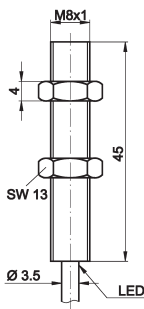
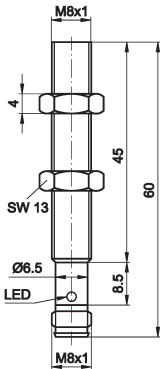
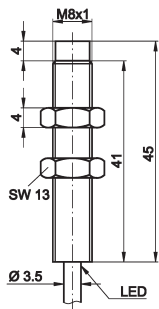
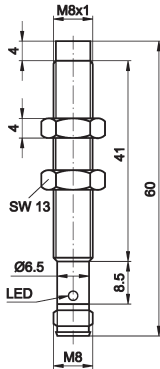
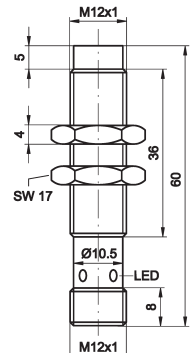
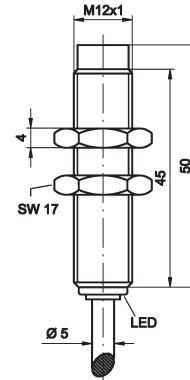
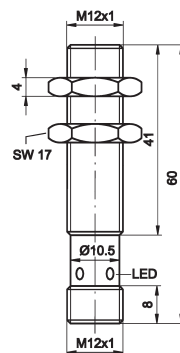
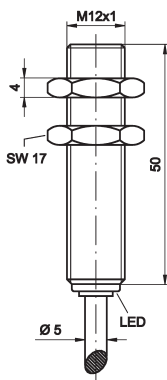


switching distance	3mm	3mm	6mm	6mm
version	M8x1	M8x1	M8x1	M8x1
mounting	flush	flush	non-flush	non-flush
connection	cable	connector	cable	connector
article-no.	<b>IC080106</b>	<b>IC080176</b>	<b>IO080106</b>	<b>IO080176</b>
output	<b>pnp, no</b>	<b>pnp, no</b>	<b>pnp, no</b>	<b>pnp, no</b>
article-no.	(on request)	IC080276	(on request)	(on request)
output	pnp, nc	pnp, nc	pnp, nc	pnp, nc
article-no.	(on request)	(on request)	(on request)	(on request)
output	nnp, no	nnp, no	nnp, no	nnp, no
				
<b>TECHNICAL DATA</b>				
switching distance (Sn)	3mm	3mm	6mm	6mm
pressure resistance (max.)	100bar	100bar	100bar	100bar
output signal	see above	see above	see above	see above
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	9x9x1mm, FE360	9x9x1mm, FE360	18x18x1mm, FE360	18x18x1mm, FE360
hysteresis	≤ 20%	≤ 20%	≤ 20%	≤ 20%
repeat accuracy *	≤ 5%	≤ 5%	≤ 5%	≤ 5%
correction factors (St37/Alu/Ms)	1.0 / 1.0 / 1.35	1.0 / 1.0 / 1.35	1.0 / 1.0 / 1.4	1.0 / 1.0 / 1.4
correction factors (stainl. steel/Cu)	- / 0.9	- / 0.9	- / 0.85	- / 0.85
correction factors (V2A: 1mm/2mm)	0.3 / 0.6	0.3 / 0.6	0.3 / 0.9	0.3 / 0.9
switching frequency	1000Hz	1000Hz	700Hz	700Hz
display (signal)	yellow LED	yellow LED	yellow LED	yellow LED
display (functional reserve)	yellow LED, flashing	yellow LED, flashing	yellow LED, flashing	yellow LED, flashing
short-circuit protection	+	+	+	+
reverse polarity protection	+	+	+	+
dimensions	M8x1	M8x1	M8x1	M8x1
length (thread/complete)	45mm / 45mm	45mm / 60mm	41mm / 45mm	41mm / 60mm
housing material	V2A (1.4305)	V2A (1.4305)	V2A (1.4305)	V2A (1.4305)
material thickness (active surface)	0.25mm	0.25mm	0.25mm	0.25mm
line length (max.)	300m	300m	300m	300m
operating temperature	-25 ... +70°C	-25 ... +70°C	-25 ... +70°C	-25 ... +70°C
degree of protection (EN 60529)	IP68	IP67	IP68	IP67
connection	2m PUR cable, 3-wire	M8-connector, 3-pin	2m PUR cable, 3-wire	M8-connector, 3-pin
connection accessories	-	e.g. <b>VK200075</b>	-	e.g. <b>VK200075</b>
mounting accessories (clip)	e.g. <b>AY000047</b>	e.g. <b>AY000047</b>	e.g. <b>AY000047</b>	e.g. <b>AY000047</b>
mounting accessories (universal holder)	<b>AY000115</b>	<b>AY000115</b>	<b>AY000115</b>	<b>AY000115</b>
* at 20 ... 30V DC and +18 ... +28°C				

