cable		Wire :ification	Material	U	Ta	Pro-	LEDs	Orde
		spec	incation	housing / nut	[V]	[°C]	tection		no.
ocket 12, 5-	pole, 5-wire								
	5 m orange PVC cable	5 x 0.34 m	nm², Ø 5.1 mm	PVC / stainless steel 316L / 1.4404	30 AC 36 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT01
	5 m orange PVC cable	5 x 0.34 m	nm², Ø 5.1 mm	PVC / stainless steel 316L / 1.4404	30 AC 36 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT0
ocket 12, 8	7-pole, 8-wire								
	5 m black PUR cable	8 x ().25 mm ²	TPU / brass	30 AC 36 DC	-4080	IP 68	-	E1210

Safety light grids with active / passive system Body protection



- Safety light grid type 4 to IEC 61496
- Transmitter and receiver are integrated into one housing making wiring simple
- Up to 6 metre protected area width
- 2-, 3- or 4-beam versions available











Protection for the plant personnel

Safety light grids are used for perimeter guarding to prevent access to work areas containing dangerous machinery. When any of the light beams are broken by an intrusion in the sensing field, the safety light grid sends a signal to stop the machine. The light grids are available in 2-, 3- or 4-beam version.

ifm's active / passive light grids lower installation costs by reducing the amount of wiring required. The transmitter and receiver are contained in one housing (active element) and are used with a reflecting mirror (passive element). All electrical connections are made to the active element. This is very useful for applications where it is difficult to wire both sides of a safety light grid such as conveyors.

See www.ifm.com for safety light grids with additional protected heights and widths.



Туре	Dimensions	Number of beams	Protected area height		Protected area width	R	esponse time	U _b	Order no.
	[mm]		[mm]		[m]		[ms]	[V]	
112 conne	ctor								
	L x 50 x 60	2	510	(06 / 06		10	24	OY901
	L x 50 x 60	3	810	(06 / 06		10.5	24	OY902
	L x 50 x 60	4	910	(06 / 06		10.5	24	OY903
Accesso	ries								
Туре				Description					Orde no.
	Corner mirror · Len for type OY · Housi	_	, ,		_	,	5 5	ams ·	EY100
	Corner mirror · Len for type OY · Housi							eams ·	EY100
	Corner mirror · Len for type OY · Housi							beams ·	EY100
Corner n		ing materials: alum						beams ·	EY100
Corner n	for type OY · Housi	ing materials: alum						beams ·	
Туре	for type OY · Housi	ase base · Length: 101	inium epoxy-powd	Description	s / Accessories:	steel galvanise	d	beams ·	Order no.
	for type OY · Housi	base - Length: 101 base - Length: 101 ing materials: alum	inium epoxy-powd 0 mm · for safety I inium epoxy-powd	Description light grids · 2 beamler coated / plastics	ns · for safety li	steel galvanise	d - d - d - d - d - d - d - d - d - d -		Order no.
Туре	corner mirror with for type OY · Housi	base - Length: 101 base - Length: 101 ing materials: alum	inium epoxy-powd 0 mm · for safety I inium epoxy-powd	Description light grids · 2 beamler coated / plastics	ns · for safety li	steel galvanise	d - d - d - d - d - d - d - d - d - d -		Order no. EY101:
Туре	corner mirror with for type OY · Housi	base - Length: 101 ing materials: alum base - Length: 134 ing materials: alum	inium epoxy-powd 0 mm · for safety I inium epoxy-powd	Description light grids · 2 beamler coated / plastics	ns · for safety li	steel galvanise	d - d - d - d - d - d - d - d - d - d -		Order no.
Type Type	for type OY · Housi	base - Length: 101 ing materials: alum base - Length: 134 ing materials: alum	0 mm · for safety I inium epoxy-powd	Description light grids · 2 beamer coated / plastics light grids · 3 beamer coated / plastics Material housing /	ns · for safety li	ght curtains · : for safety light	≤ 760 mm · curtains · ≤ 1060	0 mm ·	Order no. EY101 EY101 Order
Type Type	corner mirror with for type OY · Housi Corner mirror with for type OY · Housi Corner mirror with for type OY · Housi Cable	base · Length: 101 ing materials: alum base · Length: 134 ing materials: alum base · Length: 134 ing materials: alum	0 mm · for safety I inium epoxy-powd	Description light grids · 2 beamer coated / plastics light grids · 3 beamer coated / plastics Material housing /	ns · for safety li	ght curtains · : for safety light	≤ 760 mm · curtains · ≤ 1060	0 mm ·	Orde no. EY101 EY101 Orde no.
Type Type ocket 12, !	Corner mirror with for type OY · Housi Corner mirror with for type OY · Housi Corner mirror with for type OY · Housi Cable 5-pole, 5-wire	base · Length: 101 ing materials: alum base · Length: 134 ing materials: alum base · Length: 134 ing materials: alum	0 mm · for safety I inium epoxy-powd	Description light grids · 2 beamer coated / plastics light grids · 3 beamer coated / plastics Material housing / nut PVC / stainless steel	u [V]	ght curtains · : for safety light Ta [°C]	≤ 760 mm · curtains · ≤ 1060 Protection	0 mm ·	Orde no. EY101 EY101 Orde



Safety light grid for washdown, IP 69K



- Safety light grid with IP 69K protection rating
- Resistant to steam and high-pressure cleaning
- SIL to IEC 61508 and PL to ISO 13849
- Both type 2 / SIL 2 and type 4 / SIL 3 versions available
- Up to 15 metre protected area width















Hygienic design

The new safety light grids with protective tube and IP 69K protection rating are designed without corners and edges. They can be used for perimeter guarding, access prevention and point-of-operation guarding. The safety light grids are housed in a hygienic PMMA transparent tubing with IP 69K protection rating. They are thus resistant to high-pressure and steam cleaning.

Features:

- A heater element coupled with sealing O-rings prevents moisture build-up inside the tubing
- Highly-visible LEDs provide status, setup and troubleshooting indication
- Easy installation using integrated slots
- Delivered fully assembled this reduces the installation costs

See www.ifm.com for safety light grids with additional protected heights and widths.



Туре	Dimensions	Number of beams	Protected area height	Protected area width	Response time	Ub	Order no.
	[mm]		[mm]	[m]	[ms]	[V]	
Cable 15 m							
	L x 70 x 50	2	510	03 / 210	3	24	OY411
	L x 70 x 50	3	810	03 / 210	3.5	24	OY412
	L x 70 x 50	4	910	03 / 210	3.5	24	OY413
afety lig	ht grids typ	e 4, SIL 3, P	L e, 2, 3, 4 bea	ms, protected area	width up to	15 m	
Туре	Dimensions	Number of beams	Protected area height	Protected area width	Response time	U _b	Orde no.
	[mm]		[mm]	[m]	[ms]	[V]	
Cable 15 m							
	L x 70 x 50	2	510	07 / 315	2.5	24	OY421
	L x 70 x 50	3	810	07 / 315	2.5	24	OY422



Safety relays



- Multifunctionality reduces the number of versions and thus stock levels
- Combines cross-fault monitoring and simultaneous monitoring
- Connects two-hand controls, light curtains and protective guards
- Two normally-open safety contacts are rated for up to 6 A load current
- Auxiliary output for feedback to the PLC





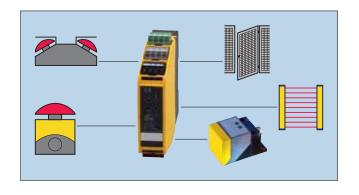
Multifunctionality reduces stock levels

The multifunction relays are compatible with the standard safety relays for the industry. They connect single or dual channel emergency stops, mechanical safety switches, transistor-based safety devices, light curtains, two-hand controls and fail-safe inductive sensors.

All this protective equipment can be monitored with only one safety relay. The benefit is a large reduction in stock levels that eliminates the need for different types of safety relays for various applications.

The G1501S features a selectable "monitor" or "automatic" reset. Two normally-open safety contacts are rated for up to 6 A. A solid state auxiliary non-safety output is designed to provide the status of the safety contacts. Dual channel ESPE's can be configured to monitor simultaneous logic and crossfault detection across the inputs.

ifm's safety relay is certified to IEC 61508, EN 954-1, EN 574 type IIIC.



Different ESPE's can be connected to the safety relay.

Safety re	lays with relay outputs for fail-safe sensors	
Туре	Description	Order no.
	Safety relay · Terminal block Phoenix Contact MSTBO · For the connection of electronic and mechanical fail-safe sensors/switches and for use as two-hand control · Housing materials: PA · Complies with the requirements: ISO 13849-1: category 4 · ISO 13849-1: PL e · IEC 61508: SIL 3 · EN 574: type IIIC	G1501S
	Safety relay · Terminal block Phoenix Contact MSTBO · For the connection of electronic and mechanical fail-safe sensors/switches and for use as two-hand control · Housing materials: PA · Complies with the requirements: ISO 13849-1: category 4 · ISO 13849-1: PL e · IEC 61508: SIL 3 · EN 574: type IIIC	G1502S
Safety re	lays with solid state outputs for fail-safe sensors	
Type		
туре	Description	Order no.
	Safety relay · Terminal block Phoenix Contact MSTBO · For the connection of electronic and mechanical fail-safe sensors/switches and for use as two-hand control · Housing materials: PA · Complies with the requirements: ISO 13849-1: category 4 · ISO 13849-1: PL e · IEC 61508: SIL 3 · EN 574: type IIIC	
j	Safety relay · Terminal block Phoenix Contact MSTBO · For the connection of electronic and mechanical fail-safe sensors/switches and for use as two-hand control · Housing materials: PA · Complies with the requirements: ISO 13849-1: category 4 ·	no.
j	Safety relay · Terminal block Phoenix Contact MSTBO · For the connection of electronic and mechanical fail-safe sensors/switches and for use as two-hand control · Housing materials: PA · Complies with the requirements: ISO 13849-1: category 4 · ISO 13849-1: PL e · IEC 61508: SIL 3 · EN 574: type IIIC	no.



2-wire pressure sensor with display, stainless steel, Aseptoflex Vario process connection



- High-grade stainless steel housing for hygienic applications, level and pressure measurement
- 2-wire transmitter for simplified wiring and retrofitting
- Big 4-digit alphanumeric display for measured values.
- High overall accuracy (0.2 %) and electronic temperature compensation
- High temperature resistance, therefore suitable for SIP and CIP processes

















100 % stainless steel housing – ingress-resistant and robust

The new PI27 series pressure transmitters are 2-wire units with a clearly readable 4-digit LED display constantly showing the measured value. The robust high-grade stainless steel housing has been optimised for hygienic applications, e.g. for monitoring levels in tanks or for pressure measurement in pipe systems.

The completely-welded housing with protection rating IP 69K prevents seepage from aggressive cleaning agents and withstands harsh washdown conditions. The sensor vent contains a Gore-Tex[®] membrane which itself resists high-pressure cleaning and is resistant to aggressive cleaning agents.

A variety of process adapters allows easy integration into the application. The Aseptoflex adapters feature PEEK and Viton sealing for food and beverage applications. These materials provide long-term sealing and are particularly resistant to swelling and aggressive chemicals.





	2032 2032 2032	PI2789
Aseptoflex Vario Display unit -0.01240.25 10 30 Aseptoflex Vario Display unit -0.051 10 30 Aseptoflex Vario Display unit -0.1242.5 20 50	2032	
Aseptoflex Vario Display unit -0.0050.1 4 30 Aseptoflex Vario Display unit -0.01240.25 10 30 Aseptoflex Vario Display unit -0.051 10 30 Aseptoflex Vario Display unit -0.1242.5 20 50	2032	
Aseptoflex Vario Display unit -0.051 10 30 Aseptoflex Vario Display unit -0.1242.5 20 50		PI2798
Aseptoflex Vario Display unit -0.1242.5 20 50	2032	
		PI2797
Aseptoflex Vario Display unit -125 100 350	2032	PI2796
	2032	PI2793
Aseptoflex Vario Display unit -110 50 150	2032	PI2794
Aseptoflex Vario Display unit -14 30 100	2032	PI2795
Aseptoflex Vario Display unit -11 10 30	2032	PI2799
A decade and		
Adapters		
Type Description		Order no.
Clamp adapter · Clamp · with leakage port · Clamp · 1-1.5" · with sealing ring · ISO 2852 · for units with Asepto Housing materials: stainless steel 316L / 1.4435	oflex Vario adapter ·	E33208
Clamp adapter · Clamp · with leakage port · Clamp · 2" · with sealing ring · ISO 2852 · for units with Aseptoflex Housing materials: stainless steel 316L / 1.4435	(Vario adapter ·	E33209
	P 1 P 1	
Welding adapter · Ø 50 mm · Welding adapter · with leakage port · for units with Aseptoflex Vario adapter · Sea Housing materials: stainless steel 316L / 1.4435	aling by sealing ring ·	E30130
Connectors		
Time Califer Miller	ro- LEDs tion	Order no.
specification housing / tect		
specification housing / tect		
specification housing / tect		
specification housing / [V] [°C] tect ocket 12, 5/4-pole, 4-wire 5 m orange	' IP 68 / _ 59K –	EVT00

2-wire pressure sensor with display, stainless steel, G1A process connection



- High-grade stainless steel housing for hygienic applications, level and pressure measurement
- 2-wire transmitter for simplified wiring and retrofitting
- Big 4-digit alphanumeric display for measured values.
- High overall accuracy (0.2 %) and electronic temperature compensation
- High temperature resistance, therefore suitable for SIP and CIP processes















100 % stainless steel housing - ingress-resistant and robust

The new PI28 series pressure transmitters are 2-wire units with a clearly readable 4-digit LED display constantly showing the measured value. The robust high-grade stainless steel housing has been optimised for hygienic applications, e.g. for monitoring levels in tanks or for pressure measurement in pipe systems.

The completely-welded housing with protection rating IP 69K prevents seepage from aggressive cleaning agents and withstands harsh washdown conditions. The sensor vent contains a Gore-Tex[®] membrane which itself resists high-pressure cleaning and is resistant to aggressive cleaning agents.

A variety of G1 process adapters allows easy integration into the application.





Flush pres	Flush pressure sensors with switching and analogue output, IO-Link											
Туре	Process connection	Display	Measuring range	Poverload	Pbursting	U _b DC	Order no.					
		LED	[bar]	max. [bar]	min. [bar]	[V]						
M12 connector · Output function 1 x normally open / normally closed programmable + 1 x normally open / normally closed programmable or 1 x analogue (420 / 204 mA, scalable)												
	G1 A sealing cone	Display unit	-125	100	350	2032	PI2893*					
	G1 A sealing cone	Display unit	-110	50	150	2032	PI2894*					
	G1 A sealing cone	Display unit	-14	30	100	2032	PI2895*					
	G1 A sealing cone	Display unit	-0.1242.5	20	50	2032	PI2896*					
CEL PROPERTY.	G1 A sealing cone	Display unit	-0.051	10	30	2032	PI2897*					
	G1 A sealing cone	Display unit	-0.01240.25	10	30	2032	PI2898*					
	G1 A sealing cone	Display unit	-11	10	30	2032	PI2899*					
	G1 A sealing cone	Display unit	-0.0050.1	4	30	2032	PI2889*					

Attention: The unit must only be installed in a process connection for G1 sealing cone! The G1A sealing cone of the unit is only suited for adapters with metal end stop!

Adapters								
Туре	Description							
		Clamp adapter · Clamp · Clamp · 1-1.5" · ISO 2852 · for units with G 1 adaptation · Housing materials: stainless steel 316L / 1.4435						
	pipe fitting · pipe fitting Housing materials: stainl	· pipe fitting · DN40 (1.5") · D less steel 316L / 1.4435	IN 11851 · for units	with G 1 adap	tation ·			E33612
	Clamp adapter · Variven Housing materials: stainl	t type N · Varivent type N · DN less steel 316L / 1.4435	40 (1.5"), D = 68 · 1	or units with G	1 adaptation			E33622
	Welding adapter · G 1 -	Ø 50 mm · Welding adapter ·	Housing materials: s	tainless steel 3	16L / 1.4404			E30013
Connecto	rs							
Туре	Cable	Wire specification	Material housing / nut	U [V]	T _a [°C]	Pro- tection	LEDs	Order no.
Socket 12, 5/	4-pole, 4-wire							
	5 m orange PVC cable	4 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT004
	5 m orange PVC cable	4 x 0.34 mm², Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT001



Fully electronic contact manometer Aseptoflex Vario process connection



- 3-in-1: Transmitter, switch and manometer
- Optimum readability by pointer and digital measured value display
- Rotatable display with LED bar graph and switch point indication
- The pointer is driven by a stepper motor and does not require any damping liquid
- Easy mounting and parameter setting by means of optical touch buttons















Pressure transmitter, pressure switch and convenient manometer display in one housing.

The PG series electronic "contact manometer" combines the high visibility of a manometer display with the advantages of an electronic pressure sensor. Compared to mechanical contact manometers it features more varied options. The manometer display is enhanced with a ring of LEDs that can either indicate the position of the set point and the reset point or follow the position of the pointer needle (trend display). An LED display helps with the setting and also serves as digital display of measured values.

Setting is made via two optical touch fields behind the front glass. Advantage: Cavities such as those found on mechanical switches are avoided, and thus liquid ingress is prevented.

The pointer is driven by a stepper motor. This avoids the typical oscillation that occurs with mechanical pointers.

