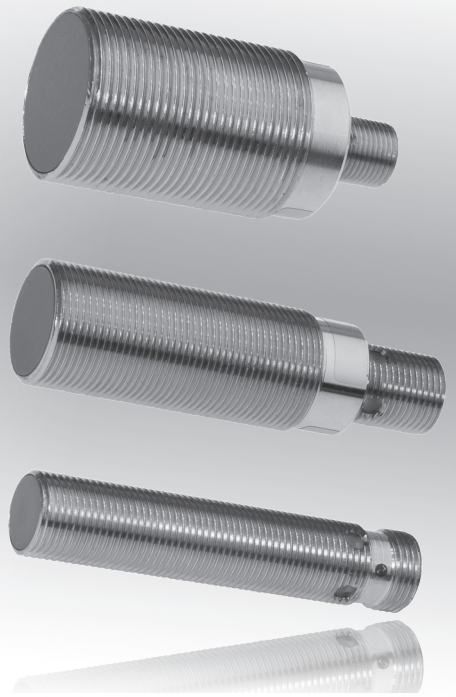
dimensions	**M8x1** **M12x1** **M18x1** **M30x1.5**	
flush	switching distance	**1.5 ... 10mm**



- ✓ **LED display of the switching signal**
- ✓ **outstanding impermeability**
- ✓ **high switching frequency up to 5kHz**
- ✓ **connection with M8- or M12-connector**

IO-Link-capable devices
robust metal housing

description

IO-Link is a globally standardized IO technology (IEC 61131-9) for communicating with sensors as well as actuators. The powerful point-to-point communication is based on the well-established three-conductor sensor and actuator connection. It allows additional information, e.g., damping, sensor failure or switching frequency as well as the setting of sensor parameters such as switching performance, timer functions, etc., to be communicated without any additional requirements on the cable material.

An inductive sensor (proximity switch, position sensor, initiator) is a contactless switch which reliably detects metallic objects. In the case of inductive sensors, a correction factor is stated which evaluates the reduction of the switching distance in relation to the different materials that the object is made from. This factor depends on the type, characteristics (internal structure), size and geometry of the material that the object to be detected is made from. The stated switching distance value relates to steel St37 (factor 1 steel). In order to assess the approximate switching distance for materials which differ from this, the value has to be multiplied by the appropriate correction factor.

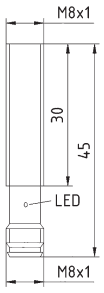
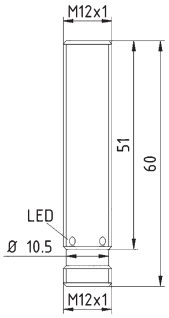
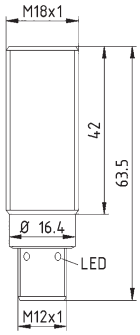
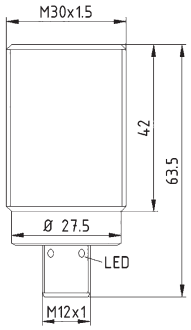
To achieve the maximum switching distance, the size and characteristics of the object to be detected (norm measuring plate and/or flat surface) are to be taken into account.

A further important feature of these sensors is the cast electronics in a stable, metal housing. As a consequence of the compound, the electronics are perfectly protected from vibrations. The devices are thus also largely sealed against liquids (degree of protection IP67).

The ambient temperature can be up to +70°C. In addition, these sensors work through the contactless detection of the object, without wear and tear.

application examples

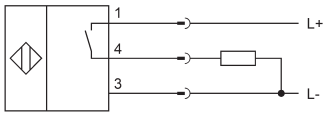
- integration in machine parts in the automation technology
- checking the presence of metal parts with various dimensions
- detecting object heights, e.g. metal parts on conveyor belts
- detection of objects through the walls of non-metallic containers and tubes

article-no.	**IA080171**	**IA120121**	**IA180121**	**IA300121**
switching distance	**1.5mm**	**2mm**	**5mm**	**10mm**
output	**PNP, NO**	**PNP, NO**	**PNP, NO**	**PNP, NO**
connection	**M8-connector**	**M12-connector**	**M12-connector**	**M12-connector**
				
TECHNICAL DATA				
switching distance (Sn)	1.5mm	2mm	5mm	10mm
IO-Link (IEC 61131-9)	+	+	+	+
output signal	PNP, NO	PNP, NO	PNP, NO	PNP, NO
operating voltage	10 ... 30V DC	10 ... 30V DC	10 ... 30V DC	10 ... 30V DC
current consumption (w/o load)	≤ 10mA	≤ 10mA	≤ 10mA	≤ 10mA
output current (max. load)	200mA	200mA	200mA	200mA
voltage drop (max. load)	2.0V DC	2.0V DC	2.0V DC	2.0V DC
norm measuring plate	8x8x1mm, FE360	12x12x1mm, FE360	18x18x1mm, FE360	30x30x1mm, FE360
hysteresis	≤ 20%	≤ 20%	≤ 20%	≤ 20%
repeat accuracy *	0.07mm	0.1mm	0.25mm	0.5mm
readiness delay	100ms	100ms	100ms	100ms
correction factors (St37/Alu/Ms)	1.0 / 0.25 / 0.35	1.0 / 0.35 / 0.5	1.0 / 0.35 / 0.45	1.0 / 0.45 / 0.55
correction factors (V2A/Cu)	0.7 / 0.2	0.85 / 0.3	0.75 / 0.3	0.8 / 0.4
switching frequency	5000Hz	3000Hz	2000Hz	1200Hz
display (signal)	yellow LED	yellow LED	yellow LED	yellow LED
short-circuit protection	+	+	+	+
reverse polarity protection	+	+	+	+
dimensions	M8x1	M12x1	M18x1	M30x1.5
length (thread/complete)	30mm / 45mm	51mm / 60mm	42mm / 63.5mm	42mm / 63.5mm
housing material	V2A	nickel-plated brass	nickel-plated brass	nickel-plated brass
material (active surface)	PA12	PBTP	PBTP	PBTP
operating temperature	-25 ... +70°C	-25 ... +70°C	-25 ... +70°C	-25 ... +70°C
degree of protection (EN 60529)	IP67	IP67	IP67	IP67
connection	M8-connector, 3-pin	M12-connector, 3-pin	M12-connector, 3-pin	M12-connector, 3-pin
connection accessories	e.g. **VK200075**	e.g. **VK200025**	e.g. **VK200025**	e.g. **VK200025**
mounting accessories (clip)	e.g. **AY000047**	e.g. **AY000049**	e.g. **AY000051**	e.g. **AY000061**
mounting accessories (universal holder)	**AY000115**	**AY000115**	**AY000117**	-

