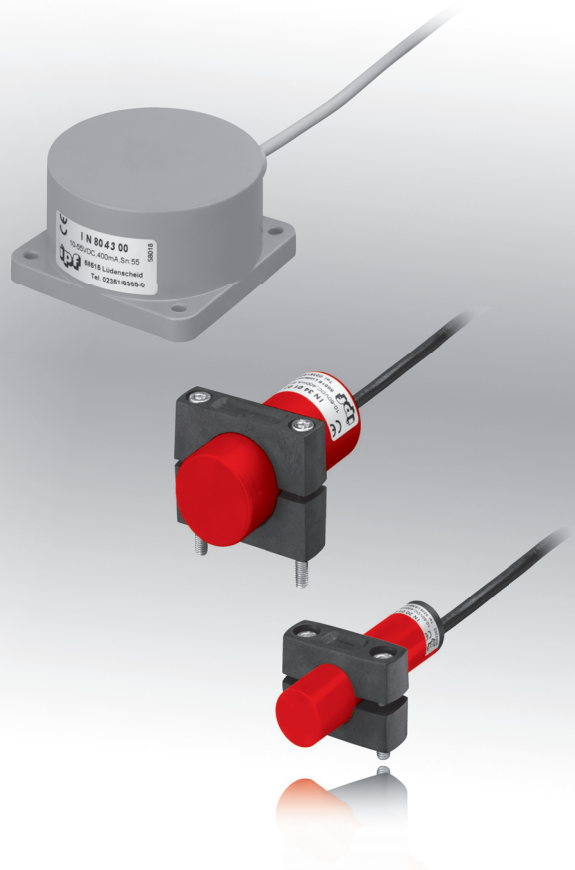


dimensions

- M12 x 1
- M18 x 1
- Ø 20mm
- M30 x 1.5
- Ø 34mm
- Ø 80mm
- Ø 105mm
- Ø 160mm
- Ø 200mm

non-flush      sensing range      **4 to 140mm**



- ✓ plastic housing
- ✓ LED-display
- ✓ integrated amplifier
- ✓ high sampling frequency and sensing ranges
- ✓ connection with cable or M12-connector

**sensing range up to 140mm  
adjustable sensitivity**



### description

The inductive proximity switches described here have a robust plastic housing. As these are injection molded parts, the devices are leak-proof in the area of the active surface. Apart from this, when compared to the brass housings which are conventionally used, they offer improved resistance to various chemicals.

From Ø 80mm, the devices incorporate a potentiometer for setting the sensitivity. The size of the active surface ensures that very large reacting distances can be achieved. In order to implement the specified distances, the dimensions of the object must be taken into account. Based on the standard, this is a quadratic sheet of steel (ST37) that is 1mm thick. The length of the edges must correspond to the diameter of the active surface of the sensor that is used. If the object is smaller, or does not have an even surface, the sensing range is reduced.

For the detection of other metals, correction factors are stated in the data sheet.

In order to establish the approximate sensing range to an object with the specified materials, the value of the nominal sensing range has to be multiplied by the corresponding correction factor.

The DC versions of the large proximity switches now have an antivalent switch output as well as an M12 plug connector.

These devices are used in areas where, for example, sheeting parts are detected with greater mechanical tolerances. As such, the range of applications extends to industrial systems and mechanical engineering, the automobile industry, transportation and packaging technology, the printing industry / paper processing industry, the chemical and processing industry as well as many others.

### application examples

- ▶ Integration in machine parts used in automation systems
- ▶ Checking the presence of metal parts with various dimensions
- ▶ Recording object heights, e.g. metal parts on conveyor belts
- ▶ Recording of objects through the walls of non-metallic containers and tubes