The permissible medium temperature range is from -25...125 $^{\circ}$ C (145 $^{\circ}$ C for max. 1 hour). The high accuracy is 0.2 $^{\circ}$ C. The fully electronic contact manometer provides high overload resistance as well as an integrated temperature compensation.





Туре	Process connection	Display	Measuring range	Poverload	Pbursting	g	U _b DC	Order no.
		LED	[bar]	max. [bar]	min. [ba	r]	[V]	
I12 connec C PNP/NPN	tor · Output function	1 x normally open /	closed program	mable + 1 x analo	gue (420 / 2	.04 mA,	scalable) ·	
	Aseptoflex Vario	Display unit	-0.0050.1	4	30		1832	PG278
	Aseptoflex Vario	Display unit	-0.01240.25	10	30		1832	PG279
-	Aseptoflex Vario	Display unit	-0.051	10	30		1832	PG27
	Aseptoflex Vario	Display unit	-0.1242.5	20	50		1832	PG27
	Aseptoflex Vario	Display unit	-125	100	350		1832	PG27
	Aseptoflex Vario	Display unit	-110	50	150		1832	PG27
-	Aseptoflex Vario	Display unit	-14	30	100		1832	PG27
	Aseptoflex Vario	Display unit	-11	10	30		1832	PG279
		· with leakage port · Clan lless steel 316L / 1.4435	np · 1-1.5" · with se	aling ring · ISO 2852 ·	for units with As	eptoflex Vari	io adapter ·	E332
3	Housing materials: stair						·	
	Housing materials: stair Clamp adapter · Clamp Housing materials: stair Welding adapter · Ø 50	elless steel 316L / 1.4435 with leakage port · Clan	mp · 2" · with sealing with leakage port · f	g ring · ISO 2852 · for	units with Aseptc	oflex Vario ad	dapter ·	E332
onnecto	Clamp adapter · Clamp Housing materials: stair Welding adapter · Ø 50 Housing materials: stair	with leakage port · Clan eless steel 316L / 1.4435 mm · Welding adapter · v	mp · 2" · with sealing with leakage port · f	g ring · ISO 2852 · for	units with Aseptc	oflex Vario ad	dapter ·	E3320
Connector	Clamp adapter · Clamp Housing materials: stair Welding adapter · Ø 50 Housing materials: stair	with leakage port · Clan eless steel 316L / 1.4435 with leakage port · Clan eless steel 316L / 1.4435 mm · Welding adapter · values steel 316L / 1.4435	np · 2" · with sealing with leakage port · f	g ring · ISO 2852 · for or units with Aseptofl	units with Asepto ex Vario adapter ·	oflex Vario and Sealing by s	dapter ·	E3320
	Housing materials: stair Clamp adapter · Clamp Housing materials: stair Welding adapter · Ø 50 Housing materials: stair	with leakage port · Clan eless steel 316L / 1.4435 mm · Welding adapter · valess steel 316L / 1.4435	np · 2" · with sealing	g ring · ISO 2852 · for or units with Aseptofl	units with Asepto ex Vario adapter ·	oflex Vario ad	dapter · sealing ring ·	E3320
Туре	Housing materials: stair Clamp adapter · Clamp Housing materials: stair Welding adapter · Ø 50 Housing materials: stair	with leakage port · Clan eless steel 316L / 1.4435 with leakage port · Clan eless steel 316L / 1.4435 mm · Welding adapter · values steel 316L / 1.4435	mp · 2" · with sealing with leakage port · f Material housing	g ring · ISO 2852 · for or units with Aseptofl	units with Asepto ex Vario adapter · Ta	oflex Vario and Sealing by s	dapter · sealing ring ·	E3320
Туре	Clamp adapter · Clamp Housing materials: stair Welding adapter · Ø 50 Housing materials: stair	with leakage port · Clan eless steel 316L / 1.4435 with leakage port · Clan eless steel 316L / 1.4435 mm · Welding adapter · values steel 316L / 1.4435	mp · 2" · with sealing with leakage port · f Material housing nut	g ring · ISO 2852 · for or units with Aseptofle U [V] 250 AC 300 DC	units with Asepto	oflex Vario and Sealing by s	dapter · sealing ring ·	E3320



Fully electronic contact manometer G1A connection



- 3-in-1: Transmitter, switch and manometer
- Optimum readability by pointer and digital measured value display
- Rotatable display with LED bar graph and switch point indication
- The pointer is driven by a stepper motor and does not require any damping liquid
- Easy mounting and parameter setting by means of optical touch buttons













Pressure transmitter, pressure switch and convenient manometer display in one housing.

The fully electronic contact manometer is integrated in pipes and serves as clearly visible display of the process conditions. The manometer display is enhanced with a ring of LEDs that can either indicate the position of the set point and the reset point or follow the position of the pointer needle (trend display). An LED display helps with the setting and also serves as digital display of measured values.

Setting is made via two optical touch fields behind the front glass. Advantage: Cavities such as those found on mechanical switches are avoided, and thus liquid ingress is prevented.

The pointer is driven by a stepper motor. This avoids the typical oscillation that occurs with mechanical pointers.

The permissible medium temperature range is from -25...125 °C (145 °C for max. 1 hour). The high accuracy is 0.2 %. The fully electronic contact manometer provides high overload resistance as well as an integrated temperature compensation.





Туре	Process connection	Display	Measuring range	Poverload	Pbursting	U _b DC	Order no.
		LED	[bar]	max. [bar]	min. [bar]	[V]	
112 connect	tor · Output function	1 x normally oper	n / closed program	mable + 1 x analog	jue (420 / 204 m	A, scalable)	
	G1 A sealing cone	Display unit	-125	100	350	1832	PG2893*
	G1 A sealing cone	Display unit	-110	50	150	1832	PG2894*
	G1 A sealing cone	Display unit	-14	30	100	1832	PG2895*
	G1 A sealing cone	Display unit	-0.1242.5	20	50	1832	PG2896*
Ħ	G1 A sealing cone	Display unit	-0.051	10	30	1832	PG2897*
	G1 A sealing cone	Display unit	-0.01240.25	10	30	1832	PG2898*
	G1 A sealing cone	Display unit	-11	10	30	1832	PG2899*
	G1 A sealing cone	Display unit	-0.0050.1	4	30	1832	PG2889*

Attention: The unit must only be installed in a process connection for G1 sealing cone! The G1A sealing cone of the unit is only suited for adapters with metal end stop!

Adapters								
Туре	Description							Order no.
		Clamp adapter · Clamp · Clamp · 1-1.5" · ISO 2852 · for units with G 1 adaptation · Housing materials: stainless steel 316L / 1.4435						
	Pipe fitting · pipe fitting Housing materials: stainl	· pipe fitting · DN40 (1.5") · D ess steel 316L / 1.4435	IN 11851 · for units	with G 1 adapt	ation ·			E33612
		Clamp adapter · Varivent type N · Varivent type N · DN40 (1.5"), D = $68 \cdot$ for units with G 1 adaptation · Housing materials: stainless steel 316L / 1.4435						
	Welding adapter · G 1 -	Ø 50 mm · Welding adapter ·	Housing materials: s	tainless steel 3	16L / 1.4404			E30013
Connecto	rs							
Туре	Cable	Wire specification	Material housing / nut	U [V]	T _a [°C]	Pro- tection	LEDs	Order no.
Socket 12, 5/	4-pole, 4-wire							
	5 m orange PVC cable	4 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT004
1	5 m orange PVC cable	4 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT001

Pressure sensors especially for homogenisers



- Optimised for the monitoring of homogeniser processes
- Easy parameter setting via pushbuttons
- Flexible thanks to configurable switching and analogue outputs
- The integrated display does not require any reference display
- Long-term stability thanks to ceramic measuring cell











Precise monitoring of homogeniser processes

Homogenisers are used to emulsify two liquids or to spread solids evenly in a liquid. This improves stability and other characteristics of the product.

In the dairy industry, the product is pumped into a homogeniser and, under very high pressure, pushed through small screens. This breaks up the fat globules in the milk and creates a consistent homogeneous mixture.

For reproducible process results the pressure during homogenising must be monitored and controlled with precision. These pressure sensors have been designed especially for this purpose.

PY9970 is fitted with a mounting block and a diaphragm seal filled with an FDA-approved fluid. The PY9000 however can be mounted via a connection already existing on the homogeniser.





Pressure s	ensors for hor	mogenisers						
Туре	Process connection	Display	Measuring range	Poverload	Pbu	ırsting	U _b DC	Order no.
		LED	[bar]	max. [bar]	min	. [bar]	[V]	
	or · Output function (420 mA / 010 V	2 x normally open / ; scaleable 1:4)	closed program	mable or 1 x no	rmally open	/ closed pro	ogrammable	+
	-	Display unit	0400	600	1	000	2032	PY9970
	Clamp fitting	Display unit	0600	800	1	200	2030	PY9000
Connector	rs							
Туре	Cable	Wire specification	Material housing		Ta	Pro- tection	LEDs	Order no.
		Specification	nut	[V]	[°C]	tetton		110.
Socket 12, 5/4	1-pole, 4-wire							
	5 m orange PVC cable	4 x 0.34 mm ² , Ø 4.9 r	PVC / mm stainless ste 316L / 1.44	300 DC	-25100	IP 67 / IP 68 / IP 69K	_	EVT004
	5 m orange PVC cable	4 x 0.34 mm², Ø 4.9 ı	PVC / mm stainless sto 316L / 1.44	30010	-25100	IP 67 / IP 68 / IP 69K	-	EVT001

Flow sensors for hygienic applications



- Wear-free due to calorimetric measuring principle.
- Extensive range of process adapters available
- LED bar graph display for flow and set point
- Easy parameter setting via pushbuttons, flexible mounting options
- Three different probe lengths for optimum insertion depth















Without wear

The flow sensors of the SI series are electronic alternatives for mechanical flow switches. They are used to detect the flow velocity in liquids and gases. Since flow sensors have no moving parts to jam or break, they are free from wear and maintenance.

Switching output, installation in process

Evaluation, LED status display and stainless steel probe are integrated in one compact housing. The probe is inserted directly into the medium. The user can set the application parameters via two buttons. The sensor switches if the flow velocity is below or above the set flow value

Multiple hygienic mounting options

The sensors allow the connection of industrially compatible adapters and connections. This flexibility allows the sensor to be easily installed in many different applications that have various mounting requirements.

The SI series flow sensors for hygienic applications verify for example the return flow in CIP systems. The stainless steel sensing probe is resistant to damage from solids and harsh chemicals in the fluid stream.





Туре	Setting range	Greatest	Medi	um	Pressure	Response	Probe	Order		
Type	liquids / gases	sensitivity	temper		rating	time	length	no.		
	[cm/s]	[cm/s]	[°C]	[bar]	[s]	[mm]			
/I12 connec	tor									
<u>_</u>	3300 / 2003000	3100 / 20080	00 -25	.95	30	110	36.8	S16600		
	3300 / 2003000	3100 / 20080	00 -25	.95	30	110	54.8	S16700		
<u></u>	3300 / 2003000	3100 / 20080	00 -25	.95	30	110	71.8	SI6800		
Adapters	5									
Туре		Description								
	Clamp adapter · Clamp · Housing materials: stainl	with leakage port · Clamp · 1 ess steel 316L / 1.4435	-1.5" · with sealing	ring · ISO 28	352 · for units v	vith Aseptoflex \	/ario adapter ·	E3320		
	Clamp adapter · Clamp · Housing materials: stainl	with leakage port · Clamp · 2 ess steel 316L / 1.4435	" · with sealing ring	· SO 2852 ·	for units with	Aseptoflex Vario	adapter ·	E33209		
	Welding adapter · Ø 50 Housing materials: stainle	mm · Welding adapter · with I ess steel 316L / 1.4435	eakage port · for ur	its with Asep	otoflex Vario ad	lapter · Sealing b	y sealing ring ·	E3013(
Connecto	ors									
Туре	Cable	Wire	Material	U	Ta	Pro-	LEDs	Order		
		specification	housing / nut	[V]	[°C]	tection		no.		
Socket 12, 5	/4-pole, 4-wire									
	5 m orange PVC cable	4 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 IP 69K	/ -	EVT004		
	5 m orange PVC cable	4 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel	250 AC 300 DC	-25100	IP 67 / IP 68 IP 69K	/ _	EVT00		

Flow sensors for utilities and industrial applications



- Wear-free due to calorimetric measuring principle
- Extensive range of process adapters available
- Wide measuring range to cover many applications
- LED bar graph display for flow and set point
- Easy parameter setting via pushbuttons, flexible mounting options







Without wear

The SI and SM series flow sensors are electronic alternatives for mechanical flow switches.

The sensors of the SI series monitor flow in liquids and gases.

The magnetic-inductive flow sensor SM measures the flow of conductive liquids and their temperature.

Since the flow sensors have no moving parts, they are free from wear and maintenance.

Switching output, installation in process

Evaluation, LED status display and sensor elements are integrated in one compact housing. The user can set the application parameters via two buttons.

The sensor of type SI switches if the flow velocity is below or above the set flow value.

The output of the magnetic-inductive sensor (type SM) can also be configured as quantity meter or preset counter (respectively as pulse output). A second output (switching output or analogue) is used for temperature monitoring.





Compact 1	flow sensors						
Туре	Setting range liquids / gases	Material sensor tip	Medium temperature	Pressure rating	Response time	U _b	Order no.
	[cm/s]		[°C]	[bar]	[s]	[V]	
1/2" UNF-Con	nector						
	3300 / 2003000	stainless steel 316L / 1.4404	-2580	300	110	85265	SI5006*
M12 connecto	or						
	3300 / 2003000	stainless steel 316L / 1.4404	-2580	300	12 / 110	1936	SI5010

* Note for AC and AC/DC units

Miniature fuse to IEC60127-2 sheet 1, \leq 5 A (fast acting) Recommendation: check the unit for reliable function after a short circuit.

Туре	Process connection	Measuring range	Medium temperature	Pressure rating	Respo tin		U _b	Orde no.
		[l/min]	[°C]	[bar]	[s]	[V]	
112 connec	tor							
	G½	0.2525.00	-1070	16	< 0.	150	1930	SM61
	G¾	0.550.0	-1070	16	< 0.	150	1930	SM71
H	G1	0.7100.0	-1070	16	< 0.	150	1930	SM81
-	G2 flat seal	6.5300	-1070	16	< 0.	25	1832	SM91
	G2 flat seal	8600	-1070	16	< 0.	25	1832	SM21
Туре			Descrip	tion				Oud
. , p								
		8 x 1.5 - Ø 24 mm · In inless steel 316L / 1.44	sertion depth of the pro		5 mm ·			no
onnecto	Housing materials: sta		sertion depth of the pro		5 mm ·			Orde no.
	Housing materials: sta		sertion depth of the pro 04 Materi	obe of SID, SFD, TN: · 1	5 mm · T _a [°C]	Pro- tection	LEDs	no

Compressed air meter with display



- Inline flow meter for compressed air and special gases (AR, CO₂, N₂)
- The detection of minute leakage helps to improve the energy efficiency
- Makes consumption transparent and thus helps to reduce costs
- Totaliser function to determine the total consumption
- Integrated pipe length ensures easy mounting and installation







Compressed air and special gas at a glance

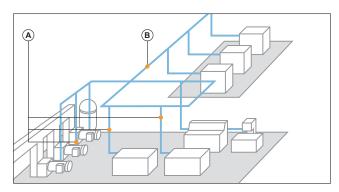
efector metris monitors compressed air and specialty gases such as argon (Ar), carbon dioxide (CO₂), and nitrogen (N₂) to detect leakage and improve energy efficiencies.

Compressed air is one of the most expensive energy carriers in a plant. With the detection of leakage, efector metris helps to optimise compressed air consumption, to improve the system performance and to reduce energy costs.

The compact sensor features a fixed pipe with integrated measuring range. This facilitates mounting. It functions according to the calorimetric measuring principle, that is without mechanical parts and free from wear.

A 4-digit display indicates compressed air or gas consumption. It also helps during parameter setting of the unit. Three display options are available: cubic metre a minute, cubic metre an hour and total consumption in cubic metre. The 24 V DC unit provides switching, analogue and pulse outputs.





(A) Installation in a supply pipe to monitor a machine.