* at 20 ... 30V DC and 18 ... 28C°

connection

connector devices

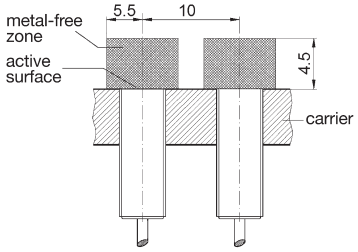


1 = L+, 3 = L-, 4 = PNP NO

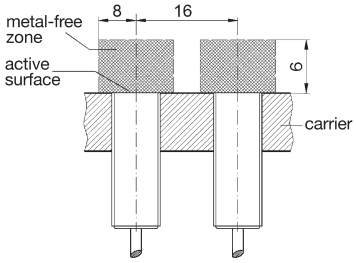
wire color: 1 = BN (brown), 3 = BU (blue), 4 = BK (black)

mounting parameters

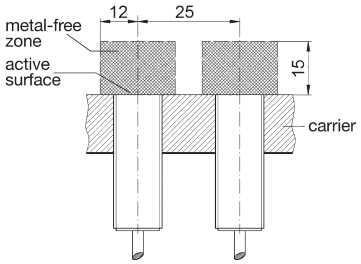
M8 flush mounting



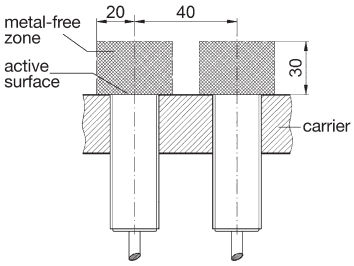
M12



M18

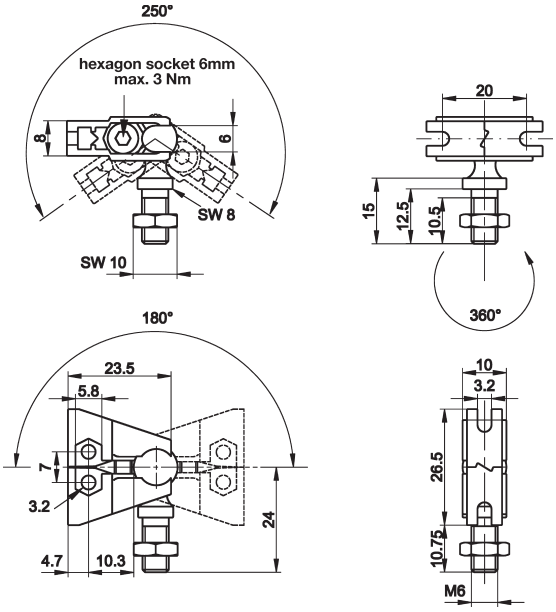


M30

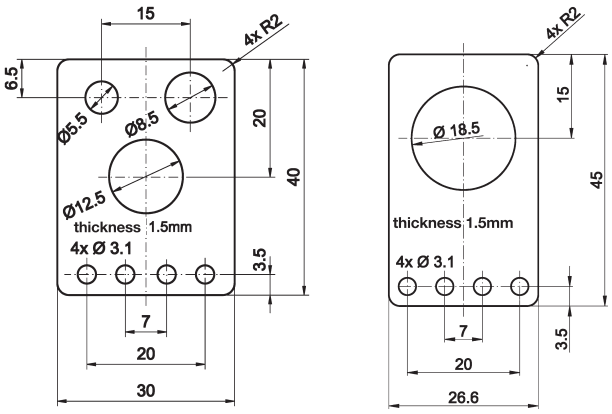


mounting accessories (universal holder) AY000115, AY000117

consisting of base module



... and fitting panel



ACCESSORIES

article-no.	description	note
AY000088	base module*	jaw: stainless steel, ball pin: galvanized steel
AY000115	mounting kit for M5, M8, M12 sensors	stainless steel
AY000117	mounting kit for M18 sensors	stainless steel

* The **AY000088** base module is contained in every mounting kit.
Material of bolts and nuts: galvanized steel

The IODD files necessary for the IO-Link functionality can be downloaded from our homepage upon entry of the article number.

This data sheet only contains the available standard variants. For other output / connection variants, we kindly ask that you contact us.

We are happy to supply the right cable socket for the plug equipment. You will find a list in the “accessories” section of the catalog under ***ipf -SENSORFLEX®*** “cable sockets” or in the search window on our homepage www.ipf-electronic.com (using the search term “VK”).

Warning: Never use these devices in applications where the safety of a person depends on their functionality.

This data sheet as well as your personal contact can be found at www.ipf-electronic.com