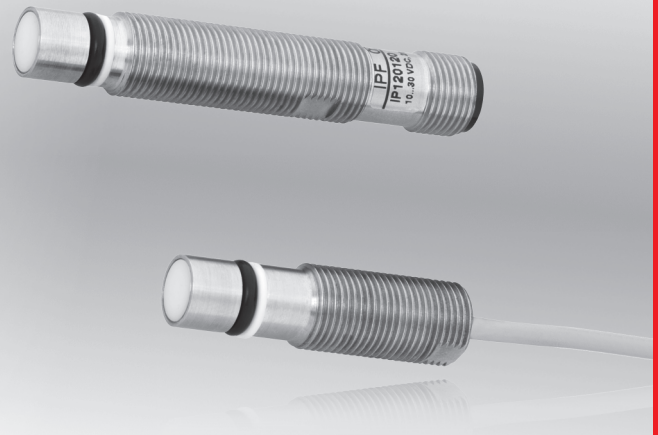


dimensions	M12x1	
	M18x1	
flush	switching distance	1.5mm



- ✓ operating temperature up to +80°C
- ✓ housing made of stainless steel
- ✓ sensor surface made of ceramic
- ✓ integrated amplifier
- ✓ connection via cable and M12-connector

**high-pressure-proof up to 500bar
max. peak-pressure 1000bar**



description

These devices are perfectly suited for applications with high dynamic pressure loads.

The main problem with pressure-proof inductive proximity switches is the thick coverage of the active surface (generally from a ceramic material) required to obtain the pressure resistance.

The thickness of this coverage must be deducted from the normal usable switching distance of the device, with the result that just a small or even no usable switching distance remains. Devices are commonly available, which come with the oscillator coil mounted on the high-pressure side.

It is inevitable that this type of proximity switches poses reliability problems when used in an environment with

hydraulic oil, high temperatures or alternating pressure loads.

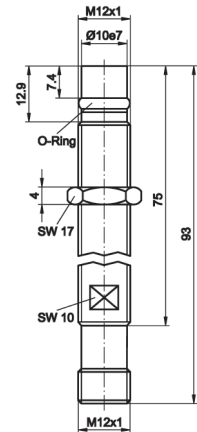
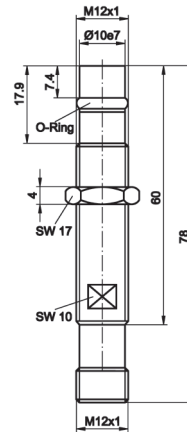
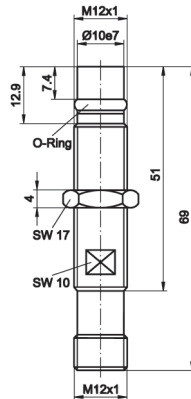
The *ipf electronic* pressure-proof sensors have all their electronic components, including ferrite core and coil, on the pressureless side. The remaining usable switching distance is more than sufficient. The sensor has a very high mechanical resistance and an outstanding impermeability, as the sturdy robust ceramic plate is shrink fitted into the stainless steel housing.

The very large switching distance allows the use of a simple, robust ceramic plate with sufficient thickness on the front surface.

application examples

- ▶ position recognition of hydraulic cylinder pistons

article-no.	IP120105	IP120120	IP120121	IP120122
switching distance	1.5mm	1.5mm	1.5mm	1.5mm
version	M12x1	M12x1	M12x1	M12x1
connection	cable	M12-connector	M12-connector	M12-connector



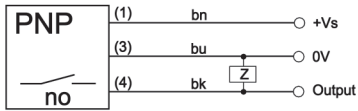
TECHNICAL DATA

switching distance (Sn)	1.5mm	1.5mm	1.5mm	1.5mm
mounting	flush	flush	flush	flush
pressure resistance (operation)	500bar	500bar	500bar	500bar
pressure resistance (peak)	1000bar	1000bar	1000bar	1000bar
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)	ffi 10mA	ffi 10mA	ffi 10mA	ffi 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	10x10x1mm	10x10x1mm	10x10x1mm	10x10x1mm
hysteresis	< 8%	< 8%	< 8%	< 8%
repeat accuracy	0.1mm	0.1mm	0.1mm	0.1mm
correction factor (St37/Al/MS)	1.0/0.2/0.34	1.0/0.2/0.34	1.0/0.2/0.34	1.0/0.2/0.34
correction factor (stainl. steel/Cu)	0.75/0.12	0.75/0.12	0.75/0.12	0.75/0.12
switching frequency	600Hz	600Hz	600Hz	600Hz
display (signal)	-	-	-	-
short-circuit protection	+	+	+	+
reverse polarity protection	+	+	+	+
dimensions	M12x1	M12x1	M12x1	M12x1
length (thread/complete)	25mm/43mm	38mm/69mm	42mm/78mm	62mm/93mm
housing material	stainless steel 1.4305	stainless steel 1.4305	stainless steel 1.4305	stainless steel 1.4305
material (front cap)	ZrO2 ceramic	ZrO2 ceramic	ZrO2 ceramic	ZrO2 ceramic
operating temperature	-25 ... +80°C	-25 ... +80°C	-25 ... +80°C	-25 ... +80°C
degree of protection (EN 60529)	IP68	IP68	IP68	IP68
connection	2m PUR cable, 3-wire	M12-connector, 4-pin	M12-connector, 4-pin	M12-connector, 4-pin
connection accessories	-	e.g. VK200025	e.g. VK200025	e.g. VK200025