(B) Installation in one main line to monitor several machines

Туре	Process connection	Setting range	Accuracy within measuring range	Press rati		Response time	U _b	Orde no.
		[Nm³/h]		[ba	r]	[s]	[V]	
utput funct	tion OUT1: normall	y open / closed programn	nable or pulse OUT	2: normally	y open / cl	osed prograr	mmable or	analogu
	G¼ (DN8)	0.1215.00	A): ± (3% MW + 0.3% MEW) / B): ± (6% MW + 0.6% MEW) *	16	ō	< 0.1	1830	SD500
-	R½ (DN15)	0.675.0	A): ± (3% MW + 0.3% MEW) / B): ± (6% MW + 0.6% MEW) *	16	5	< 0.1	1830	SD60
inia)	G½ (DN15)	0.675	± (15% MW + 1.5% MEW) *	16	5	< 0.1	1830	SD60
- 49.	R1 (DN25)	1.8225.0	A): ± (3% MW + 0.3% MEW) / B): ± (6% MW + 0.6% MEW) *	16	5	< 0.1	1830	SD80
1	R1½ (DN40)	3.5410.0	A): ± (3% MW + 0.3% MEW) / B): ± (6% MW + 0.6% MEW) *	16	5	< 0.1	1830	SD90
ompress	sed air meter	for special dases						
		ioi special gases						
Туре	Process connection	Setting range	Medium temperature	Press rati		Response time	U _b	
Туре	Process				ng		U _b	
itput funct	Process connection tion OUT1: normall	Setting range	temperature [°C]	rati [ba	ng r]	time [s]	[V]	no
itput funct	Process connection tion OUT1: normall	Setting range [Nm³/h]	temperature [°C]	rati [ba	ng r] y open / clo	time [s]	[V]	no analogi
itput funct	Process connection tion OUT1: normall aleable)	Setting range [Nm³/h] y open / closed programn Ar: 0.0824.54 / CO ₂ : 0.047 (0.04)14.38 /	temperature [°C] nable or pulse OUT	rati [ba '2: normally	ng r] y open / cl	time [s] osed prograr	[V] mmable or a	no analogu SD51
utput funct	Process connection tion OUT1: normall aleable) G¼ (DN8)	Setting range [Nm³/h] y open / closed programn Ar: 0.0824.54 / CO ₂ : 0.047 (0.04)14.38 / N ₂ : 0.05 (0.06)14.94 Ar: 0.39 (0.4)118.2 / CO ₂ : 0.24 (0.2)71.7 /	temperature [°C] nable or pulse OUT 060	rati [ba '2: normally	ng r] y open / cl	time [s] osed program < 0.1	[V] mmable or a	Ordino. SD51
utput funct	Process connection tion OUT1: normall aleable) G¼ (DN8)	Setting range [Nm³/h] y open / closed programn Ar: 0.0824.54 / CO ₂ : 0.047 (0.04)14.38 / N ₂ : 0.05 (0.06)14.94 Ar: 0.39 (0.4)118.2 / CO ₂ : 0.24 (0.2)71.7 /	temperature [°C] nable or pulse OUT 060	rati [ba '2: normally	ng r] y open / cl	time [s] osed program < 0.1	[V] mmable or a	no analogu SD51
onnecto	Process connection tion OUT1: normall aleable) G¼ (DN8) R½ (DN15)	Setting range [Nm³/h] y open / closed programn Ar: 0.0824.54 / CO2: 0.047 (0.04)14.38 / N2: 0.05 (0.06)14.94 Ar: 0.39 (0.4)118.2 / CO2: 0.24 (0.2)71.7 / N2: 0.24 (0.2)73.0	temperature [°C] nable or pulse OUT 060 Material housing /	rati [ba '2: normally 16	ng y open / cla	time [s] osed program < 0.1 < 0.1	[V] mmable or a 1930	sD51
onnecto	Process connection tion OUT1: normall aleable) G¼ (DN8) R½ (DN15) Cable	Setting range [Nm³/h] y open / closed programn Ar: 0.0824.54 / CO2: 0.047 (0.04)14.38 / N2: 0.05 (0.06)14.94 Ar: 0.39 (0.4)118.2 / CO2: 0.24 (0.2)71.7 / N2: 0.24 (0.2)73.0	temperature [°C] nable or pulse OUT 060 Material housing /	rati [ba '2: normally 16	ng y open / cla	time [s] osed program < 0.1 < 0.1	[V] mmable or a 1930	sD51



The LMT point-level sensor ignores foam and deposit build-up



- Adjustment to the medium (LMT100 / 110) preset or via IO-Link (LMT121)
- Hygienic design with maintenance-free sealing concept
- Robust stainless steel housing with laser type label for durable legibility
- Resistant to foam and deposits
- Easy mounting using orientationindependent installation















Reliable even if covered in residues

LMT series point level sensors have been designed for the monitoring of the levels of liquids, viscous media and powders in food applications. The sensor uses high-frequency capacitance spectrum profiling technology to effectively eliminate challenges with deposits, residue and foam build-up that commonly cause traditional point-level sensors to output false results.

Suited for food and hygienic applications

The sensor's 316 stainless steel body and smooth food-grade PEEK sensing tip ensure chemical compatibility even with the harshest cleaning agents. The high protection rating of IP 68 / IP 69K prevents liquid ingress.

Media adjustment

For LMT100 and LMT110 no media adjustment is required since they are preset to the respective medium in the factory. The LMT121 can be set to almost any liquid or viscous medium and bulk materials via IO-Link. Each of the two switching outputs can be set independently of each other so it is also possible to differentiate between two different media.





(A) The LMT sensor monitors the level of mayonnaise using the high-frequency capacitance spectrum profiling technology. (B) Despite deposits on the sensor the empty tank is detected reliably.

Туре	Process connection	Probe length	Process pressure max. [bar]	Aţ	pplication	Pr	otection	Order no.
112 connec	tor · Output function	normally open / clos	ed complementary ·	DC PNP				
	G ½ A	-	-116	water, wa	ter-based mediu	m IP 6	58 / IP 69K	LMT10
	G ½ A	-	-116	oi	ils, grease	IP 6	58 / IP 69K	LMT11
/112 connec	tor · Output function	2 x normally open / o	closed programmabl	e · DC PNP/I	NPN · IO-Link			
	G ½ A	-	-140		uid, viscous owdery media	IP 6	58 / IP 69K	LMT12
Adapters								
Туре			Description					Orde no.
	Welding adapter · G ½	- Ø 29 mm · Welding adap	oter · for pipes · Housing ı	materials: stain	less steel 316L /	1.4435		E4330
	Welding adapter · G ½	- Ø 30 mm · Welding adap	oter - for tanks - Housing	materials: stain	less steel 316L/	1.4435		E4330
	Clamp adapter · Clamp Housing materials: stain	· Clamp · 1-1.5" · ISO 285 less steel 316L / 1.4404	52 / DIN 32676 · for units	with G ½ adap	otation ·			E3340
Connecto	ors							
Туре	Cable	Wire specification	Material housing / nut	U [V]	T _a [°C]	Pro- tection	LEDs	Ordei no.
ocket 12, 5	/4-pole, 4-wire							
	5 m orange PVC cable	4 x 0.34 mm², Ø 4.9 m	PVC / nm stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT00



Temperature plug and temperature probes with integrated 2" Tri-Clamp® connection



- Using the temperature plug, the probe sensor functions as programmable transmitter
- Versions for different temperature ranges
- Compact housing with ecolinkM12 connection technology
- One-piece probes for hygienic temperature measurements
- Excellent response times and high accuracy thanks to PT100 element, class A













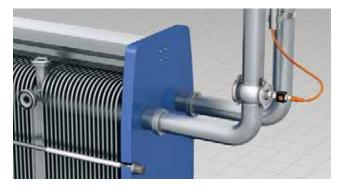


Transmitter for probe sensors

The innovative and extremely compact temperature plug is simply connected to a temperature probe sensor via M12 connection and allows its use as programmable transmitter. Error sources from screw terminals, wiring mistakes, and fluid ingress are eliminated. An integrated LED shows the operating status on site.

Integrated Tri-clamp® process connections

The temperature probes of the TM49 series require no separate hygienic process adapter. The one-piece probe with integrated Tri-clamp® connection eliminates potential contamination ingress points. The 6 mm thin sensor tip guarantees an excellent response time of T05 = 1 s and T09 = 3 s while ensuring high stability.





Left: Traditional head transmitters are large, expensive and subject to moisture ingress. Middle: Temperature plug for direct installation. Right: Temperature plug for external installation.

Туре	Measuring range	Process connection	U _b	Ambient temperature		Measuring elem	ent	Orde no.
	[°C]		[V]	[°C]				
112 connecto	or · Output function	n 420 mA analogue · D0	c					
	-50300	M12	2032	-2570	F	for Pt100 and Pt1000 measuring el		TP323
Δ	-50300	M12	2032	-2570		for Pt100 and Pt1000 measuring el		TP323
	-50300	M12	2032	-2570	F	for Pt100 and Pt1000 measuring el		TP32
	-50300	M12	2032	-2570	F	for Pt100 and Pt1000 measuring el		TP32
112 connecto	or · Output function	1 010 V analogue · DC						
Δ						for Pt100 and		
	-50300	M12	1832	-2570	F	Pt1000 measuring el		TP92
emperati	ure probe sen	sors with Tri-Clam	ip process o	connection				
also suite	d for connect	ion to the TR eval	uation unit	:)				
Type	Measuring range	Process connection	Installation length	Sensor element		Dynamic respo T05 / T09	onse	Ordo
	[°C]		[mm]			[s]		
112 connecto	or · high-grade stai	nless steel						
	-40150	Clamp 2"	30	1 x Pt 10	0	1/3		TM49
A	-40150	Clamp 2"	50	1 x Pt 100	0	1/3		TM49
4	-40150	Clamp 2"	100	1 x Pt 10	0	1/3		TM49
	-40150	Clamp 2"	150	1 x Pt 100	0	1/3		TM49
Connector	rs							
Туре	Cable	Wire	Material	U	Ta	Pro-	LEDs	Orde
21		specification	housing / nut	[V]	[°C]	tection		no.
ocket 12, 5/4	l-pole, 4-wire							
	5 m orange PVC cable	4 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100) IP 67 / IP 68 / IP 69K	-	EVTO
	5 m orange PVC cable	4 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100) IP 67 / IP 68 / IP 69K	-	EVTO
ımper 12, 4/	5-pole, 4-wire							
			PVC /					
			D\/C /					



Temperature plug and temperature probes with integrated 1-1.5" Tri-Clamp® connection



- Using the temperature plug the probe sensor functions as programmable transmitter
- Versions for different temperature ranges
- Compact housing with ecolinkM12 connection technology
- One-piece probes for hygienic temperature measurements
- Excellent response times and high accuracy thanks to PT100 element, class A















Transmitter for probes

The innovative and extremely compact temperature plug is simply connected to a temperature probe sensor via M12 connection and allows its use as programmable transmitter. Error sources from screw terminals, wiring mistakes, and fluid ingress are eliminated. An integrated LED shows the operating status on site.

Integrated Tri-clamp® process connections

The TM48 series temperature probes require no separate hygienic process adapter. The one-piece probe with integrated Tri-Clamp® connection eliminates potential contamination ingress points. The 6 mm thin sensor tip guarantees an excellent response time of T05 = 1 s and T09 = 3 s while ensuring high stability.





Left: Traditional head transmitters are large, expensive and subject to moisture ingress. Middle: Temperature plug for direct installation. Right: Temperature plug for external installation.

Туре	Measuring range	Process connection	U _b	Ambient temperature		Measuring elem	ent	Orde no.
	[°C]		[V]	[°C]				
M12 connect	or · Output functi	on 420 mA analogue · D	C					
	-50300	M12	2032	-2570		for Pt100 and Pt1 measuring eleme		TP323
Δ	-50300	M12	2032	-2570		for Pt100 and Pt1 measuring eleme	000	TP32
	-50300	M12	2032	-2570		for Pt100 and Pt1 measuring eleme	000	TP32:
	-50300	M12	2032	-2570		for Pt100 and Pt1 measuring eleme	000	TP32
/112 connect	or · Output functi	on 010 V analogue · DC						
Λ					6 8	400 104000		
	-50300	M12	1832	-2570	for Pt	100 and Pt1000 n elements	neasuring	TP92
emnerat	ure probe se	nsors with Tri-Clan	nn nrocess (connection				
also suite	ed for connec	tion to the TR eva	luation unit	t)				
Туре	Measuring range	Process connection	Installation length	Sensor element		Dynamic respo T05 / T09	onse	Ordo no
	[°C]		[mm]			[s]		
	-40150	Clamp 1-1.5" ISO 2852	30	1 x Pt 100		1/3		TM48
4	-40150	Clamp 1-1.5" ISO 2852	50	1 x Pt 100		1/3		TM48
V	-40150	Clamp 1-1.5" ISO 2852	100	1 x Pt 100		1/3		TM48
	-40150	Clamp 1-1.5" ISO 2852	150	1 x Pt 100		1/3		TM48
Connecto	rs							
Туре	Cable	Wire specification	Material housing / nut	υ [V]	T _a [°C]	Pro- tection	LEDs	Ord no
ocket 12, 5/	4-pole, 4-wire							
	5 m orange PVC cable	4 x 0.34 mm², Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVTO
	5 m orange PVC cable	4 x 0.34 mm², Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVTO
ımper 12, 4 <i>i</i>	5-pole, 4-wire							
Jumper 12, 4/	5-pole, 4-wire							



Temperature plug and temperature probes with G 1/2 process connection



- Using the temperature the probe sensor functions as programmable transmitter
- Versions for different temperature ranges
- Compact housing with ecolink M12 connection technology
- One-piece probes for hygienic temperature measurements
- Excellent response times and high accuracy thanks to Pt100 element, class A













Transmitter for probes

The innovative and extremely compact temperature plug is simply connected to a temperature probe sensor via M12 connection and allows its use as programmable transmitter. Error sources from screw terminals, wiring mistakes, and fluid ingress are eliminated. An integrated LED shows the operating status on site.

Integrated G 1/2 process connections

The TM45 series temperature probes require no separate hygienic process adapter. The one-piece probe with integrated G 1/2 connection eliminates potential septic ingress points. The 6 mm thin sensor tip guarantees an excellent response time of T05 = 1 s and T09 = 3 s while ensuring high stability.





Left: Traditional head transmitters are large, expensive and subject to moisture ingress. Middle: Temperature plug for direct installation. Right: Temperature plug for external installation.

	range	Process connection	U _b	Ambient temperature		Measuring elem	iciit	Orde no.
	[°C]		[V]	[°C]				
112 connecto	or · Output function	n 420 mA analogue ∙ [oc					
	-50300	M12	2032	-2570		for Pt100 and Pt1 measuring eleme		TP323
Δ	-50300	M12	2032	-2570		for Pt100 and Pt1 measuring eleme	000	TP32
	-50300	M12	2032	-2570		for Pt100 and Pt1 measuring eleme	000	TP32
	-50300	M12	2032	-2570		for Pt100 and Pt1 measuring eleme		TP323
112 connecto	or · Output function	n 010 V analogue · DC	:					
Δ						for Pt100 and Pt1	000	
	-50300	M12	1832	-2570		measuring eleme		TP923
ensors w	vith process co	nnection for hyg	jienic and w	et areas				
Туре	Measuring range	Process connection	Installation length	Sensor elemen		Dynamic resp		Orde no.
	[°C]		[mm]			[s]		
112 connecto	or · high-grade staii	nless steel						
	-40150	G½ with sealing cone	20	1 x Pt 10	0	1/3		TM45
	-40150	G½ with sealing cone	30	1 x Pt 10	0	1/3		TM45
(E)	-40150	G½ with sealing cone	50	1 x Pt 10	0	1/3		TM45
	-40150	G½ with sealing cone	100	1 x Pt 10	0	1/3		TM45
	-40150	G½ with sealing cone	150	1 x Pt 10	0	1/3		TM45
onnecto	rs							
Туре	Cable	Wire specification	Material housing / nut	U [V]	T _a [°C]	Pro- tection	LEDs	Orde no.
ocket 12, 5/4	l-pole, 4-wire							
	5 m orange PVC cable	4 x 0.34 mm², Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT0
	5 m orange PVC cable	4 x 0.34 mm², Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT0
mper 12, 4/	5-pole, 4-wire							



Evaluation unit and temperature probe sensors



- Modular system with display and switching / analogue output
- Different probe lengths, for small pipes up to large tanks
- High temperature ranges for the food industry and pasteurisation
- Variety of hygienic fittings and adapters available
- Eliminates field wiring with integrated M12 connector













Modular temperature sensor

The TR series evaluation units in combination with temperature probes are used for highly precise temperature measurement of liquids. The clearly readable display indicates the measured value on site. The robust, stainless steel housing withstands harsh conditions.

The evaluation units provide a temperature range of -40...300 °C and an interface for 2-, 3-, 4-wire probes (Pt100 or Pt1000).

The 4-digit LED display indicates temperatures with a resolution of 0.1 $^{\circ}$ C.

The 6 mm thin sensor tip guarantees an excellent response time of T05 = 1 s and T09 = 3 s while ensuring high stability.





Installation example:
The evaluation electronics is directly mounted on the temperature sensor.

Туре	Measuring range	Process connection	Display	U _b	Current consump.	l _{load}	Orde no.
	[°C]		LED	[V]	[mA]	[mA]	
/112 connecto	or · Output function	1 x normally open / cl	osed programmal	ole + 1 x analog	ue (420 mA / 0	.10 V, scalable	·) ·
	-40300	G½ A	Display unit	1832	50	250	TR243
112 connecto	or · Output function	2 x normally open / cl	osed programmal	ole · DC PNP/NP	N		
•	-40300	G½ A	Display unit	1832	50	250	TR743
emperat	ure probe sens	ors (also suited	for connection	on to the TP	evaluation u	ınit)	
Туре	Measuring range	Diameter	Installation length	Sensor element	Dynamic T05 /	response / T09	Orde no.
	[°C]	[mm]	[mm]		[s	[s]	
112 connecto	or · high-grade stain	less steel					
	-40150	6	50	1 x Pt 100	1,	/3	TT929
	-40150	6	100	1 x Pt 100	1 /	/3	TT029
⊕——	-40150	6	150	1 x Pt 100	1 /	/3	TT129
	-40150	6	250	1 x Pt 100	1,	/3	TT229
	-40150	6	350	1 x Pt 100	1,	/ 3	TT329
Adapters							
Туре			Description				Orde no.
	Mounting set · for direc	t connection of temperature	e sensors TT to control	monitors TR · Hous	sing materials: stainless	steel	E3001
: :	Clamp fitting ⋅ Ø 6/8/10	mm - G $\frac{1}{2}$ · for temperatur	re sensors TS / TT · Hou	using materials: stai	nless steel / FPM		E3001
	rs						
Connecto		Wire	Material	U	T _a Pro-	LEDs	Orde
Type	Cable	specification	housing / nut	[V]	tectior [°C]	1	no.
	Cable 1-pole, 4-wire		housing /	[V]			no.