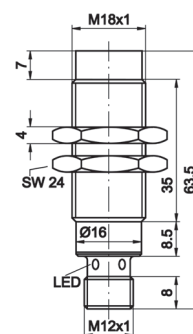
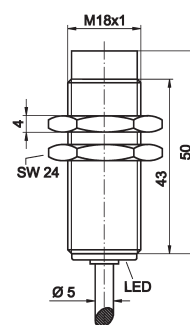
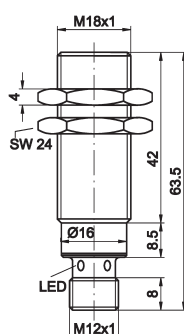
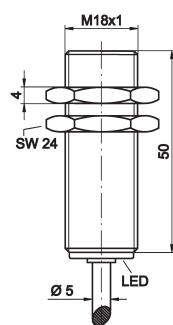
switching distance	6mm	6mm	10mm	10mm
version	M12x1	M12x1	M12x1	M12x1
mounting	flush	flush	non-flush	non-flush
connection	cable	connector	cable	connector
article-no.	IC120106	IC120126	IO120106	IO120126
output	pnp, no	pnp, no	pnp, no	pnp, no
article-no.	(on request)	IC120226	IO120206	IO120226
output	pnp, nc	pnp, nc	pnp, nc	pnp, nc
article-no.	IC121106	IC121126	(on request)	(on request)
output	npn, no	npn, no	npn, no	npn, no



**TECHNICAL DATA**

switching distance (S <sub>n</sub> )	6mm	6mm	10mm	10mm
pressure resistance (max.)	80bar	80bar	80bar	80bar
output signal	see above	see above	see above	see above
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	18x18x1mm, FE360	18x18x1mm, FE360	30x30x1mm, FE360	30x30x1mm, FE360
hysteresis	≤ 15%	≤ 15%	≤ 15%	≤ 15%
repeat accuracy *	0.3mm	0.3mm	0.5mm	0.5mm
correction factors (St37/Alu/Ms)	1.0 / 1.0 / 1.3	1.0 / 1.0 / 1.3	1.0 / 1.0 / 1.4	1.0 / 1.0 / 1.4
correction factors (stainl. steel/Cu)	- / 0.85	- / 0.85	- / 0.8	- / 0.8
correction factors (V2A: 1mm/2mm)	0.5 / 0.9	0.5 / 0.9	- / 0.65	- / 0.65
switching frequency	600Hz	600Hz	400Hz	400Hz
display (signal)	yellow LED	yellow LED	yellow LED	yellow LED
display (functional reserve)	yellow LED, flashing	yellow LED, flashing	yellow LED, flashing	yellow LED, flashing
short-circuit protection	+	+	+	+
reverse polarity protection	+	+	+	+
dimensions	M12x1	M12x1	M12x1	M12x1
length (thread/complete)	50mm / 50mm	41mm / 60mm	45mm / 50mm	36mm / 60mm
housing material	V2A (1.4305)	V2A (1.4305)	V2A (1.4305)	V2A (1.4305)
material thickness (active surface)	0.4mm	0.4mm	0.4mm	0.4mm
line length (max.)	300m	300m	300m	300m
operating temperature	-25 ... +70°C	-25 ... +70°C	-25 ... +70°C	-25 ... +70°C
degree of protection (EN 60529)	IP68	IP67	IP68	IP67
connection	2m PUR cable, 3-wire	M12-connector, 4-pin	2m PUR cable, 3-wire	M12-connector, 4-pin
connection accessories	-	e.g. <b>VK200325</b>	-	e.g. <b>VK200325</b>
mounting accessories (clip)	e.g. <b>AY000049</b>	e.g. <b>AY000049</b>	e.g. <b>AY000049</b>	e.g. <b>AY000049</b>
mounting accessories (universal holder)	<b>AY000115</b>	<b>AY000115</b>	<b>AY000115</b>	<b>AY000115</b>
* at 20 ... 30V DC and +18 ... +28°C				