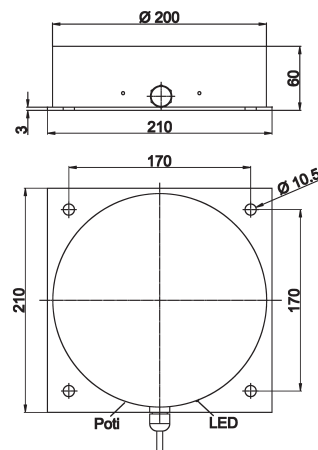
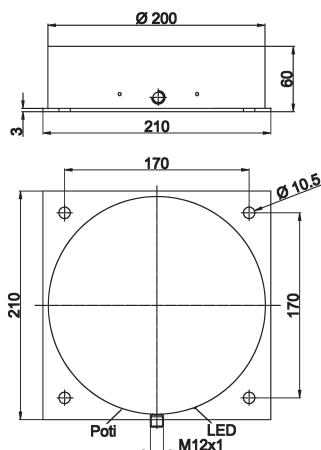
article-no.	IN120107	IN120127	IN124107	IN180107
sensing range	4.0mm	4.0mm	4.0mm	8.0mm
output signal	pnp, no	pnp, no	AC, no	pnp, no
connection	cable	M12-connector	cable	cable
<b>TECHNICAL DATA</b>				
sensing range (sn)	4.0mm	4.0mm	4.0mm	8.0mm
output signal	pnp, no	pnp, no	AC, no	pnp, no
mounting	non-flush	non-flush	non-flush	non-flush
operating voltage	10 ... 30V DC	10 ... 30V DC	76 ... 250V AC	10 ... 60V DC
current consumption (w /o)	≤ 11mA	≤ 11mA	≤ 2.5mA	≤ 8.0mA
output current (max. load)	200mA	200mA	200mA	200mA
voltage drop (max. load)	1.5V DC	1.5V DC	< 10.0V AC	< 2.5V DC
norm trimming plate	according to EN 60947-5-2	according to EN 60947-5-2	according to EN 60947-5-2	according to EN 60947-5-2
hysteresis	~ 10%	~ 10%	~10%	~ 10%
repeat accuracy	≤ 5%	≤ 5%	≤ 5%	≤ 5%
correction factors (steel / aluminium / brass)	1/0.4/0.4	1/0.4/0.4	1/0.4/0.4	1/0.4/0.4
correction factors (stainless steel/copper)	0.7/0.3	0.7/0.3	0.7/0.3	0.7/0.3
sampling frequency	400Hz	400Hz	25Hz	200Hz
display (signal)	yellow LED	yellow LED	yellow LED	yellow LED
short-circuit protection	+	+	-	+
reverse polarity protection	+	+	+	+
dimensions	M12x1	M12x1	M12x1	M18x1
length (thread/complete)	38mm/61mm	58mm/71mm	38mm/61mm	58mm/81.5mm
housing material	PA 6	PA 6	PA 6	PA 6
operating temperature	-25 ... +70°C	-25 ... +70°C	-25 ... +70°C	-25 ... +70°C
system of protection (EN 60529)	IP67	IP67	IP67	IP67
connection	2m PVC-cable, 3-wire	M12-connector, 3-pin	2m PVC-cable, 2-wire	2m PVC-cable, 3-wire
connection accessories	-	e.g. <b>VK200025</b>	-	-
mounting accessories (clip)	e.g. <b>AY000049</b>	e.g. <b>AY000049</b>	e.g. <b>AY000051</b>	e.g. <b>AY000051</b>
mounting access. (Uni-bracket)	<b>AY000115</b>	<b>AY000115</b>	<b>AY000115</b>	<b>AY000117</b>

article-no.	IN200107	IN200427	IN300127	IN340107
sensing range	10mm	10mm	15mm	20mm
output signal	pnp, no	pnp, no / nc	pnp, no	pnp, no
connection	cable	M12-connector	M12-connector	cable
<b>TECHNICAL DATA</b>				
sensing range (sn)	10mm	10mm	15mm	20mm
output signal	pnp, no	pnp, no/nc	pnp, no	pnp, no
mounting	non-flush	non-flush	non-flush	non-flush
operating voltage	10 ... 60V DC	10 ... 60V DC	10 ... 60V DC	10 ... 60V DC
current consumption (w/o)	≤ 8.0mA	≤ 8.0mA	≤ 8.0mA	≤ 8.0mA
output current (max. load)	200mA	200mA	200mA	200mA
voltage drop (max. load)	2.5V DC	< 2.5V DC	2.5V DC	< 2.5V DC
norm trimming plate	according to EN 60947-5-2	according to EN 60947-5-2	according to EN 60947-5-2	according to EN 60947-5-2
hysteresis	~ 10%	~ 10%	~ 10%	~ 10%
repeat accuracy	≤ 5%	≤ 5%	≤ 5%	≤ 5%
correction factors (steel / aluminium / brass)	1/0.4/0.4	1/0.4/0.4	1/0.4/0.4	1/0.4/0.4
correction factors (stainless steel/copper)	0.7/0.3	0.7/0.3	0.7/0.3	0.7/0.3
sampling frequency	200Hz	200Hz	100Hz	100Hz
display (signal)	yellow LED	-	-	yellow LED
short-circuit protection	+	+	+	+
reverse polarity protection	+	+	+	+
dimensions	∅ 20mm	∅ 20mm	M 30x1.5	∅ 34mm
length (thread/complete)	-/79mm	-/79mm	60mm/81mm	-/85mm
housing material	PBT	PBT	PA	PBT
operating temperature	-25 ... +70°C	-25 ... +70°C	-25 ... +70°C	-25 ... +70°C
system of protection (EN 60529)	IP67	IP67	IP67	IP67
connection	2m PVC-cable, 3-wire	M12-connector, 4-pin	M12-connector, 3-pin	2m PVC-cable, 3-wire
connection accessories		e.g. <b>VK200325</b>	e.g. <b>VK2000025</b>	
mounting accessories (clip)	included in the scope of delivery	included in the scope of delivery	included in the scope of delivery	included in the scope of delivery
mounting access. (Uni-bracket)	-	-	-	-