Temperature transmitter with display and IO-Link



- Bright 4-digit LED display for optimum readability
- Fast response time T05/09 = 1/3s
- Pre-scaled measuring ranges, IO-Link 1.1 programmable
- Available in various probe lengths from 30...150 mm
- Hygienic and robust design: high-grade stainless steel (1.4404 / 316L) and IP 69K















TD temperature transmitters

The TD series temperature transmitters are distinguished by a compact, hygienic design with integrated adapters and a display for local indication of the temperature.

Easy installation and set-up

The integrated Tri-clamp and G1/2" process adapters allow quick and easy installation. No complex set-up is required because the transmitters are supplied with a pre-scaled measuring range. For special applications the temperature range can be scaled via IO-Link.

Robust and durable

Protected to IP 69K standards and featuring a stainless steel housing, the transmitters are designed to operate in harsh applications.



Туре	Measuring range	Process connection	Installation length	Ub		Dynamic respor T05 / T09	ise	Orde no.
	[°C]		[mm]	[V]		[s]		
112 connect	tor · Output function	1 x analogue (420 ı	mA scalable) · DC					
	-50150	1,5 " Tri-Clamp	30	1832		1/3		TD280
	-50150	1,5" Tri-Clamp	50	1832		1/3		TD28
	-50150	1,5" Tri-Clamp	100	1832		1/3		TD28
	-50150	1,5" Tri-Clamp	150	1832		1/3		TD28
	-50150	2" Tri-Clamp	30	1832		1/3		TD29
	-50150	2" Tri-Clamp	50	1832		1/3		TD29
	-50150	2" Tri-Clamp	100	1832		1/3		TD29
	-50150	2" Tri-Clamp	150	1832		1/3		TD29
)	-50150	G ½	30	1832		1/3		TD25
	-50150	G 1/2	50	1832		1/3		TD25
	-50150	G ½	100	1832		1/3		TD25
	-50150	G ½	150	1832		1/3		TD25
ygienic	adapters							
Туре			Description					Ord no
	Welding adapter · G ½	- Ø 29 mm · Welding adap	oter · for pipes · Housing	materials: stainles	s steel 316L	/ 1.4435		E433
	Welding adapter · G ½	- Ø 30 mm · Welding adap	oter · for tanks · Housing	materials: stainles	ss steel 316L	/ 1.4435		E433
onnecto	ors							
Туре	Cable	Wire specification	Material housing / nut	U [V]	T _a [°C]	Pro- tection	LEDs	Orde no.
cket 12, 5	/4-pole, 4-wire							



Temperature transmitters



- 2-wire analogue output (4...20 mA)
- Fully enclosed and sealed
 316 stainless steel construction
- Pt1000 sensor element for high accuracy
- Wide temperature range with quick response time
- Flexible mounting with standard Tri-clamp® fittings













Very short response time

The TA series temperature transmitter offers a compact measuring system that can be easily installed with standard Tri-clamp® and weldable fittings.

They have a fixed analogue output (4...20 mA) and measuring ranges of -10...150 °C, 0...100 °C or 0...140 °C.

A high level of accuracy is achieved using a class A accuracy Pt sensor and factory calibration.

With their excellent response time of T05 = 1 s and T09 = 3 s the TA temperature transmitters are the ideal solution for temperature monitoring in critical applications.





Туре	Measuring range	Process connection	Installation length	U _b		Dynamic respo T05 / T09	onse	Order no.		
	[°C]		[mm]	[V]		[s]				
112 connec	tor · high-grade stain	less steel · DC								
	0100	G½ A	87.5	1030		1/3		TA34		
	0140	G½ A	87.5	1030		1/3		TA34		
	-10150	G½ A	87.5	1030		1/3		TA34		
lygienic	adapters									
Туре			Description					Orde no.		
		mp adapter · Clamp · Clamp · 1-1.5 " · ISO 2852 / DIN 32676 · for units with G ½ adaptation · using materials: stainless steel 316L / 1.4404								
		Clamp adapter · Clamp · Clamp · 2,, · ISO 2852 / DIN 32676 · for units with G ½ adaptation · doubles steel 316L / 1.4404								
Ä	Clamp adapter · G ½ · (Housing materials: stain	Clamp · with leakage port · C less steel 316L / 1.4435	lamp · 1-1.5" · ISO 28	352 / DIN 32676	i · with leakag	e port ·		E433		
Å	Clamp adapter · G ½ · (Housing materials: stain	Clamp · with leakage port · C less steel 316L / 1.4435	lamp · 2" · ISO 2852 /	/ DIN 32676 · w	ith leakage po	ort ·		E433		
r says f	Welding adapter · G ½	- Ø 35 mm · Welding adapte	r ball · Housing mater	ials: stainless ste	el 316L / 1.44	104		E300		
Connecto	ors									
Туре	Cable	Wire specification	Material housing /	U	Ta	Pro- tection	LEDs	Orde no.		
		,	nut	[V]	[°C]					
ocket 12, 5	/4-pole, 4-wire									
	5 m orange PVC cable	4 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT0		
	5 m orange		PVC /	250 AC		IP 67 / IP 68 /				



Temperature transmitter with diagnostic output Aseptoflex Vario process connection



- 2-wire technology allows easy installation
- Analogue and diagnostic outputs for process temperature and drift warning / alarm
- Variety of hygienic fittings and adapters available
- The dual sensor design allows a self-monitoring drift detection
- Cost savings possible through reduced calibration intervals















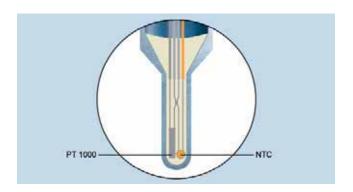


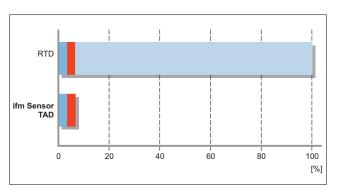
Increased process safety due to self-monitoring

The TAD temperature transmitter features two high-precision sensor elements that monitor the process and each other. This guarantees that any developing drift of the sensor elements is detected and reliably diagnosed.

If one element fails, the process continues with the second measuring element (back-up function). With this technology, the TAD provides long-term, highly accurate temperature measurements in hygienic applications in food, beverage and pasteurization processes.

Drift thresholds and parameters are easy to set via software, e.g. IO-Link. After the switch points are set, the TAD continuously and independently monitors temperature drift. By providing immediate temperature drift detection, cyclical monitoring of the calibration is no longer necessary.





Cost comparison: In contrast to the TAD sensor, conventional sensors have to be calibrated twice a year. Dark blue: Sensor cost Red: Installation cost Light blue: Calibration cost

Туре	Measuring range	Process connection	Installation length	Ub		Dynamic resp T05 / T09		Order no.
	[°C]		[mm]	[V]		[s]		
/112 connec	tor · Output function	normally open / norm	ally closed / heart	beat progra	mmable, 4	20 mA analo	gue · DC P	NP/NPN
	-25160	Aseptoflex Vario	87.5	1832		3/6		TAD18
	-25160	Aseptoflex Vario	33	1832	832 3/6			TAD98
==	-25160	Aseptoflex Vario	50	1832		3/6		TAD08
Adapters	5							
Туре			Description					Order no.
	Clamp adapter · Clamp Housing materials: stain	· with leakage port · Clamp less steel 316L / 1.4435	· 1-1.5" · with sealing	ring · ISO 2852	· for units wi	th Aseptoflex Var	io adapter ·	E3320
	Clamp adapter · Clamp Housing materials: stain	· with leakage port · Clamp less steel 316L / 1.4435	· 2" · with sealing ring	· ISO 2852 · fc	or units with A	septoflex Vario a	dapter ·	E33209
	Welding adapter · Ø 50 Housing materials: stain	mm · Welding adapter · wi less steel 316L / 1.4435	th leakage port · for un	its with Asepto	flex Vario ada	pter · Sealing by s	sealing ring ·	E3013
Connecto	ors							
Туре	Cable	Wire specification	Material housing / nut	U [V]	Т _а [°С]	Pro- tection	LEDs	Order no.
Socket 12, 5	/4-pole, 4-wire							
	5 m orange PVC cable	4 x 0.34 mm², Ø 4.9 mm		250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT00
	1 VC Cable		316L / 1.4404					



Temperature transmitter with diagnostic output G1/2 process connection



- 2-wire technology allows easy installation
- Analogue and diagnostic outputs for process temperature and drift warning / alarm
- Variety of hygienic fittings and adapters available
- The dual sensor design allows a self-monitoring drift detection
- Cost savings possible through reduced calibration intervals













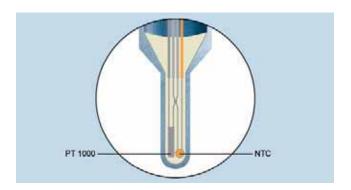


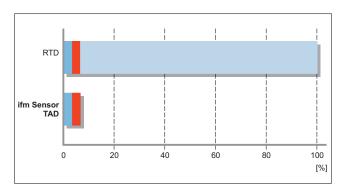
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Cost comparison: In contrast to the TAD sensor, conventional sensors have to be calibrated twice a year. Dark blue: Sensor cost Red: Installation cost Light blue: Calibration cost

Туре	Measuring range	Process connection	Installation length	Ub		Dynamic respo T05 / T09		Order no.
	[°C]		[mm]	[V]		[s]		
/l12 connec	tor · Output function	normally open / normal	ly closed / heart	beat prograr	nmable, 4	.20 mA analog	jue · DC P	NP/NPN
<u>-</u>	-25160	G½ A	87.5	1832		3/6		TAD19
	-25160	G½ A	33	1832		3/6		TAD99
	-25160	G½ A	50	1832		3/6		TAD09
Adapters	5							
Type			Description					Order no.
		Clamp adapter \cdot Clamp \cdot Clamp \cdot 1-1.5" \cdot ISO 2852 / DIN 32676 \cdot for units with G ½ adaptation \cdot Housing materials: stainless steel 316L / 1.4404						
		Clamp adapter \cdot Clamp \cdot Clamp \cdot 2" \cdot ISO 2852 / DIN 32676 \cdot for units with G ½ adaptation \cdot Housing materials: stainless steel 316L / 1.4404						
		Clamp adapter \cdot G $\frac{1}{2}$ \cdot Clamp \cdot with leakage port \cdot Clamp \cdot 1-1.5" \cdot ISO 2852 / DIN 32676 \cdot with leakage port \cdot Housing materials: stainless steel 316L / 1.4435						
4		Clamp adapter \cdot G $\frac{1}{2}$ \cdot Clamp \cdot with leakage port \cdot Clamp \cdot 2" \cdot ISO 2852 / DIN 32676 \cdot with leakage port \cdot Housing materials: stainless steel 316L / 1.4435						
- Says S	Welding adapter · G ½ ·	· Ø 35 mm · Welding adapter	ball · Housing mater	ials: stainless ste	el 316L / 1.44	104		E3005
Connecto	ors							
Туре	Cable	Wire specification	Material housing / nut	U [V]	T _a [°C]	Pro- tection	LEDs	Order no.
ocket 12, 5	/4-pole, 4-wire							
	5 m orange PVC cable	4 x 0.34 mm², Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT00
	5 m orange PVC cable	4 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	_	EVT00



Valve sensors for quarter-turn actuators



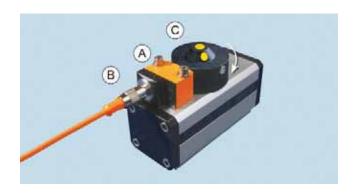
- Non-contact detection of valve positions of quarter-turn actuators
- Compact design, considerably smaller than traditional switchboxes
- Clearly visible LED shows valve position (open / closed)
- No open cavities, completely sealed against the penetration of liquids
- Quick and easy to fit



Feedback of valve positions

Precise detection of the valve position is important for process control. Switchboxes are often used for position feedback. However, switchboxes are large, difficult to mount and the mechanics is susceptible to interference. ifm offers a low-profile, non-contact solution that accurately detects if a valve is open or closed.

The valve sensors function according to the inductive principle for non-contact detection of metal targets. The rotating puck, which is mounted on the valve axis, contains two metal screws positioned on the side of the puck, 90° apart, at different heights. When the valve opens, the puck rotates, moving a target in front of the sensor providing a valve position signal. As the valve closes, the puck rotates and moves the other target in front of sensor. This is detected by the sensor that provides a switching signal as position feedback.



The ifm valve position feedback solution includes a sensor (A), cable (B) and a rotating target puck (C).

Sensors for industrial applications								
Туре	Dimensions	Sensing range	Material	U _b	Protection	f AC / DC	I _{load} AC / DC	Order no.
	[mm]	[mm]		[V]		[Hz]	[mA]	
M12 connector · Output function / · DC PNP/NPN								
	40 x 26 x 26	4 nf	РВТ	1036	IP 67	1300	250	IN5224
M12 connecto	or · Output function	n/	DC PNP					
	40 x 26 x 47	4 nf	РВТ	1036	IP 67	1300	250	IN5327
Terminals · Ou	utput function	/ · DC F	PNP					
	33 x 60 x 92	4 nf	PA (polyamide)	1030	IP 67	500	100	IN5409
7/8" connecto	r · Output function	n/	AC/DC					
	-	4 nf	stainless steel (303S22)	20140	IP 67	25	200	IN0117*

f = flush / nf = non flush

* Note for AC and AC/DC units

Miniature fuse to IEC60127-2 sheet 1, \leq 2 A (fast acting). Place the fuse outside the hazardous area. Recommendation: check the unit for reliable function after a short circuit.

Switching cams for sensors with quarter-turn actuators							
Туре	Description	Order no.					
	Target puck · Ø 53 mm · 3 possible switching flag positions · Housing materials: Target puck: PA 6 black / screws: V2A	E17320					
	Target puck · Ø 65 mm · Housing materials: Target puck: PA 6 / screws: V2A	E17327					
	Target puck · Ø 102 mm · Housing materials: Target puck: PA 6 / screws: V2A	E17328					

Valve sensors for rising stem valves



- Continuous position feedback for rising stem valves up to 80 mm
- Three switching outputs: "open", "closed" and "seat lift", optional AS-i.
- Resolution of 0.2 mm across the entire measuring range
- Simple pushbutton setup and LED feedback
- Permanent valve monitoring for condition-based maintenance







Continuous position feedback on rising stem valves

The efector valvis rising stem valve position sensor is an innovative solution for position feedback of linear valves. The sensor continuously detects the position of rising stem valves with a stroke of up to 80 mm.

It is placed on top of the the valve stem with an adapter. The valve positions "open" and "closed" are set via teach button. The sensor indicates three key positions of the valve: "valve open", "valve closed" and any intermediate position, e.g. seat lift. efector valvis transmits this information to a controller via switching outputs.

The sensor detects the position of the piston rod with a resolution of 0.2 mm. This eliminates mechanical adjustment and significantly reduces the setup time of a valve.

Single and double seat valves

For double seat valves, efector valvis detects the "open", "closed" and "seat lift" positions. For single seat valves, the sensor detects the "open" and "closed" positions and provides an additional output for seal contact wear.





Type	Dimensions [mm]	Sensing range [mm]	Material	U _b	ı	Protection	f AC / DC [Hz]	I _{load} AC / DC [mA]	Order no.
able with c	onnector 0.3 m · Ou		3 x normally ope				[112]	[mA]	
	65 x 52 x 110	-	PA	1836	II	P 65 / IP 67	-	100	IX501
ensors f	or rising stem	valves, AS	i-i system						
Туре	Dimensions	Sensing range	Material	U _b	ı	Protection	f AC / DC	I _{load} AC / DC	Orde no.
	[mm]	[mm]		[v]			[Hz]	[mA]	
able with c	onnector 0.3 m · AS	·i							
	65 x 52 x 110	-	PA	26.531.6	5 11	P 65 / IP 67	-	-	IX503
ccessori	es for rising st	em valve	sensors						
Туре			I	Description					Orde no.
	Mounting adapter · fo Housing materials: ada								E1212
_		ALC I I I							
	Mounting adapter - fo Housing materials: ada	r Alfa Laval valves lpter: PA / Target	s · accessory for IX50 : stainless steel 316L	10, IX5030 · / 1.4404					E1190
	Mounting adapter - to Housing materials: ada Mounting adapter - fo Housing materials: ada	pter: PA / Target	: stainless steel 316L accessory for IX5010	/ 1.4404 , IX5030 ·					E1190
	Housing materials: ada Mounting adapter · fo	pter: PA / Target r Südmo valves pter: PA / Target r Bardiani valves	accessory for IX5010, stainless steel 316L.	/ 1.4404 , IX5030 · / 1.4404 , IX5030 ·					E1198
Connecto	Mounting adapter · fo Housing materials: ada Mounting adapter · fo Housing materials: ada	pter: PA / Target r Südmo valves pter: PA / Target r Bardiani valves	accessory for IX5010, stainless steel 316L.	/ 1.4404 , IX5030 · / 1.4404 , IX5030 ·					
	Mounting adapter · fo Housing materials: ada Mounting adapter · fo Housing materials: ada	pter: PA / Target r Südmo valves · pter: PA / Target r Bardiani valves pter: PA / Target	accessory for IX5010, a stainless steel 316L. accessory for IX5010. accessory for IX5011. accessory for IX5011. stainless steel 316L.	/ 1.4404 , IX5030 · / 1.4404 , IX5030 ·	U [V]	T _a	Pro- tection	LEDs	E1198
onnecto Type	Mounting adapter · fo Housing materials: ada Mounting adapter · fo Mounting adapter · fo Housing materials: ada	pter: PA / Target r Südmo valves · pter: PA / Target r Bardiani valves · pter: PA / Target	accessory for IX5010, a stainless steel 316L. accessory for IX5010. accessory for IX5011. accessory for IX5011. stainless steel 316L.	/ 1.4404 , IX5030 · / 1.4404 D, IX5030 · / 1.4404 Material housing /				LEDs	E1198
onnecto Type	Mounting adapter - fo Housing materials: ada Mounting adapter - fo Housing materials: ada Ors	pter: PA / Target r Südmo valves · pter: PA / Target r Bardiani valves · pter: PA / Target	accessory for IX5010, stainless steel 316L. accessory for IX5010, stainless steel 316L. accessory for IX5010 accessory for IX5010 stainless steel 316L. ire cation h	/ 1.4404 , IX5030 · / 1.4404 D, IX5030 · / 1.4404 Material housing /				LEDs	E1198



AS-i controller and gateways



- AS-i controller and gateways for Device-Net, Ethernet/IP und ProfiNet
- User-friendly graphic display for setup and diagnostics
- Single and dual master
- CoDeSys programmable PLC to IEC 61131-3
- Extensive range of system components for AS-i available



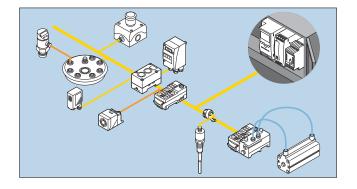


AS-i controller

The controller assumes the most important function in each AS-Interface network and is responsible for the control of the complete communication. The controller, often also called master, controls the cyclic data exchange with the connected slaves, monitors the replies and transmits data to the higher-level controller.