switching distance	10mm	10mm	20mm	20mm
version	M18x1	M18x1	M18x1	M18x1
mounting	flush	flush	non-flush	non-flush
connection	cable	connector	cable	connector
article-no.	IC180106	IC180126	IO180106	IO180126
output	pnp, no	pnp, no	pnp, no	pnp, no
article-no.	IC180206	IC180226	IO180206	IO180226
output	pnp, nc	pnp, nc	pnp, nc	pnp, nc
article-no.	(on request)	IC181126	(on request)	(on request)
output	nnp, no	nnp, no	nnp, no	nnp, no

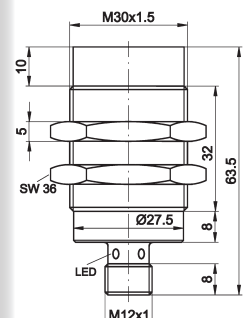
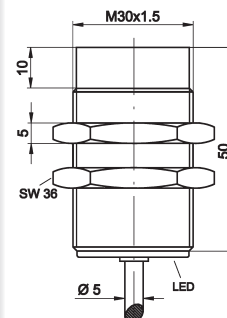
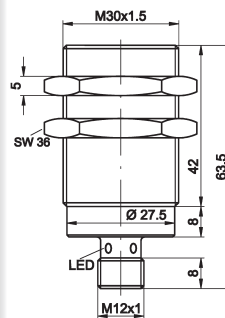
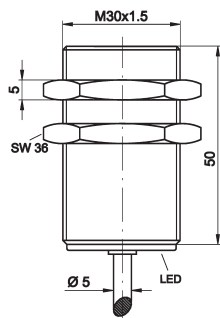


### TECHNICAL DATA

switching distance (Sn)	10mm	10mm	20mm	20mm
pressure resistance (max.)	60bar	60bar	60bar	60bar
output signal	see above	see above	see above	see above
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	30x30x1mm, FE360	30x30x1mm, FE360	60x60x1mm, FE360	60x60x1mm, FE360
hysteresis	≤ 15%	≤ 15%	≤ 15%	≤ 15%
repeat accuracy *	0.5mm	0.5mm	1mm	1mm
correction factors (St37/Alu/Ms)	1.0 / 1.0 / 1.2	1.0 / 1.0 / 1.2	1.0 / 1.0 / 1.35	1.0 / 1.0 / 1.35
correction factors (stainl. steel/Cu)	- / 0.8	- / 0.8	- / 0.9	- / 0.9
correction factors (V2A: 1mm/2mm)	0.5 / 0.9	0.5 / 0.9	0.3 / 0.6	0.3 / 0.6
switching frequency	200Hz	200Hz	200Hz	200Hz
display (signal)	yellow LED	yellow LED	yellow LED	yellow LED
display (functional reserve)	yellow LED, flashing	yellow LED, flashing	yellow LED, flashing	yellow LED, flashing
short-circuit protection	+	+	+	+
reverse polarity protection	+	+	+	+
dimensions	M18x1	M18x1	M18x1	M18x1
length (thread/complete)	50mm / 50mm	42mm / 63.5mm	43mm / 50mm	35mm / 63.5mm
housing material	V2A (1.4305)	V2A (1.4305)	V2A (1.4305)	V2A (1.4305)
material thickness (active surface)	0.6mm	0.6mm	0.6mm	0.6mm
line length (max.)	300m	300m	300m	300m
operating temperature	-25 ... +70°C	-25 ... +70°C	-25 ... +70°C	-25 ... +70°C
degree of protection (EN 60529)	IP68	IP67	IP68	IP67
connection	2m PUR cable, 3-wire	M12-connector, 4-pin	2m PUR cable, 3-wire	M12-connector, 4-pin
connection accessories	-	e.g. VK200325	-	e.g. VK200325
mounting accessories (clip)	e.g. AY000051	e.g. AY000051	e.g. AY000051	e.g. AY000051
mounting accessories (universal holder)	AY000117	AY000117	AY000117	AY000117