article-no.	IN340127	IN800420	IN804300	INKA0420
sensing range	20mm	55mm	55mm	100mm
output signal	AC, no	pnnp, no / nc	AC, no / nc	pnnp, no / nc
connection	cable	M12-connector	cable	M12 - connector
<b>TECHNICAL DATA</b>				
sensing range (sn)	20mm	55mm	55mm	100mm
output signal	AC, no	pnnp, no/nc	AC, no/nc	pnnp, no/nc
mounting	non-flush	non-flush	non-flush	non-flush
operating voltage	20 ... 250V AC	10 ... 55V DC	20 ... 250V AC	10 ... 55V DC
current consumption (w / o)	≤ 2.0mA	≤ 2.0mA	≤ 2.5mA	≤ 4.0mA
output current (max. load)	400mA	400mA	400mA	400mA
voltage drop (max. load)	5.0V AC	2.0V DC	6.0V DC	2.0V DC
norm trimming plate	according to EN 60947-5-2	according to EN 60947-5-2	according to EN 60947-5-2	according to EN 60947-5-2
hysteresis	< 10%	*	*	*
repeat accuracy	≤ 5%	*	*	*
correction factors (steel St 37/aluminium / brass)	1/0.4/0.4	1/0.4/0.4	1/0.4/0.4	1/0.4/0.4
correction factors (stainless steel/copper)	0.7/0.3 0.7/0.3	0.7/0.3 0.7/0.3	0.7/0.3 0.7/0.3	0.7/0.3 0.7/0.3
sampling frequency	10Hz	20Hz	10Hz	20Hz
display (signal)	-	yellow LED	yellow LED	yellow LED
short-circuit protection	-	+	-	+
reverse polarity protection	+	+	+	+
dimensions	∅ 34mm	∅ 80mm	∅ 80mm	∅ 105mm
length (thread/complete)	-/85mm	-/40mm	-/40mm	-/40mm
housing material	PBT	PA 6	PBT	PBT
operating temperature	-25 ... +70°C	-25 ... +70°C	-25 ... +75°C	-25 ... +75°C
system of protection (EN 60529)	IP67	IP67	IP67	IP67
connection	2m PVC-cable, 2-wire	M12-connector, 4-pin	2m PVC-cable, 2-wire	M12-connector, 4-pin
connection accessories	-	e.g. <b>VK200325</b>	-	e.g. <b>VK200325</b>
mounting accessories (clip)	included in the scope of delivery	-	-	-
* not specified				

article-no.	INKA4300	INKF0420	INKF4300
sensing range	100mm	120mm	120mm
output signal	AC, no / nc	pnp, no / nc	AC, no / nc
connection	cable	M12-connector	cable
<b>TECHNICAL DATA</b>			
sensing range (sn)	100mm	120mm	120mm
output signal	AC, no/nc	pnp, no/nc	AC, no/nc
mounting	non-flush	non-flush	non-flush
operating voltage	20 ... 250V AC	10 ... 55V DC	20 ... 250V AC
current consumption (w / o)	≤ 2.5mA	≤ 4.0mA	≤ 2.5mA
output current (max. load)	400mA	400mA	400mA
voltage drop (max. load)	6.0V AC	2.0V DC	6.0V AC
norm trimming plate	according to EN 60947-5-2	according to EN 60947-5-2	according to EN 60947-5-2
hysteresis	*	*	*
repeat accuracy	*	*	*
correction factors (steel / aluminium / brass)	1/0.4/0.4	1/0.4/0.4	1/0.4/0.4
correction factors (stainless steel/copper)	0.7/0.3	0.7/0.3	0.7/0.3
sampling frequency	10Hz	20Hz	10Hz
display (signal)	yellow LED	yellow LED	yellow LED
short-circuit protection	-	+	-
reverse polarity protection	+	+	+
dimensions	Ø 105mm	Ø 160mm	Ø 160mm
length (thread/complete)	-/40mm	-/40mm	-/60mm
housing material	PBT	PBT	PBT
operating temperature	-25 ... +75°C	-25 ... +75°C	-25 ... +75°C
system of protection (EN 60529)	IP67	IP67	IP67
connection	2m PVC-cable, 2-wire	M12-connector, 4-pin	2m PVC-cable, 2-wire
connection accessories	-	e.g. <b>VK200325</b>	-
* not specified			

article-no.	IN850420	IN854300
sensing range	140mm	140mm
output signal	pnp, no / nc	AC, no / nc
connection	M12-connector	cable