Gateways

AS-i gateways make a connection from AS-Interface to a higher-level bus system. Thus the advantages of both systems can be combined. The advantages of AS-i as the bus of the first automation level are its easy handling, fast data transmission, low costs and quick mounting technology. Several AS-i installation islands can be connected with a control room over long distances via fieldbus gateways. As the fieldbus is most of the time considerably slower, decentralised data preprocessing in the gateway is often required. Here ifm electronic offers the AS-i controller family as gateways with integrated plc.



Controlle	rs / Gateways					
Туре	Number of AS-i masters	Description	Order no.			
	1	SmartLink DP · AS-i gateway / Profibus DP · Full master functions · Graphic display · Housing materials: aluminium / steel sheet galvanised	AC1375			
	2	AS-i DP gateway · Full master functions · Graphic display · Profibus DP interface · Housing materials: aluminium / steel sheet galvanised	AC1376			
	1	AS-i Ethernet / IP Controller E \cdot Full master functions \cdot Graphic display \cdot Housing materials: aluminium / steel sheet galvanised	AC1327			
270	2	AS-i Ethernet / IP Controller E · Full master functions · Graphic display · Housing materials: aluminium / steel sheet galvanised	AC1337			
	1	AS-i DeviceNet controller E · AS-i controller with DeviceNet interface · Full master functions · Graphic display · Housing materials: aluminium / steel sheet galvanised	AC1318			
	2	AS-i DeviceNet controller E · AS-i controller with DeviceNet interface · Full master functions · Graphic display · Housing materials: aluminium / steel sheet galvanised	AC1324			
	1	AS-i Profinet gateway · AS-i master · Ethernet configuration interface with dynamic web interface for configuration and diagnosis including remote maintenance · Profinet RT device class B · LCD colour display · Device supply either via 24 V or AS-i (AS-i bus 1) · Housing materials: aluminium powder coated / steel sheet galvanised / Makrolon	AC1401			
	2	AS-i Profinet gateway · AS-i master · Ethernet configuration interface with dynamic web interface for configuration and diagnosis including remote maintenance · Profinet RT device class B · LCD colour display · Device supply either via 24 V or AS-i (AS-i bus 1) · Housing materials: aluminium powder coated / steel sheet galvanised / Makrolon	AC1402			
AS-i flat o	able					
Туре		Description	Order no.			
	AS-i flat cable \cdot reverse polarity protection due to special shape \cdot for use in isolation displacement connector technology for FC lower parts and compact modules \cdot 100 m					
	AS-i flat cable \cdot reverse polarity protection due to special shape \cdot for use in isolation displacement connector technology for FC lower parts and compact modules \cdot 100 m					
		polarity protection due to special shape \cdot for the food industry \cdot for use in isolation displacement or FC lower parts and compact modules \cdot 100 m	E74300			
		colarity protection due to special shape \cdot for the food industry \cdot for use in isolation displacement or FC lower parts and compact modules \cdot 100 m	E74310			

AS-i power supplies



- Primary switched-mode power supplies with wide-range input, 100...240 V AC
- Couples and de-couples signals for transmission over the network
- Compact housing for DIN rail installation
- Efficient design generates less heat, external cooling is not required
- Short-circuit proof and overload protected





Power for the yellow AS-i cable

AS-i switched-mode power supplies generate a regulated DC output voltage between 29.5 V and 31.6 V according to the AS-i specification.

The integrated data decoupling in the AS-i power supply means that data as well as the required supply voltage of the sensors can be transmitted via one two-wire cable. The AS-i power supply assumes the function of energy provision, data decoupling and balancing of both output wires (AS-i "+" and AS-i "-") with respect to the machine ground (shielded connection).

It is always designed as primary switched-mode power supply. Advantage: Compared to the transformer power supplies it is significantly smaller, has a better control and is electronically protected against overload. The efficiency of a switched-mode power supply is higher, too, so that the development of heat and power loss are considerably reduced. Efficiencies of up to 92 are in fact common. All AS-i power supplies are protected against no load, overload and permanent short-circuit on the output.





ousing						
Туре	Current	Output voltage	Nominal voltage	Mains buffering time	Efficiency typ.	Orde no.
	[A]	[V]	[v]	[ms]	[%]	
	0.95	29.531.6 DC	100240 AC	-	86	AC12
	1.9	29.531.6 DC	100240 AC	-	88	AC12
S-i swite ousing	ched-mode	power supplies,	single phase, nev	w ClassicLine design	in a robust m	netal
Туре	Current	Output voltage	Nominal voltage	Mains buffering time	Efficiency typ.	Orde no.
	[A]	[V]	[v]	[ms]	[%]	
<u> </u>	2.8	29.531.6 DC	100240 AC	-	88	AC12
	4	29.531.6 DC	100240 AC	-	88	AC12
5-i swit	ched-mode	power supplies,	single phase, Silv	verLine		
Туре	Current	Output voltage	Nominal voltage	Mains buffering time	Efficiency typ.	Orde no.
	[A]	[V]	[V]	[ms]	[%]	
	8	29.531.6 DC	115 / 230 AC	-	92	AC12
S-i dual	switched-n	node power sup	plies, single phase	e, SilverLine		
Туре	Current	Output voltage	Nominal voltage	Mains buffering time	Efficiency typ.	Orde no.
Туре	Current [A]	Output voltage [V]	Nominal voltage [V]	Mains buffering time [ms]	Efficiency typ. [%]	Orde no.
Туре				buffering time	typ.	no
	[A]	[V]	[V]	buffering time	typ. [%]	
	[A] 2 × 4	[V]	[V]	buffering time	typ. [%]	no
sulation	[A] 2 × 4 n monitors	[V] 2 x 29.531.6 DC	[V] 115 / 230 AC	buffering time [ms] –	typ. [%]	AC12
sulation	[A] 2 x 4 n monitors AS-i insulation m	[V] 2 x 29.531.6 DC	[V] 115 / 230 AC Description	buffering time [ms] –	typ. [%]	AC12
sulation Type	[A] 2 x 4 n monitors AS-i insulation m	[V] 2 x 29.531.6 DC	[V] 115 / 230 AC Description	buffering time [ms] –	typ. [%]	AC12

I/O modules for control cabinets



- For use in control cabinet or splitter box applications
- Removable Combicon connectors simplify connection
- Low profile versions available for small enclosures
- Integrated addressing socket
- Robust and quick DIN rail mounting







Space-saving modules for DIN rail mounting

Active AS-i modules are mounted on a DIN rail. They have been designed for control cabinet and splitter box applications. The 25 mm wide housing can contain up to 4 inputs and 4 outputs. Active AS-i modules include digital or analogue inputs / outputs. They can be used in control cabinets or local splitter boxes. The robust rail mounting ensures a secure mounting. For a fast exchange of the modules all connections are pluggable. All status LEDs can be clearly seen on the front panel.

Via the addressing socket on the front panel the module can be addressed before and after the installation. The supply voltage and the peripheral signals are connected at the top and at the bottom by means of plug-in Combicon connectors. These can be equipped either with screw terminals or cage clamps.



Typo	Inputs /	Description	Order
Гуре	outputs	Description	no.
	4 inputs	Active AS-i module \cdot String mounting possible \cdot Addressing socket \cdot Version 2.1 with extended addressing mode \cdot Digital inputs \cdot Combicon connection \cdot PA	AC2250
	4 inputs / 3 outputs	Active AS-i module \cdot String mounting possible \cdot Addressing socket \cdot Version 2.1 with extended addressing mode \cdot Digital inputs and outputs \cdot Combicon connection \cdot PA	AC2264
	4 inputs / 4 outputs	Active AS-i module \cdot String mounting possible \cdot Addressing socket \cdot V ersion 2.1 \cdot Digital inputs and outputs \cdot Combicon connection \cdot PA	AC2251
	4 inputs 420 mA	Active AS-i module · AS-i profile S-7.3 · 4 analogue inputs 420 mA · Supply either from AS-i or an external 24 V source · For the connection of 2-wire, 3-wire or 4-wire sensors · Combicon connector for sensor connection · PA 6.6	AC2216
	4 inputs / 2 outputs	Active AS-i module · String mounting possible · Addressing socket · Input supply from external PELV voltage source · Version 2.1 with extended addressing mode · Digital inputs and outputs · Combicon connection · PA	AC2255
	4 inputs / 4 outputs; bidirectional	Active AS-i module · String mounting possible · Addressing socket · External sensor supply PELV · Version 2.1 · Digital inputs and outputs · Combicon connection · PA	AC2257
	4 outputs 020 mA	Active AS-i module \cdot AS-i profile S-7.3 \cdot 4 analogue outputs 020 mA \cdot For the connection of 2-wire actuators or 4-wire actuators with separate 24 V supply Combicon connector for actuator connection \cdot PA 6.6	AC2218
	4 inputs Pt100	Active AS-i module \cdot 4 analogue inputs temperature Pt100 \cdot AS-i profile S-7.3 \cdot Combicon connection \cdot PBT	AC2220
	4 inputs / 4 outputs	Active AS-i module \cdot String mounting possible \cdot Addressing socket \cdot Version 2.1 \cdot Combicon connection \cdot PA 6.6	AC2258
cessori	es		
Туре		Description	Order no.
7	AS-i addressing unit · AS-i version 3.	0 with extended addressing mode	AC1154
	Addressing cable · for AS-i slaves · 1	.6 m	E70213

Input / output field modules from stainless steel



- ProcessLine AS-i stainless steel modules for use in hygienic applications
- Resistant to standard cleaning agents (Ecolab tested)
- AS-i and 24 V supply via common M12 connector
- For direct use in wet areas (protection rating IP 68 / IP 69K)
- Connection via high-grade stainless steel splitters











For extreme environments

The ProcessLine I/O module housing consists of high-grade stainless steel and can withstand both chemical and mechanical abuse. Its round housing does not have seams or edges, which reduces deposit build-up. It is corrosion resistant against most chemicals and is rated IP 69K to withstand high-pressure water sprays.

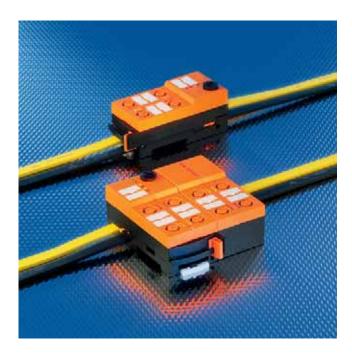




Field modules IP 69K								
Туре	Inputs / outputs	Description	Order no.					
	4 inputs / 3 outputs	Active ProcessLine module · Version 2.1 with extended addressing mode · Protection rating IP 69K · high-grade stainless steel · Digital inputs and outputs · Sockets M12 x 1 · high-grade stainless steel / Makrolon / O-ring: EPDM	AC2904					
	8 digital inputs (2 slaves)	Active ProcessLine module · Version 2.1 with extended addressing mode · Protection rating IP 69K · high-grade stainless steel · Digital inputs · Sockets M12 x 1 · high-grade stainless steel / Makrolon / O-ring: EPDM	AC2910					
	8-way splitter box	Passive splitter box AS-i ProcessLine · Protection rating IP 69K · high-grade stainless steel · AS-i and AUX splitter box for the connection of intelligent sensors/actuators · Sockets M12 x 1 · high-grade stainless steel / Makrolon	AC2900					
	4 inputs 420 mA	Active AS-i module \cdot 4 analogue inputs 420 mA \cdot For the connection of 2-wire and 3-wire sensors \cdot Threaded bush: stainless steel 316L / 1.4404 / Makrolon / O-ring: EPDM	AC2916					
Accessori	es							
Туре		Description	Order no.					
	FC splitter · AS-i voltage and external auxiliary voltage via the M12 socket · Housing materials: Metal parts: stainless steel 316L / 1.4404 / Blanks: FPM / O-ring: EPDM							
	FC splitter · AS-i voltage via M12 socket · Housing materials: Metal parts: stainless steel 316L / 1.4404 / O-ring: EPDM / socket: PP GF30 / blade seal: TPE							
	FC splitter · Housing materials: Meta	l parts: stainless steel 316L / 1.4404 / Blanks: FPM / O-ring: EPDM	E70377					
		et to cover the unused inputs and outputs on the module; for ProcessLine modules · Housing materials: PVC	E70297					



ClassicLine modules and AirBoxes



- Field modules with digital and analogue inputs / outputs, optional with IO-Link
- AirBoxes: AS-i pneumatic valves with quick mounting technology
- Flexible orientation of the flat cable in three directions.
- Innovative insulation displacement technology means no tools needed for connection
- Integrated addressing socket allows setup while connected



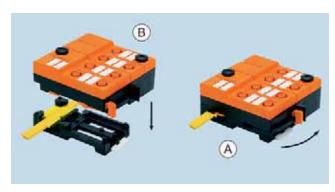
Easy connection due to toolless mounting.

ClassicLine modules can be connected to the yellow AS-i flat cable without tools using insulation displacement technology. The integrated DIN rail mounting allows easy installation in the control cabinet.

The ClassicLine module can accept an AS-i flat cable in three different directions to provide flexible cable routing. The integrated addressing socket allows addressing while connected to the system. All connections are located on the front display. LEDs indicate signal status, operating voltage and possible periphery faults.

ClassicLine modules include the so-called "AirBoxes". These are pneumatic valves triggered via AS-i. In addition to pneumatic connections they also feature digital inputs and outputs for the connection of sensors and actuators.

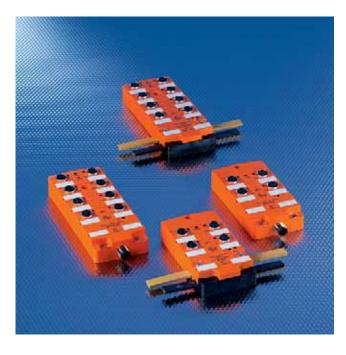




Quick mounting thanks to insulation displacement technology: A sliding mechanism (A) quickly connects the module's upper and lower parts (B).

assiculi	e modules and AS-i air	r boxes			
Туре	Inputs / outputs	Description	Orde no.		
	4 inputs	Active ClassicLine module · Version 2.11 and 3.0 with extended addressing mode · Addressing socket · Three orientations of the flat cable are possible · Digital inputs · Sockets M12 x 1 · PA			
00	2 outputs / 2 inputs	Active ClassicLine module \cdot Version 2.11 and 3.0 with extended addressing mode \cdot Addressing socket \cdot Three orientations of the flat cable are possible \cdot Digital outputs and inputs \cdot Sockets M12 x 1 \cdot PA	AC52		
•	4 inputs / 3 outputs; bidirectional	Active ClassicLine module \cdot Addressing socket \cdot Three orientations of the flat cable are possible \cdot Version 2.11 and 3.0 with extended addressing mode \cdot Digital inputs and outputs \cdot Sockets M12 x 1 \cdot PA	AC52		
0000	4 inputs / 4 outputs; bidirectional	Active ClassicLine module · Only for operation with AS-i masters with the profile M4 · Addressing socket · Three orientations of the flat cable are possible · Version 3.0 with extended addressing mode · Digital inputs and outputs · Sockets M12 x 1 · PA	AC52		
	2 inputs 420 mA	Active ClassicLine module \cdot 2 analogue inputs 420 mA \cdot For the connection of 2-wire and 3-wire sensors \cdot Addressing socket \cdot Three orientations of the flat cable are possible \cdot PA	AC52		
0.0	2 IO-Link ports	Active ClassicLine module \cdot 2 IO-Link ports \cdot For the connection of IO-Link sensors and actuators, binary sensors and binary actuators \cdot Addressing socket \cdot Three orientations of the flat cable are possible \cdot Only for operation with AS-i masters with the profile M4 \cdot PA	AC52		
	4 inputs / 1 output ; AirBox supply via AS-i	AS-i AirBox · 5/2-way slide valve free from overlapping · Three orientations of the flat cable are possible · AS-i flat cable connection · Version 2.11 and 3.0 with extended addressing mode · Addressing socket · PA / POM	AC52		
8	4 inputs / 2 outputs; AirBox supply via AS-i	AS-i AirBox · 2 x 3/2-way slide valves free from overlapping · Three orientations of the flat cable are possible · AS-i flat cable connection · Version 2.11 and 3.0 with extended addressing mode · Addressing socket · PA / POM	AC52		
	4 inputs / 2 outputs; AirBox supply via AS-i	AS-i AirBox \cdot 5/3-way slide valve free from overlapping \cdot Three orientations of the flat cable are possible \cdot AS-i flat cable connection \cdot Version 2.11 and 3.0 with extended addressing mode \cdot Addressing socket \cdot PA / POM	AC52		
ccessori	es pneumatic compon	ents			
Туре		Description	Ordo no		
- 8	Silencer · Housing materials: connect	tion piece: PP / filter: PE	E752		
ccessori	es				
Туре		Description	Ord no		
	Viton compound / highgrade steel ki Housing materials: O-ring: Viton / sci	t for ClassicLine Module · rew: high-grade st. steel / Gasket: Viton	E703		
_/					

CompactLine module



- Module and connection technology: especially shock and vibration-resistant
- Full potting for use in harsh environments, protection IP 67
- ecolink technology in each port ensures secure connection
- Bus connection of the module via AS-i flat cable
- Up to 2 A current rating on the output (AC2452)



For limited space

CompactLine modules feature particularly high ingress protection, shock and vibration resistance. This is achieved by fully potting the unit.