\* at 20 ... 30V DC and +18 ... +28°C

switching distance	20mm	20mm	40mm	40mm
version	M30x1.5	M30x1.5	M30x1.5	M30x1.5
mounting	flush	flush	non-flush	non-flush
connection	cable	connector	cable	connector
article-no.	IC300106	IC300126	IO300106	IO300126
output	pnp, no	pnp, no	pnp, no	pnp, no
article-no.	IC300206	IC300226	(on request)	IO300226
output	pnp, nc	pnp, nc	pnp, nc	pnp, nc
article-no.	(on request)	IC301126	(on request)	(on request)
output	npn, no	npn, no	npn, no	npn, no

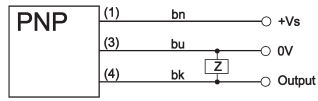


**TECHNICAL DATA**

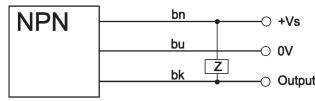
switching distance (S <sub>n</sub> )	20mm	20mm	40mm	40mm
pressure resistance (max.)	40bar	40bar	40bar	40bar
output signal	see above	see above	see above	see above
operating voltage	10 ... 30V DC	10 ... 30V DC	10 ... 30V DC	10 ... 30V DC
current consumption (w/o load)	≤ 10mA	≤ 10mA	≤ 10mA	≤ 10mA
output 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	60x60x1mm, FE360	60x60x1mm, FE360	120x120x1mm, FE360	120x120x1mm, FE360
hysteresis	≤ 15%	≤ 15%	≤ 15%	≤ 15%
repeat accuracy *	1mm	1mm	2mm	2mm
correction factors (St37/Alu/Ms)	1.0 / 1.0 / 1.3	1.0 / 1.0 / 1.3	1.0 / 1.0 / 1.2	1.0 / 1.0 / 1.2
correction factors (stainl. steel/Cu)	- / 0.9	- / 0.9	- / 0.9	- / 0.9
correction factors (V2A: 1mm/2mm)	0.35 / 0.7	0.35 / 0.7	- / 0.25	- / 0.25
switching frequency	100Hz	100Hz	100Hz	100Hz
display (signal)	yellow LED	yellow LED	yellow LED	yellow LED
display (functional reserve)	yellow LED, flashing	yellow LED, flashing	yellow LED, flashing	yellow LED, flashing
short-circuit protection	+	+	+	+
reverse polarity protection	+	+	+	+
dimensions	M30x1.5	M30x1.5	M30x1.5	M30x1.5
length (thread/complete)	50mm / 50mm	42mm / 63.5mm	40mm / 50mm	32mm / 63.5mm
housing material	V2A (1.4305)	V2A (1.4305)	V2A (1.4305)	V2A (1.4305)
material thickness (active surface)	1mm	1mm	1mm	1mm
line length (max.)	300m	300m	300m	300m
operating temperature	-25 ... +70°C	-25 ... +70°C	-25 ... +70°C	-25 ... +70°C
degree of protection (EN 60529)	IP68	IP67	IP68	IP67
connection	2m PUR cable, 3-wire	M12-connector, 4-pin	2m PUR cable, 3-wire	M12-connector, 4-pin
connection accessories	-	e.g. VK200325	-	e.g. VK200325
mounting accessories (clip)	e.g. AY000061	e.g. AY000061	e.g. AY000061	e.g. AY000061
mounting accessories (universal holder)	-	-	-	-
* at 20 ... 30V DC and +18 ... +28°C				

### connection

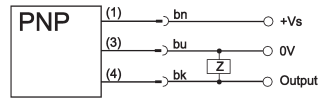
#### cable devices



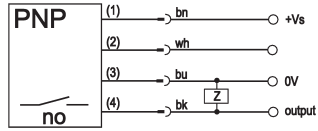
#### cable devices



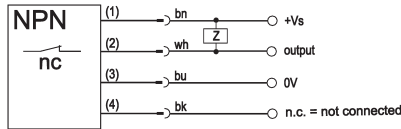
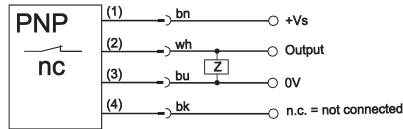
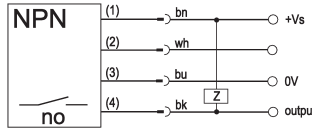
#### M8-connector



#### M12-connector



#### M12-connector



For devices with M12-connector and normally closed contact function (nc), the switching output is wired via PIN2. For this reason a 4-wire cable socket should be used and the connection made via the white wire.