article-no.	IP120123	IP120124	IP120125	IP180120
switching distance	1.5mm	1.5mm	1.5mm	1.5mm
version	M12x1	M12x1	M12x1	M18x1
connection	M12-connector	M12-connector	M12-connector	M12-connector
TECHNICAL DATA				
switching distance (Sn)	1.5mm	1.5mm	1.5mm	1.5mm
mounting	flush	flush	flush	flush
pressure resistance (operation)	500bar	500bar	500bar	500bar
pressure resistance (peak)	1000bar	1000bar	1000bar	1000bar
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)	ffi 10mA	ffi 10mA	ffi 10mA	ffi 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	10x10x1mm	10x10x1mm	10x10x1mm	15x15x1mm
hysteresis	< 8%	< 8%	< 8%	< 10%
repeat accuracy	0.1mm	0.1mm	0.1mm	0.1mm
correction factor (St37/Al/MS)	1.0/0.2/0.34	1.0/0.2/0.34	1.0/0.2/0.34	1.0/-/0.1
correction factor (stainl. steel/Cu)	0.75/0.12	0.75/0.12	0.75/0.12	0.95/-
switching frequency	600Hz	600Hz	600Hz	800Hz
display (signal)	-	-	-	-
short-circuit protection	+	+	+	+
reverse polarity protection	+	+	+	+
dimensions	M12x1	M12x1	M12x1	M18x1
length (thread/complete)	107mm/138mm	41mm/56mm	38mm/56mm	7mm/55.5mm
housing material	stainless steel 1.4305	stainless steel 1.4305	stainless steel 1.4305	stainless steel 1.4305
material (front cap)	ZrO2 ceramic	ZrO2 ceramic	ZrO2 ceramic	ZrO2 ceramic
operating temperature	-25 ... +80°C	-25 ... +80°C	-25 ... +80°C	-25 ... +80°C
degree of protection (EN 60529)	IP68	IP68	IP68	IP68
connection	M12-connector, 3-pin	M12-connector, 3-pin	M12-connector, 3-pin	M12-connector, 3-pin
connection accessories	e.g. VK200025	e.g. VK200025	e.g. VK200025	e.g. VK200025

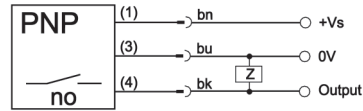
connection

cable device

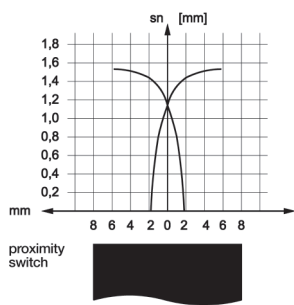


wire colors: bn = brown (1), bu = blue (3), bk = black (4)

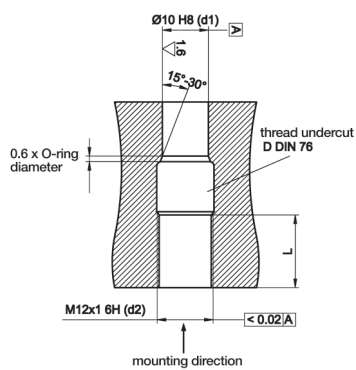
connector device



response curve IP12

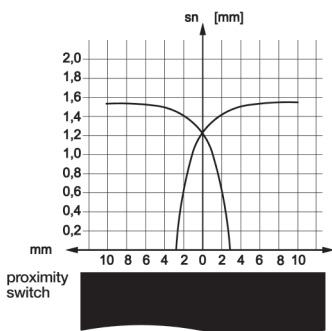


mounting IP12

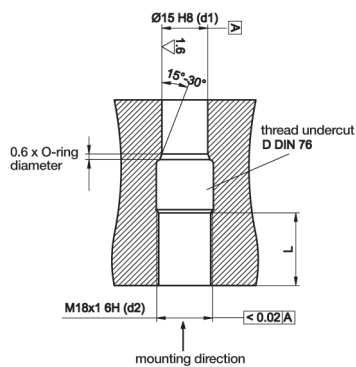


d1: diameter of the mounting hole for the sensor head
 d2: nominal thread diameter
 L: recommended screw-in depth $L \pm 0.8 \times d2$

response curve IP18



mounting IP18



d1: diameter of the mounting hole for the sensor head
 d2: nominal thread diameter
 L: recommended screw-in depth $L \pm 0.8 \times d2$

This data sheet contains the standard versions only. Kindly request the availability of other output and connection versions.

We will be pleased to supply the matching cable socket for your devices with connector. Please refer to the list in catalog chapter "accessories" under "cable sockets ipf-SENSORFLEX®" or search our website for "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