The flat compact design is particularly suited where space is at a premium. The M12 sockets are made of stainless steel.

Addressing is done either via the AS-i interface or infrared adapter. The yellow AS-i communication cable and the black 24 V flat cable (for auxiliary energy) are simply inserted in the supplied lower part. Insulation displacement technology ensures safe contacting.

Bore holes on the top and on the side allow horizontal or vertical mounting of the module.





Compact	Line modules					
Туре	Inputs / outputs	Description	Order no.			
	4 inputs / 4 outputs; bidirectional	Active CompactLine module \cdot IR addressing possible \cdot Digital inputs and outputs \cdot Sockets M12 x 1 \cdot PA / socket: stainless steel 316L / 1.4404 / threaded inserts in the lower part: stainless steel 316L / 1.4404 / screws in the lower part: stainless steel	AC2452			
	4 inputs	Active CompactLine module \cdot IR addressing possible \cdot high-grade stainless steel \cdot Digital inputs \cdot Sockets M12 x 1 \cdot PA / socket: stainless steel 316L / 1.4404 / threaded inserts in the lower part: stainless steel 316L / 1.4404 / screws in the lower part: stainless steel	AC2451			
	2 inputs 420 mA	Active CompactLine module · 2 analogue inputs 420 mA · For the connection of 2-wire and 3-wire sensors · IR addressing possible · high-grade stainless steel · Sockets M12 x 1 · PA / socket: stainless steel 316L / 1.4404 / threaded inserts in the lower part: stainless steel 316L / 1.4404 / screws in the lower part: stainless steel	AC2402			
	2 inputs 420 mA	Active CompactLine module · 2 analogue inputs 420 mA · For the connection of 2-wire and 4-wire sensors · Electrical isolation · IR addressing possible · high-grade stainless steel · Sockets M12 x 1 · PA / socket: stainless steel 316L / 1.4404 / threaded inserts in the lower part: stainless steel 316L / 1.4404 / screws in the lower part: stainless steel	AC2403			
Accessori	es					
Туре		Description	Order no.			
-	AS-i addressing unit · AS-i version 3.	0 with extended addressing mode	AC1154			
	Addressing cable · for AS-i slaves · 1.6 m					

Dual sensors for quarter-turn actuators with AS-i connection



- Non-contact detection of valve positions of quarter-turn actuators
- Up to 62 actuators can be connected to an AS-i master / controller
- 50 % cost reduction compared to parallel wiring
- Quick and safe installation due to "plug & play"
- Monitoring of the solenoid valve for wire break / short circuit







Integrated AS-i connection for pneumatic valves.

Precise detection of the valve position is important for process control. One typical application is a large tank farm. Here, ifm offers a low-profile, non-contact solution that accurately detects if a valve is open or closed.

With the growing number of valves being used and minimal plant floor space available, wiring has become time-consuming and difficult to troubleshoot. To reduce wiring, the AS-i system is a simple and cost-saving solution for valve position monitoring.

AS-i connects a complete valve system with only one 2-wire cable. Wire bundles are eliminated. Valve position sensors with AS-i connectivity provide an integrated connection for the solenoid valve. The control unit is connected via the 2-wire AS-i cable.

This solution provides remote indication of valve status and can connect to higher level bus systems via DeviceNet, Profibus, and Ethernet.





Туре	Dimensions	Sensing range	Material	Ub		Protection	f AC / DC	I _{load} AC / DC	Order no.
	[mm]	[mm]		[V]]		[Hz]	[mA]	
M12 connect	tor · 1 x 2 inputs								
	55 x 60 x 35	4 nf	PBT (Pocan)	26.5	31.6	IP 67	-	-	AC2315
M12 connec	tor · Output function	transistor PN	P · 2 inputs / 1 c	output					
F	55 x 60 x 35	4 nf	PBT (Pocan)	26.5	31.6	IP 67	-	-	AC2310
= flush / nf	= non flush								
Target pu	ucks for dual se	nsors							
Туре				Description					Order no.
	Target puck · Ø 53 mm	ı · 3 possible swit	ching flag positions	· Housing mate	erials: Target p	ouck: PA 6 black	/ screws: V2A		E17320
	Target puck · Ø 65 mm	ı · Housing mater	ials: Target puck: PA	. 6 / screws: V2	2A				E17327
	Target puck · Ø 102 mr	m · Housing mate	erials: Target puck: P	A 6 / screws: \	/2A				E17328
Valve - p	lug jumpers foi	r industria	l applicatio	าร					
Туре	Cable	Wi specific		Material nousing / nut	U [V]	T _a [°C]	Pro- tection	LEDs	Order no.
Jumper M12	plug / valve plug ty	pe A (accordir	ng to DIN EN 175	301-803), 3	/4-pole, 3-v	vire, LED			
The same of the sa	0.3 m black PUR cable	3 x 0.5 mm	² , Ø 5 mm	PUR / brass	24 AC/DC	-2580	IP 67	yellow	E11416
		pe B (accordin	g to DIN EN 175	301-803), 3	-pole, 3-wir	e, LED			
Jumper M12	plug / valve plug ty								
Jumper M12	0.3 m black PUR cable	3 x 0.5 mm	² , Ø 5 mm	PUR / brass	24 AC/DC	-2580	IP 67	yellow	E11421
	0.3 m black			brass			IP 67	yellow	E11421

Safety at Work



- AS-i safety monitor, 1 or 2 channels
- Safety function freely configurable
- Positively driven relay contacts for the enabling of drives, etc.
- Replaces traditional safety relays
- Toolless DIN rail mounting



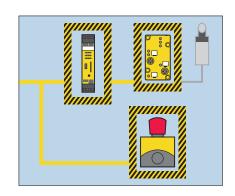




Safety on the AS-i bus

The AS-i safety monitor functions according to the Safety at Work specification. It monitors the data exchange between safe modules and the AS-i controllers. Should data transmission be disrupted, the module fail or a wire break occur, the monitor ensures the safe state. The same happens when the safety system is activated. The safety monitor receives a module address to enable direct diagnosis via the AS-i master. It can be mounted anywhere on the network.

The safety monitor features one or two independent OSSDs which can be configured via PC software. The parameter setting includes functions like emergency stop, start button, stop category 0 or 1, two-hand operation and muting. It can thus replace many different units. In addition, ifm offers a variety of safety AS-i modules, illuminated e-stop buttons and wiring solutions.





Safety at	Work	
Туре	Description	Order no.
	AS-i safety monitor \cdot Extended functionality \cdot 1-channel \cdot Control category 4 to EN954-1, IEC 61508 / SIL 3 and EN ISO 13849 - 1 PL e \cdot Configuration and setup by configuration software ASIMON \cdot Screw terminal	AC003S
	AS-i safety monitor \cdot Extended functionality \cdot 2-channel \cdot Control category 4 to EN954-1, IEC 61508 / SIL 3 and EN ISO 13849 - 1 PL e \cdot Configuration and setup by configuration software ASIMON \cdot Screw terminal	AC004S
	Safe active AS-i module · Connection via M12x1 sockets or cage clamps · Control category 4 according to EN954-1 and IEC 61508 / SIL 3 · For connection of an electro-sensitive protective equipment (ESPE) type 4 to EN 61496-1 · Housing materials: PA 6 · Complies with the requirements: ISO 13849-1: category 4 · ISO 13849-1: PL e · IEC 61508: SIL 3	AC007S
	AS-i safety monitor · 2 safe semi-conductor outputs · SIL 3 to EN 62061, IEC 61508 / SIL 3 and EN ISO 13849 - 1 / PL e · Chip card to save the configuration data · Configuration and setup by configuration software ASIMON V3 G2 · USB 2.0 interface · Chip card and Combicon screw terminals supplied with the device · Screw terminal	AC0415
	Safe AS-i input module · IR addressing possible · AS-i version 2.1 · Performance Level e to EN ISO 13849-1 for the connection of mechanical contacts · Sockets M12 x 1 · Housing materials: PBT · Complies with the requirements: ISO 13849-1: category 3 / 4 · ISO 13849-1: PL d / e	AC005S
	Safe active AS-i ClassicLine module · IR addressing possible · Performance Level e to EN ISO 13849-1 for the connection of mechanical contacts · Sockets M12 x 1 · Housing materials: PBT · Complies with the requirements: ISO 13849-1: category 4 · ISO 13849-1: PL e · IEC 61508: SIL 3	AC006S
	Illuminated E-STOP · front mounting · reset by turning · 2 NC contacts / 1 red LED · fool-proof E-STOP to EN ISO 13850	E7007S
	Safe active AS-i module · Performance Level e to EN ISO 13849-1 et IEC 61508 / SIL 3 for the connection of mechanical contacts · Combicon connection · Housing materials: PA · Complies with the requirements: ISO 13849-1: category 4 · ISO 13849-1: PL e · IEC 61508: SIL 3	AC009S
	Safe active AS-i output module \cdot SIL 3 to EN 62061, IEC 61508 / SIL 3 and EN ISO 13849 - 1 / PL e \cdot for the safe triggering of actuators \cdot Combicon connection	AC030S
0	Illuminated E-STOP with integrated AS-i connection · fool-proof E-STOP to EN ISO 13850 · Pull to reset · AS-i interface via AS-i flat cable IP 67 · Housing materials: PC GF20 · Complies with the requirements: ISO 13849-1: category 4 · ISO 13849-1: PL e · IEC 61508: SIL 3	AC010S
	AS-i safety PCB · Connection of mechanical contact and LED components · Certification according to EN 954-1 / category 4 and IEC 61508 / SIL 3 · Complies with the requirements: · IEC 61508: SIL 3	AC015S

RFID with Profibus-DP for production and conveying



- RFID evaluation unit with Profibus-DP and web server
- Evaluation unit with 4 antenna connections or digital I/Os
- Read / write antennas in industrially compatible housing
- Transponder with memory sizes from a few bits up to several Kbytes
- Protection rating IP 67 meets the requirements for harsh environments









Flexible RFID system with evaluation unit, antennas and transponders.

The DTE100 RFID system was designed especially for identification tasks in production and conveying. It is often used for quality assurance and serves as "electronic route card".

The robust evaluation unit is equipped with an integrated Profibus DP interface and a web server. Parameters can be easily set via a laptop. Due to the high protection rating IP 67 and a large temperature range, the unit also meets the requirements of harsh industrial environments.

The new evaluation unit features four antenna connections or digital I/Os. The antenna concept guarantees easy and quick connection of the LF and HF RFID antennas to the evaluation unit by means of M12 connectors. Besides the LF transponder with a memory size of up to 2 Kbits, the product portfolio from ifm electronic also offers HF transponders with 16 Kbits as a FRAM variant which can be rewritten an unlimited number of times.



3ys	tem 13.56 MHz								
Туре	Dimensions	Tra rea	vel speed d / write			Process interface		Orde no.	
	[mm]		[m/s]						
112 connec	ctor								
0 0 0	115 x 46.2 x 85		-			Profibus DP		DTE1	
FID ant	tennas 125 kHz	/ 13.56 MHz							
Туре			Description					Ordo	
12 connec	ctor								
		connector · 5 positions of the s sing: PA / Metal parts: stainless		le ·				ANT!	
is the second		connector · 5 positions of the sising: PA / Metal parts: stainless		le ·				ANT	
FID tag	ıs 125 kHz / 13.5	56 MHz							
Туре			Description					Ord	
	ID tag · ID-TAG/30X2.5	5/05 - 256 bit · Ø 30 x 2.5 mm ·	ID tag · ID-TAG/30X2.5/05 - 256 bit · Ø 30 x 2.5 mm · Housing materials: PA 6 black						
	ID tag · ID-TAG/30X2.5/05 - 2048 bit · Ø 30 x 2.5 mm · Housing materials: PA 6 black							E803	
6	ID tag · ID-TAG/30X2.5	5/05 - 2048 bit · Ø 30 x 2.5 mm							
0		5/05 - 2048 bit · Ø 30 x 2.5 mm 3/03 - 16 Kbit · Ø 30 x 2.8 mm ·	· Housing materials:	PA 6 black				E803	
0	ID tag · ID-TAG/30X2.8		· Housing materials: Housing materials: I	PA 6 black PA 6 black				E803	
umpers	ID tag · ID-TAG/30X2.8	3/03 - 16 Kbit · Ø 30 x 2.8 mm · 5/06 - 896 bit · Ø 30 x 2.5 mm ·	· Housing materials: Housing materials: I	PA 6 black PA 6 black				E803	
umpers Type	ID tag · ID-TAG/30X2.8	3/03 - 16 Kbit · Ø 30 x 2.8 mm · 5/06 - 896 bit · Ø 30 x 2.5 mm ·	· Housing materials: Housing materials: I	PA 6 black PA 6 black	T _a [°C]	Pro- tection	LEDs	E803	
Туре	ID tag · ID-TAG/30X2.8 ID tag · ID-TAG/30X2.5 ID tag · ID-TAG/30X2.5	3/03 - 16 Kbit · Ø 30 x 2.8 mm · 5/06 - 896 bit · Ø 30 x 2.5 mm · ad wet areas Wire	Housing materials: I Housing materials: I Housing materials: I Material housing /	PA 6 black PA 6 black PA 6 black			LEDs	E803	
Туре	ID tag · ID-TAG/30X2.8 ID tag · ID-TAG/30X2.5 For hygienic and Cable	3/03 - 16 Kbit · Ø 30 x 2.8 mm · 5/06 - 896 bit · Ø 30 x 2.5 mm · ad wet areas Wire	Housing materials: I Housing materials: I Housing materials: I Material housing /	PA 6 black PA 6 black PA 6 black			LEDs	E803	

Multicode reader



- Orientation-independent reading of data matrix codes and other 1D/2D codes
- Illumination, optics, evaluation and interfaces in an industrially compatible housing
- Code comparator system in the sensor
- Setting aid due to laser pointer
- Integrated Ethernet TCP/IP and Ethernet/IP interface











Reliable identification of data matrix and 1D codes

The multicode reader is designed to read 2D data matrix codes and 1D bar-codes in high speed industrial automation applications. The object speed can be up to 7 m/s. It reads most marking methods including dot-peened, laser-etched and printed data matrix codes as well as printed barcodes – and that even independent of its orientation.

Complex application programming is no longer necessary due to adjustable, selective identification and code comparison in the sensor. This allows a defined number of characters within a code to be checked and signalled via the switching output if they match.

The sensor can even reliably read codes which are difficult to read, e.g. on glass. Printed codes on plastic parts can wear or disintegrate over time. Here the multicode reader also allows reliable detection even if up to 28 % of the information is damaged.





Type	Dimensions [mm]	Max. field of view size [mm]	Type of light LED	Motion speed int. / ext. lighting [m/s]	Process interface	Orde no.
ticode R	eader, M12 plug, 8 pc	oles M12 socket, 4 p	ooles			
	60 x 42 x 53.5	64 x 48	red light	3/5	Ethernet TCP/IP, EtherNet/IP, RS-232	O2I1
	60 x 42 x 53.5	132 x 94	red light	3/5	Ethernet TCP/IP, EtherNet/IP, RS-232	0211
	60 x 42 x 59	400 x 300	red light	3/5	Ethernet TCP/IP, EtherNet/IP, RS-232	O2I1
	60 x 42 x 53.5	64 x 48	infrared	3/5	Ethernet TCP/IP, EtherNet/IP, RS-232	0211
	60 x 42 x 53.5	132 x 94	infrared	3/5	Ethernet TCP/IP, EtherNet/IP, RS-232	0211
	60 x 42 x 59	400 x 300	infrared	3/5	Ethernet TCP/IP, EtherNet/IP, RS-232	O2I1
	for the multi-co	de reader	Description			Out
Гуре			Description			Ord no
	lem:lem:lem:lem:lem:lem:lem:lem:lem:lem:					
67	Jumper · straight / straig	yht · Ethernet · Cross-ovε	er patch cable · 2 m · Housi	ng materials: PUR / PC		E118
				ng materials: PUR / PC	using materials: PUR	E118
	Socket · angled · Free fr	om silicone · Free from h		icts · M12 connector · 2 m · Ho	using materials: PUR	
ftware	Socket · angled · Free fr Socket · straight · Free f	om silicone · Free from h	nalogen · gold-plated conta	icts · M12 connector · 2 m · Ho	using materials: PUR	E112
ftware	Socket · angled · Free fr Socket · straight · Free f	om silicone · Free from h	nalogen · gold-plated conta	icts · M12 connector · 2 m · Ho	using materials: PUR	E112

Vibration monitoring systems



- Continuous vibration diagnosis for rotating plant parts
- Higher plant uptime thanks to condition-based maintenance
- Up to four vibration sensors can be connected to one evaluation unit
- Integrated history memory for trend analysis and documentation
- Ethernet interface for integration into operational data logging systems











Predictive maintenance solutions

Vibration diagnostic systems from ifm allow continuous vibration monitoring on machines and machine parts in food processing such as the detection of unbalance on rolling element bearings and gears.