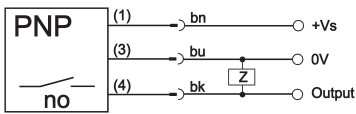
### TECHNICAL DATA

sensing range (sn)	140mm	140mm
output signal	pnp, no/nc	AC, no/nc
mounting	non-flush	non-flush
operating voltage	10 ... 55V DC	20 ... 250V AC
current consumption (w / o)	≤ 4.0mA	≤ 2.5mA
output current (max. load)	400mA	400mA
voltage drop (max. load)	2.0V DC	6.0V AC
norm trimming plate	according to EN 60947-5-2	according to EN 60947-5-2
hysteresis	*	*
repeat accuracy	*	*
correction factors (steel St 37/aluminium / brass)	1/0.4/0.4	1/0.4/0.4
correction factors (stainless steel/copper)	0.7/0.3	0.7/0.3
sampling frequency	20Hz	10Hz
display (signal)	yellow LED	yellow LED
short-circuit protection	+	-
reverse polarity protection	+	+
dimensions	Ø 200mm	Ø 200mm
length (thread/complete)	-/60mm	-/60mm
housing material	PBT	PBT
operating temperature	-25 ... +75°C	-25 ... +75°C
system of protection (EN 60529)	IP67	IP67
connection	M12-connector, 4-pin	2m PVC-cable, 2-wire
connection accessories	e.g. <b>VK200325</b>	-

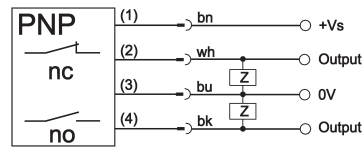
\* not specified

### connection

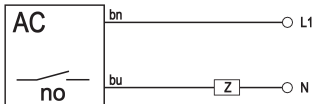
cable / connector device DC



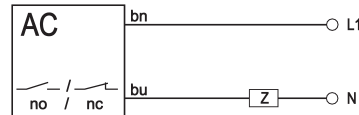
cable / connector device DC



cable device AC

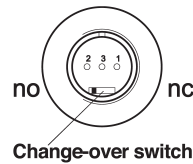


cable device AC



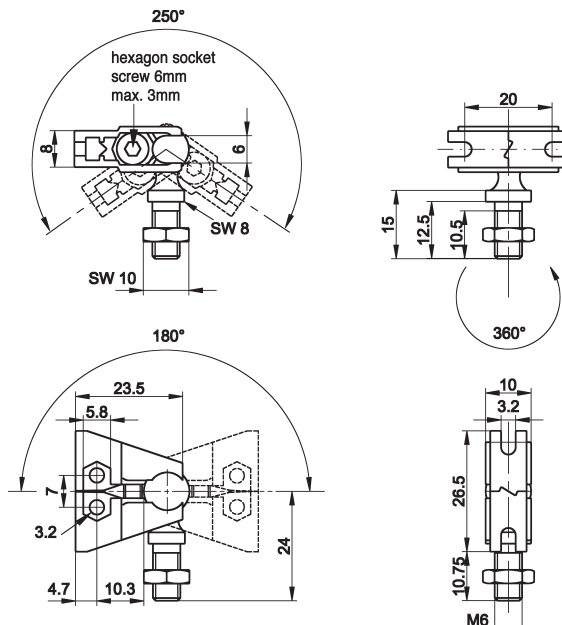
**wire colors:** bn = brown (1), wh = white (2), bu = blue (3), bk = black (4)

Break contact/make contact-switchover after discharging the cable connection of the designs IN80, IN85, INKA, INKF

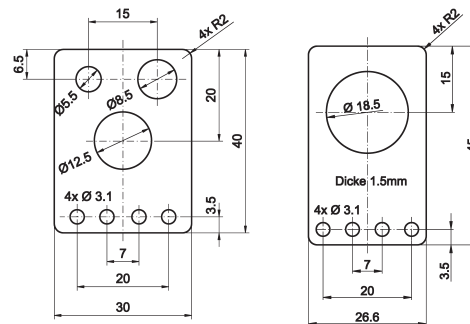


### mounting accessories (Uni-bracket) AY0000115, AY000117

with base modul



...and fitting panel



This data sheet only contains the available standard 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.

You also find this data sheet, as well as contact details under [www.ipf-electronic.com](http://www.ipf-electronic.com)

### notes

#### export division

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