**wire colors:** bn = brown (1), wh = white (2), bu = blue (3), bk = black (4)

### mounting parameters

version	flush mounting	correction factors for mounting into carrier	non-flush mounting	overhang (X)																				
M8		<table border="1"> <tr><td>carrier</td><td>X</td></tr> <tr><td>aluminum</td><td>0.9</td></tr> <tr><td>steel</td><td>1.0</td></tr> <tr><td>brass</td><td>0.9</td></tr> <tr><td>stainless steel</td><td>1.0</td></tr> </table>	carrier	X	aluminum	0.9	steel	1.0	brass	0.9	stainless steel	1.0		<table border="1"> <tr><td>carrier</td><td>X</td></tr> <tr><td>aluminum</td><td>9mm</td></tr> <tr><td>steel</td><td>15mm</td></tr> <tr><td>brass</td><td>10mm</td></tr> <tr><td>stainless steel</td><td>14mm</td></tr> </table>	carrier	X	aluminum	9mm	steel	15mm	brass	10mm	stainless steel	14mm
carrier	X																							
aluminum	0.9																							
steel	1.0																							
brass	0.9																							
stainless steel	1.0																							
carrier	X																							
aluminum	9mm																							
steel	15mm																							
brass	10mm																							
stainless steel	14mm																							
M12		<table border="1"> <tr><td>carrier</td><td>X</td></tr> <tr><td>aluminum</td><td>1.15</td></tr> <tr><td>steel</td><td>0.7</td></tr> <tr><td>brass</td><td>1.05</td></tr> <tr><td>stainless steel</td><td>0.8</td></tr> </table>	carrier	X	aluminum	1.15	steel	0.7	brass	1.05	stainless steel	0.8		<table border="1"> <tr><td>carrier</td><td>X</td></tr> <tr><td>aluminum</td><td>13mm</td></tr> <tr><td>steel</td><td>22mm</td></tr> <tr><td>brass</td><td>15mm</td></tr> <tr><td>stainless steel</td><td>21mm</td></tr> </table>	carrier	X	aluminum	13mm	steel	22mm	brass	15mm	stainless steel	21mm
carrier	X																							
aluminum	1.15																							
steel	0.7																							
brass	1.05																							
stainless steel	0.8																							
carrier	X																							
aluminum	13mm																							
steel	22mm																							
brass	15mm																							
stainless steel	21mm																							
M18		<table border="1"> <tr><td>carrier</td><td>X</td></tr> <tr><td>aluminum</td><td>0.9</td></tr> <tr><td>steel</td><td>0.75</td></tr> <tr><td>brass</td><td>0.75</td></tr> <tr><td>stainless steel</td><td>0.8</td></tr> </table>	carrier	X	aluminum	0.9	steel	0.75	brass	0.75	stainless steel	0.8		<table border="1"> <tr><td>carrier</td><td>X</td></tr> <tr><td>aluminum</td><td>20mm</td></tr> <tr><td>steel</td><td>34mm</td></tr> <tr><td>brass</td><td>22mm</td></tr> <tr><td>stainless steel</td><td>36mm</td></tr> </table>	carrier	X	aluminum	20mm	steel	34mm	brass	22mm	stainless steel	36mm
carrier	X																							
aluminum	0.9																							
steel	0.75																							
brass	0.75																							
stainless steel	0.8																							
carrier	X																							
aluminum	20mm																							
steel	34mm																							
brass	22mm																							
stainless steel	36mm																							
M30		<table border="1"> <tr><td>carrier</td><td>X</td></tr> <tr><td>aluminum</td><td>0.7</td></tr> <tr><td>steel</td><td>0.9</td></tr> <tr><td>brass</td><td>0.6</td></tr> <tr><td>stainless steel</td><td>1.3</td></tr> </table>	carrier	X	aluminum	0.7	steel	0.9	brass	0.6	stainless steel	1.3		<table border="1"> <tr><td>carrier</td><td>X</td></tr> <tr><td>aluminum</td><td>34mm</td></tr> <tr><td>steel</td><td>18mm</td></tr> <tr><td>brass</td><td>34mm</td></tr> <tr><td>stainless steel</td><td>18mm</td></tr> </table>	carrier	X	aluminum	34mm	steel	18mm	brass	34mm	stainless steel	18mm
carrier	X																							
aluminum	0.7																							
steel	0.9																							
brass	0.6																							
stainless steel	1.3																							
carrier	X																							
aluminum	34mm																							
steel	18mm																							
brass	34mm																							
stainless steel	18mm																							

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

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](http://www.ipf-electronic.com)