The diagnostic electronics analyses the vibration characteristics of the machine and compares this to the permissible limit values. If these values are exceeded, the system automatically sets alarm outputs and transfers these data to the controller or the control system via Ethernet.

Innovative software

The analysis software allows the user to evaluate the state of the machine remotely. A bar graph display provides a quick overview of all operating states of the machine and the trend history shows machine condition changes over the time. All this allows condition-based maintenance of the machines. This increases plant uptime and at the same time reduces the operating costs.





Туре	Description					
	Diagnostic electronics for vibration sensors, dynamic inputs: 4 x 010 mA static inputs: 2 x 0/420 mA or pulse, 2 digital alarm outputs (PNP 100 mA) or 1 digital output and 1 analogue output 0/420/22 mA, Analogue input, 250, Measuring range, Frequency, History memory yes, Data interface Ethernet TCP/IP, Display, Combicon connection					
	Diagnostic electronics for vibration sensors, 4 sensor inputs 010 mA, 4x sensor inputs 010 mA 2x speed inputs 0/420 mA or 010 V or pulse 24 V 8x digital outputs/inputs (freely configurable) (PNP 100 mA), 2x digital alarm outputs (PNP 100 mA) or 1x digital alarm output + 1x analogue output 0/420/22 mA / 010 V 8x digital outputs/inputs (freely configurable) (PNP 100 mA), Analogue input, 250, Measuring range, Frequency, History memory yes, Data interface Ethernet TCP/IP, Display, Combicon connection					
bratio	n sensors for connection to external diagnostic electronics VSE – 1	type VSA				
Туре	Description		Or r			
	Vibration sensor \cdot for connection to external diagnostic electronics \cdot Connector \cdot Housing materials: housing: stainless steel 316L / 1.4404		VS			
cessoi	ries VSE					
Туре	Description	Number of connections	Oi r			
	Parameter setting software for VSExxx	-	VE			
	octavis OPC server · Software · German/English	25	VO			
nnect	ion cables VSE					
Туре	Description		Oı r			
	Jumper · straight / straight · Ethernet · Cross-over patch cable · 2 m · Housing materials: PUR		EC			

Type Description Order no. Socket · straight · Free from silicone · Free from halogen · gold-plated contacts · M12 connector · 10 m · Housing materials: TPU E12079 Socket · straight · Free from silicone · Free from halogen · gold-plated contacts · M12 connector · 30 m · Housing materials: TPU E12008

Vibration sensors and transmitters



- Easy-to-use vibration monitoring for rotating machine parts
- Condition-based maintenance results in higher plant uptime
- Analogue output signal for trend recording of vibration values
- VK sensors combine both switching function and transmitter in one unit
- VT transmitter with stainless steel housing (316) and protection rating IP 69K







Avoid machine damage

Each rotating machine has its own vibration characteristics. Changes can point to wear, machine damage or imminent failure.

The vibration sensors of the VK and VT series are designed for fixed mounting on a machine. They monitor the vibration level continuously and indicate changes so that the maintenance personnel can take measures in time to avoid machine failure and further secondary damage.

Typical applications for vibration sensors and transmitters are motors, pumps, compressors, fans, centrifuges and vibrating conveyor systems.





(A) Vibration monitoring on a drive motor (B) VK vibration monitor: Easy adjustment by means of setting rings



(C) VT vibration transmitter transmits machine conditions via analogue output

Vibration monitors	for vibration i	monitoring of	machines and	plants to ISO	10816 type VK

Туре	Description	Order no.
.OHD.	Vibration monitor · Connection via M12 connector · Vibration monitor to DIN ISO 10816 · Measuring range RMS: 025 mm/s · Switching outputs: normally closed and analogue 420 mA · Housing materials: PBT / PC / FPM / stainless steel 316L / 1.4404	VKV021
"E M	Vibration sensor · Connection via M12 connector · Vibration monitor to DIN ISO 10816 · Measuring range RMS: 050 mm/s · Switching outputs: normally closed and analogue 420 mA · Housing materials: PBT / PC / FPM / stainless steel 316L / 1.4404	VKV022

Vibration transmitters for vibration monitoring of machines and plants to ISO 10816 type VT

Туре	Description	Order no.



 $\label{thm:prop:mass} \begin{tabular}{ll} Vibration transmitter \cdot Connection via M12 connector \cdot Vibration transmitter to ISO 10816 \cdot Measuring range RMS: 0...25 mm/s \cdot Analogue output 4...20 mA \cdot Housing materials: stainless steel 316L / 1.4404 \cdot Analogue output 4...20 mA \cdot Housing materials: stainless steel 316L \cdot Analogue output 4...20 mA \cdot Housing materials: stainless steel 316L \cdot Analogue output 4...20 mA \cdot Housing materials: stainless steel 316L \cdot Analogue output 4...20 mA \cdot Housing materials: stainless steel 316L \cdot Analogue output 4...20 mA \cdot Housing materials: stainless steel 316L \cdot Analogue output 4...20 mA \cdot Housing materials: stainless steel 316L \cdot Analogue output 4...20 mA \cdot Housing materials: stainless steel 316L \cdot Analogue output 4...20 mA \cdot Housing materials: stainless steel 316L \cdot Analogue output 4...20 mA \cdot Housing materials: \cdot Analogue output 4...20 mA $$

VTV122

Connecto	rs							
Туре	Cable	Wire specification	Material housing / nut	U [V]	Т _а [°С]	Pro- tection	LEDs	Order no.
Socket 12, 5/4	1-pole, 4-wire							
	5 m orange PVC cable	4 x 0.34 mm², Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT004
1	5 m orange PVC cable	4 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT001



M12 and M8 connectors for hygienic and wet areas



- Connection technology meets the M12 standard (EN 61076)
- Optimum sealing even when fastened by hand
- The mechanical end stops the O-ring being destroyed
- Nut secured against shock and vibration due to saw tooth vibration protection
- LEDs clearly visible even under bright lighting





ecolink M12 for demanding applications

Most applications require special solutions. Only high-quality materials, assured production processes and faultless assembly lead to success in the long run.

The integrated end stop protects the O-ring against destruction caused by overtightening the nut. No tools needed for installation and removal.

The asymmetrically acting vibration protection holds the nut tight in its position, guaranteeing optimum and permanent sealing.

High-quality materials especially suited to the application and intensive monitoring during and after production guarantee maximum quality standards.





ecolink M8: For the first time the innovative profiled sealing ring also provides the high protection ratings IP 67 / IP 68 / IP 69K for M8 connectors.

Jumper ca	bles							
Туре	Cable	Wire specification	Material housing / nut	U [V]	T _a [°C]	Pro- tection	LEDs	Order no.
lumper 12, 4/	5-pole, 4-wire							
	0.3 m orange PVC cable	4 x 0.34 mm², Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT04
	0.6 m orange PVC cable	4 x 0.34 mm², Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT04
	1 m orange PVC cable	4 x 0.34 mm², Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT04
	2 m orange PVC cable	4 x 0.34 mm², Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT04
	5 m orange PVC cable	4 x 0.34 mm², Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT04
lumper 12, 5-	pole, 5-wire							
	0.3 m orange PVC cable	5 x 0.34 mm ² , Ø 5.1 mm	PVC / stainless steel 316L / 1.4404	30 AC 36 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT05
	0.6 m orange PVC cable	5 x 0.34 mm², Ø 5.1 mm	PVC / stainless steel 316L / 1.4404	30 AC 36 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT05
	1 m orange PVC cable	5 x 0.34 mm², Ø 5.1 mm	PVC / stainless steel 316L / 1.4404	30 AC 36 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT06
	2 m orange PVC cable	5 x 0.34 mm², Ø 5.1 mm	PVC / stainless steel 316L / 1.4404	30 AC 36 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT06
	5 m orange PVC cable	5 x 0.34 mm ² , Ø 5.1 mm	PVC / stainless steel 316L / 1.4404	30 AC 36 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT06
Connecto	rs							
Туре	Cable	Wire specification	Material housing / nut	U [V]	Т _а [°С]	Pro- tection	LEDs	Order no.
Socket 8, 3-pc	ole, 3-wire							
	5 m orange PVC cable	3 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	50 AC 60 DC	-2580	IP 67 / IP 68 / IP 69K	-	EVT12
	10 m orange PVC cable	3 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	50 AC 60 DC	-2580	IP 67 / IP 68 / IP 69K	-	EVT12
	25 m orange PVC cable	3 x 0.34 mm², Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	50 AC 60 DC	-2580	IP 67 / IP 68 / IP 69K	-	EVT12



Туре	Cable	Wire specification	Material housing / nut	U [V]	T _a [°C]	Pro- tection	LEDs	Order no.
Socket 8, 3-pc	ole. 3-wire		nut	[v]	[C]			
	5 m orange PVC cable	3 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	50 AC 60 DC	-2580	IP 67 / IP 68 / IP 69K	-	EVT127
	10 m orange PVC cable	3 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	50 AC 60 DC	-2580	IP 67 / IP 68 / IP 69K	-	EVT128
	25 m orange PVC cable	3 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	50 AC 60 DC	-2580	IP 67 / IP 68 / IP 69K	-	EVT129
Socket 8, 3-pc	ole, 3-wire, LED, PNP							
	5 m orange PVC cable	3 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	1036 DC	-2580	IP 67 / IP 68 / IP 69K	green / yellow	EVT131
	10 m orange PVC cable	3 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	1036 DC	-2580	IP 67 / IP 68 / IP 69K	green / yellow	EVT132
	25 m orange PVC cable	3 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	1036 DC	-2580	IP 67 / IP 68 / IP 69K	green / yellow	EVT133
Socket 8, 4-pc	ole, 4-wire							
	5 m orange PVC cable	4 x 0.34 mm², Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	50 AC 60 DC	-2580	IP 67 / IP 68 / IP 69K	-	EVT135
	10 m orange PVC cable	4 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	50 AC 60 DC	-2580	IP 67 / IP 68 / IP 69K	-	EVT136
	25 m orange PVC cable	4 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	50 AC 60 DC	-2580	IP 67 / IP 68 / IP 69K	-	EVT137
	5 m orange PVC cable	4 x 0.34 mm², Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	50 AC 60 DC	-2580	IP 67 / IP 68 / IP 69K	-	EVT139
	10 m orange PVC cable	4 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	50 AC 60 DC	-2580	IP 67 / IP 68 / IP 69K	-	EVT140
	25 m orange PVC cable	4 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	50 AC 60 DC	-2580	IP 67 / IP 68 / IP 69K	-	EVT141
Socket 12, 5/4	1-pole, 4-wire							
	5 m orange PVC cable	4 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	_	EVT001
6	10 m orange PVC cable	4 x 0.34 mm², Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT002
	25 m orange PVC cable	4 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT003

Туре	Cable	Wire specification	Material housing / nut	U [V]	T _a [°C]	Pro- tection	LEDs	Order no.		
Socket 12, 5/	Socket 12, 5/4-pole, 4-wire									
	5 m orange PVC cable	4 x 0.34 mm², Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT004		
	10 m orange PVC cable	4 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT005		
	25 m orange PVC cable	4 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	250 AC 300 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT006		
Socket 12, 5/-	4-pole, 4-wire, LED, I	PNP								
	5 m orange PVC cable	4 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	1036 DC	-25100	IP 67 / IP 68 / IP 69K	green / 2 x yellow	EVT007		
	10 m orange PVC cable	4 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	1036 DC	-25100	IP 67 / IP 68 / IP 69K	green / 2 x yellow	EVT008		
	25 m orange PVC cable	4 x 0.34 mm ² , Ø 4.9 mm	PVC / stainless steel 316L / 1.4404	1036 DC	-25100	IP 67 / IP 68 / IP 69K	green / 2 x yellow	EVT009		
Socket 12, 5-	pole, 5-wire									
	5 m orange PVC cable	5 x 0.34 mm², Ø 5.1 mm	PVC / stainless steel 316L / 1.4404	30 AC 36 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT010		
	10 m orange PVC cable	5 x 0.34 mm ² , Ø 5.1 mm	PVC / stainless steel 316L / 1.4404	30 AC 36 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT011		
	25 m orange PVC cable	5 x 0.34 mm ² , Ø 5.1 mm	PVC / stainless steel 316L / 1.4404	30 AC 36 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT012		
	5 m orange PVC cable	5 x 0.34 mm ² , Ø 5.1 mm	PVC / stainless steel 316L / 1.4404	30 AC 36 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT013		
	10 m orange PVC cable	5 x 0.34 mm², Ø 5.1 mm	PVC / stainless steel 316L / 1.4404	30 AC 36 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT014		
	25 m orange PVC cable	5 x 0.34 mm ² , Ø 5.1 mm	PVC / stainless steel 316L / 1.4404	30 AC 36 DC	-25100	IP 67 / IP 68 / IP 69K	-	EVT015		



M12 connectors for industrial applications



- 8-pole versions
- Withstands harsh conditions and oils and coolants
- Wide temperature range
- High-flex TPU and PUR jacket rated for over 5 million flex cycles



Robust standard connection technology

The 8-pole M12 sockets are designed for use under harsh conditions in industrial automation as well as oil and coolant applications. They meet the requirements of the cRLus approval as well as the RoHS standards. They are also free from silicone and halogen. The high-flex TPU and PUR jacketed cables are rated for over 5 million flex cycles.



уре	Cable	Wire	Material	U	Ta	Pro-	LEDs	Order
		specification	housing / nut	[V]	[°C]	tection		no.
: 12, 8/7	-pole, 8-wire							
	5 m black PUR cable	8 x 0.25 mm ²	TPU / brass	30 AC 36 DC	-4080	IP 68	-	E1216
	10 m black PUR cable	8 x 0.25 mm ²	TPU / brass	30 AC 36 DC	-4080	IP 68	-	E12169
	5 m black PUR cable	8 x 0.25 mm ²	TPU / brass	30 AC 36 DC	-4080	IP 67	-	E12166
	10 m black PUR cable	8 x 0.25 mm ²	TPU / brass	30 AC 36 DC	-4080	IP 67	-	E1216
t M12, 8	pole, 8-wire, for te	mperature sensors TR 8						
	2 m black PUR cable	8 x 0.25 mm ² , Ø 6.2 mm	PUR / brass	30 AC 36 DC	-2580	IP 68	-	E1195
	5 m black PUR cable	8 x 0.25 mm ² , Ø 6.2 mm	PUR / brass	30 AC 36 DC	-2580	IP 68	-	E1180
	10 m black PUR cable	8 x 0.25 mm ² , Ø 6.2 mm	PUR / brass	30 AC 36 DC	-2580	IP 68	-	E1131
	2 m black PUR cable	8 x 0.25 mm ² , Ø 6.2 mm	PUR / brass	30 AC 36 DC	-2580	IP 67	-	E11231
	5 m black PUR cable	8 x 0.25 mm ² , Ø 6.2 mm	PUR / brass	30 AC 36 DC	-2580	IP 67	-	E1123
	10 m black PUR cable	8 x 0.25 mm ² , Ø 6.2 mm	PUR / brass	30 AC 36 DC	-2580	IP 67	-	E1180

Accessories for ifm sensors



- Mounting bracket
- Mounting clamps
- Prismatic reflectors for retro-reflective sensors
- IO link accessories
- Installation and process adapter

Highgrade stainless steel

Hygienic mounting accessories

One-piece angle brackets in stainless steel are used to mount cylindrical inductive, capacitive and photoelectric M12, M18 and M30 sensors.

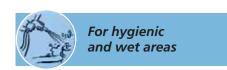
Moreover, ifm also provides adjustable installation systems allowing easy and flexible orientation. Once put into position, it is sufficient to tighten a screw to keep the sensor in position permanently and safely. These mounting systems are available in various configurations and are also suitable for mounting prismatic reflectors.

Round prismatic reflectors are available in 50 and 80 mm diameters for retroreflective sensor applications.

ifm also offers accessories for process sensors, camera systems and valve sensors and their mounting on quarter-turn actuators.

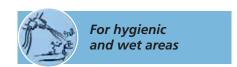


Accessori	es for inductive and photoelectric sensors	
Туре	Description	Order no.
	Angle bracket · for type M12 · Housing materials: stainless steel	E10735
	Mounting clip · O-shaped · for type M12 · Housing materials: stainless steel	E11533
	Angle bracket · for type M18 · Housing materials: stainless steel	E10736
	Mounting clip · O-shaped · for type M18 · Housing materials: stainless steel	E11534
00	Angle bracket · for type M30 · Housing materials: stainless steel	E10737
System co	omponents	
Туре	Description	Order no.
7	Mounting set \cdot Ø 18.5 mm \cdot Clamp mounting \cdot free-standing M10 \cdot for type OG, IG, KG \cdot Housing materials: fixture: stainless steel 316Ti / 1.4571 / clamp: stainless steel	E20869
TO	Mounting set \cdot Ø 18.5 mm \cdot Clamp mounting \cdot free-standing M10 \cdot for type OG, IG, KG \cdot Housing materials: fixture: stainless steel 316Ti / 1.4571 / clamp: stainless steel	E20870
Prismatic	reflector	
Туре	Description	Order no.
•.,	Prismatic reflector $\cdot \varnothing$ 50 mm \cdot round \cdot fixing by screw \cdot for red light and infrared light retro-reflective sensors \cdot Housing materials: plastics	E20956
•	Prismatic reflector · Ø 80 mm · round · for red light and infrared light retro-reflective sensors · Housing materials: plastics	E20005
	Prismatic reflector \cdot 18 x 18 mm \cdot rectangular \cdot Housing materials: plastics Solidchem \cdot up to 140 °C	E21267
	Prismatic reflector ⋅ 96 x 96 mm ⋅ rectangular ⋅ Housing materials: plastics Solidchem ⋅ up to 140 °C	E21270



е	Description	
	Cable gland · M20 x 1.5 · Housing materials: PA 6.6	
	Protective cap · M20 x 1.5 · Housing materials: PA 6.6	
	Plug for covering the oblong holes · Housing materials: EPDM	
ocl	cets for industrial applications	
	Description	
	Wirable socket · straight · wirable · M18 connector · Housing materials: PA	
or	ies	
	Description	
	Description Memory plug · Parameter memory for IO-Link sensors · Storage capacity: 2 Kbytes ·	
	Description	
	Description Memory plug · Parameter memory for IO-Link sensors · Storage capacity: 2 Kbytes ·	
or	Description Memory plug · Parameter memory for IO-Link sensors · Storage capacity: 2 Kbytes · Housing materials: PA PACM 12 / PET / sealing: FPM / nut: stainless steel 316L / 1.4404 / connector: TPU IO-Link interface · for parameter setting and analysis of units with DTM specification · Supported communication protocols: IO-Link	
or	Description Memory plug · Parameter memory for IO-Link sensors · Storage capacity: 2 Kbytes · Housing materials: PA PACM 12 / PET / sealing: FPM / nut: stainless steel 316L / 1.4404 / connector: TPU IO-Link interface · for parameter setting and analysis of units with DTM specification · Supported communication protocols: IO-Link (4800 and 38400 bits/s) EPS protocol (19200 bits/s) · contains ifm Container software (E30110)	
or	Description Memory plug · Parameter memory for IO-Link sensors · Storage capacity: 2 Kbytes · Housing materials: PA PACM 12 / PET / sealing: FPM / nut: stainless steel 316L / 1.4404 / connector: TPU IO-Link interface · for parameter setting and analysis of units with DTM specification · Supported communication protocols: IO-Link (4800 and 38400 bits/s) EPS protocol (19200 bits/s) · contains ifm Container software (E30110) ies O5 housing	
or	Description Memory plug · Parameter memory for IO-Link sensors · Storage capacity: 2 Kbytes · Housing materials: PA PACM 12 / PET / sealing: FPM / nut: stainless steel 316L / 1.4404 / connector: TPU IO-Link interface · for parameter setting and analysis of units with DTM specification · Supported communication protocols: IO-Link (4800 and 38400 bits/s) EPS protocol (19200 bits/s) · contains ifm Container software (E30110) ies O5 housing	
	Memory plug · Parameter memory for IO-Link sensors · Storage capacity: 2 Kbytes · Housing materials: PA PACM 12 / PET / sealing: FPM / nut: stainless steel 316L / 1.4404 / connector: TPU IO-Link interface · for parameter setting and analysis of units with DTM specification · Supported communication protocols: IO-Link (4800 and 38400 bits/s) EPS protocol (19200 bits/s) · contains ifm Container software (E30110) ies O5 housing Description	
	Memory plug · Parameter memory for IO-Link sensors · Storage capacity: 2 Kbytes · Housing materials: PA PACM 12 / PET / sealing: FPM / nut: stainless steel 316L / 1.4404 / connector: TPU IO-Link interface · for parameter setting and analysis of units with DTM specification · Supported communication protocols: IO-Link (4800 and 38400 bits/s) EPS protocol (19200 bits/s) · contains ifm Container software (E30110) ies O5 housing Description Angle bracket · for type O5 · Housing materials: stainless steel 316Ti / 1.4571	
	Memory plug · Parameter memory for IO-Link sensors · Storage capacity: 2 Kbytes · Housing materials: PA PACM 12 / PET / sealing: FPM / nut: stainless steel 316L / 1.4404 / connector: TPU IO-Link interface · for parameter setting and analysis of units with DTM specification · Supported communication protocols: IO-Link (4800 and 38400 bits/s) EPS protocol (19200 bits/s) · contains ifm Container software (E30110) ies O5 housing Description Angle bracket · for type O5 · Housing materials: stainless steel 316Ti / 1.4571	

Type	Description	Ord
P	Mounting set · O3D · Clamp mounting · rod mounting Ø 14 mm · Housing materials: fixture: stainless steel / clamp: stainless steel	E3D
flectiv	re tapes, diffusers and protective panes for 2D sensors	
Туре	Description	Ord
	Plastic protective pane for the food industry · O2D / O2I · Housing materials: housing: diecast zinc black / lens: PMMA	E21
ses fo	r safety light curtains / safety light grids	
Туре	Description	Ord
	Base \cdot Length: 1010 mm \cdot for safety light grids \cdot 2 beams \cdot for safety light curtains $\cdot \le 760$ mm \cdot for type OY \cdot Housing materials: aluminium epoxy-powder coated / plastics	EY2
	Base \cdot Length: 1340 mm \cdot for safety light grids \cdot 3 beams \cdot 4 beams \cdot for safety light curtains $\cdot \le$ 1060 mm \cdot for type OY \cdot Housing materials: aluminium epoxy-powder coated / plastics	EY2
	Base · Length: 1680 mm · for safety light curtains · ≤1360 mm · for type OY · Housing materials: aluminium epoxy-powder coated / plastics	EY2
	Base · Length: 1980 mm · for safety light curtains · ≤ 1510 mm · for type OY · Housing materials: aluminium epoxy-powder coated / plastics	EY2
cessor	ies necessary for bases	
Туре	Description	Ore n
	Mounting base · for type OY	EY2
, -		
cessor	ies for safety light curtains	
Type	Description	Ord



Accessories for flow meters

Туре	Description	Order no.
A a	Adapter · G ½ - R ½ · R ½ · for flow monitor type SM6 · flat seal · Housing materials: stainless steel 316Ti / 1.4571	E40199
	Adapter · G ½ - ½,, NPT · ½,, NPT · for flow monitor type SM6 · flat seal · Housing materials: stainless steel 316Ti / 1.4571	E40200
	Adapter \cdot G $^{3}\!\!$ 4 - R $^{1}\!\!$ 2 \cdot for flow monitor type SM7 / SU7 \cdot Housing materials: stainless steel 316L / 1.4404	E40178
	Adapter \cdot G $\frac{3}{4}$ - $\frac{1}{2}$ " NPT \cdot for flow monitor type SM7 / SU7 \cdot Housing materials: stainless steel 316L / 1.4404	E40191
	Adapter · G 1 - ¾ " NPT · for flow monitor type SM8 / SU8 · Housing materials: stainless steel 316L / 1.4404	E40193



Aseptoflex Vario O-ring / PEEK ring

The following Aseptoflex Vario adapters seal by means of an O-ring or a PEEK sealing ring.

ifm electronic offers water and cleaning-agent resistant EPDM and oil-resistant FKM (FPM) as O-ring materials. As an alternative, the maintenance and wear-free PEEK ring can be integrated. The EPDM sealing is supplied with the adapter; the FKM (FPM) and PEEK ring have to be ordered optionally.







Туре	Description	Order no.
Clamp adapt	er	
	Clamp 1-1.5" · ISO 2852 · with sealing ring · for units with process connection Aseptoflex Vario · stainless steel 316L / 1.4435	E33201
	Clamp 2" · ISO 2852 · with sealing ring · for units with process connection Aseptoflex Vario · stainless steel 316L / 1.4435	E33202
	Clamp 1-1.5" · ISO 2852 · with leakage port · with sealing ring · for units with process connection Aseptoflex Vario · stainless steel 316L / 1.4435	E33208
	Clamp 2" · ISO 2852 · with leakage port · with sealing ring · for units with process connection Aseptoflex Vario · stainless steel 316L / 1.4435	E33209
	Varivent type F D50 \cdot with sealing ring \cdot for units with process connection Aseptoflex Vario \cdot stainless steel 316L / 1.4435	E33221
	$Varivent\ type\ N\ D68\cdot with\ sealing\ ring\cdot for\ units\ with\ process\ connection\ Aseptoflex\ Vario\cdot stainless\ steel\ 316L\ /\ 1.4435$	E33222
	Varivent type F D50 \cdot with leakage port \cdot with sealing ring \cdot for units with process connection Aseptoflex Vario \cdot stainless steel 316L / 1.4435	E33228
•	Varivent type N D68 \cdot with leakage port \cdot with sealing ring \cdot for units with process connection Aseptoflex Vario \cdot stainless steel 316L / 1.4435	E33229
Welding ada	pter	
	Welding adapter D50 \cdot with sealing ring \cdot for units with process connection Aseptoflex Vario \cdot stainless steel 316L / 1.4435	E30122
	Welding adapter D50 \cdot with leakage port \cdot with sealing ring \cdot for units with process connection Aseptoflex Vario \cdot stainless steel 316L / 1.4435	E30130

Туре	Description	Order no.
pipe fitting		
	pipe fitting DN32 · DIN 11851 · with sealing ring · for units with process connection Aseptoflex Vario · stainless steel 316L / 1.4435	E33211
	pipe fitting DN40 · DIN 11851 · with sealing ring · for units with process connection Aseptoflex Vario · stainless steel 316L / 1.4435	E33212
	pipe fitting DN50 · DIN 11851 · with sealing ring · for units with process connection Aseptoflex Vario · stainless steel 316L / 1.4435	E33213
	pipe fitting DN/OD33.7 \cdot DIN 11864 \cdot with sealing ring \cdot for units with process connection Aseptoflex Vario \cdot stainless steel 316L / 1.4435	E33304
Flange adapt	er	
	DRD D65 \cdot with sealing ring \cdot for units with process connection Aseptoflex Vario \cdot stainless steel 316L / 1.4435	E33242
pipe fitting		
	Universal process adapter Rd52 · with sealing ring · for units with process connection Aseptoflex Vario · stainless steel 316L / 1.4435	E33340
sealing plug		
	Aseptoflex Vario \cdot with sealing ring \cdot adapter: stainless steel 316L / 1.4435 / sealing ring: FKM	E30128
O-ring		
0	FKM FDA compliant	E30123
Sealing ring		
	for Aseptoflex Vario adapter · PEEK FDA compliant	E30124



Aseptoflex Vario metal / metal

The following Aseptoflex Vario adapters form the seal via a maintenance-free, metal edge.





Туре	Description	Order no.
Clamp adapt	er	
	Clamp 1-1.5" · ISO 2852 · Metal to metal seal · for units with process connection Aseptoflex Vario · stainless steel 316L / 1.4435	E33701
	Clamp 2" · ISO 2852 · Metal to metal seal · for units with process connection Aseptoflex Vario · stainless steel 316L / 1.4435	E33702
	Varivent type F D50 · Metal to metal seal · for units with process connection Aseptoflex Vario · stainless steel 316L / 1.4435	E33721
	$Varivent\ type\ N\ D68\cdot Metal\ to\ metal\ seal\cdot for\ units\ with\ process\ connection\ Aseptoflex\ Vario\cdot stainless\ steel\ 316L\ /\ 1.4435$	E33722
pipe fitting		
	pipe fitting DN32 \cdot DIN 11851 \cdot Metal to metal seal \cdot for units with process connection Aseptoflex Vario \cdot stainless steel 316L / 1.4435	E33711
	pipe fitting DN40 \cdot DIN 11851 \cdot Metal to metal seal \cdot for units with process connection Aseptoflex Vario \cdot stainless steel 316L / 1.4435	E33712
	pipe fitting DN50 \cdot DIN 11851 \cdot Metal to metal seal \cdot for units with process connection Aseptoflex Vario \cdot stainless steel 316L / 1.4435	E33713
	SMS pipe fitting DN40 · Metal to metal seal · for units with process connection Aseptoflex Vario · stainless steel 316L / 1.4435	E33731
	SMS pipe fitting DN50 · Metal to metal seal · for units with process connection Aseptoflex Vario · stainless steel 316L / 1.4435	E33732

Туре	Description	Order no.
sealing plug		
	Aseptoflex Vario \cdot with sealing ring \cdot adapter: stainless steel 316L / 1.4435 / sealing ring: FKM	E30128



G½

The following adapters are suited for G1/2 process connections with conical sealing edge.

The metal / metal - or for the LMT level sensor the PEEK / metal - edge form the sealing.







Туре	Description	Order no.
Clamp adapt	er er	
	Clamp 1-1.5" \cdot DIN 32676 \cdot for units with process connection G½ \cdot stainless steel 316L / 1.4404	E33401
	Clamp 2" · DIN 32676 · for units with process connection $G1/2$ · stainless steel 316L / 1.4404	E33402
	Clamp 1-1.5" · ISO 2852 / DIN 32676 · with leakage port · for units with process connection $G\frac{1}{2}$ · stainless steel 316L / 1.4435	E43311
	Clamp 2" · ISO 2852 / DIN 32676 · with leakage port · for units with process connection G½ · stainless steel 316L / 1.4435	E43312
	Varivent type F D50 \cdot for units with process connection G½ \cdot stainless steel 316L / 1.4435	E43306
	Varivent type N D68 · for units with process connection G½ · stainless steel 316L / 1.4435	E43307
Welding ada	pter	
Faunt	Welding adapter ball D35 \cdot for units with process connection G½ \cdot stainless steel 316L / 1.4404	E30055
	Welding adapter collar D45 · for units with process connection G½ · stainless steel 316L / 1.4404	E30056
	Welding adapter D30 \cdot for tanks \cdot for units with process connection G½ \cdot stainless steel 316L / 1.4435	E43300
	Welding adapter D29 \cdot for pipes \cdot for units with process connection G½ \cdot stainless steel 316L / 1.4435	E43301

Туре	Description	Order no.				
Welding ada	Welding adapter					
22	Welding adapter D30 \cdot for tanks \cdot with leakage port \cdot for units with process connection G½ \cdot stainless steel 316L / 1.4435	E43309				
	Welding adapter D29 · for pipes · with leakage port · for units with process connection G½ · stainless steel 316L / 1.4435	E43310				
pipe fitting						
	pipe fitting DN25 \cdot DIN 11851 \cdot for units with process connection G½ \cdot stainless steel 316L / 1.4435	E43304				
	pipe fitting DN40 · DIN 11851 · for units with process connection G½ · stainless steel 316L / 1.4435	E43305				
	SMS pipe fitting DN25 \cdot for units with process connection G½ \cdot stainless steel 316L / 1.4404	E33430				
sealing plug						
8	G½ · stainless steel 316L / 1.4435	E43308				



Gʻ

The following adapters are suited for metal sealing of a G1 process connection with conical edge.



Туре	Description	Order no.		
Clamp adapter				
	Clamp 1-1.5" · ISO 2852 · Metal to metal seal · for units with process connection G1 · stainless steel 316L / 1.4435	E33601		
	Varivent type N D68 · Metal to metal seal · for units with process connection G1 · stainless steel 316L / 1.4435	E33622		
Welding adapter				
	Welding adapter D50 \cdot Metal to metal seal \cdot for units with process connection G1 \cdot stainless steel 316L / 1.4404	E30013		
	Welding adapter D50 \cdot with sealing ring \cdot for units with process connection G1 \cdot stainless steel 316L / 1.4404 / O-ring: Viton / O-ring: EPDM	E30072		
pipe fitting				
	pipe fitting DN40 · DIN 11851 · Metal to metal seal · for units with process connection G1 · stainless steel 316L / 1.4435	E33612		
sealing plug				
	G1 · high-grade stainless steel	E30070		



G¾

The water and cleaning-agent resistant EPDM or oil-resistant FKM sealing rings (FPM) form the sealing between the G3/4 process connections and the following adapters. Both sealing rings are supplied with the adapter.





Туре	Description	Order no.			
Clamp adapter					
	Clamp 1-1.5" · ISO 2852 · for units with process connection G¾ · stainless steel 316L / 1.4435	E33901			
	Clamp 2" · ISO 2852 · for units with process connection G¾ · stainless steel 316L / 1.4435	E33902			
Welding adapter					
	Welding adapter D50 \cdot for units with process connection G¾ \cdot stainless steel 316L / 1.4404	E30009			
pipe fitting					
	Pipe fitting DN25 \cdot DIN 11851 \cdot for units with process connection G ³ 4 \cdot stainless steel 316L / 1.4435	E33910			
sealing plug					
3	$G^{3}_{4}\cdot$ high-grade stainless steel	E30071			

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