

INCREASED SWITCHING DISTANCES 1300

dimensions Ø 4mm

M5 x 0.5 M8 x 1 M12 x 1

flushswitching distance2.5mmsemi-flushswitching distance4 to 8mm



- √ increased switching distances
- √ stainless steel housing or chrome-plated brass
- √ integrated amplifier
- ✓ LED display for easy adjustment
- √ connection via cable, M8- or M12-connector



super plus, up to 4-fold norm switching distance











description

ipf electronic's super plus series inductive proximity switches are characterized by very long switching distances. The devices work in a way which is similar to conventional proximity switches.

However the oscillator and the downstream signal evaluation unit are configured differently, whereby significantly better stability in terms of temperature is achieved. This enables the switching point to be rescheduled so that way longer switching distances are achieved.

Super Plus series devices are preferably put to use in applications where a long switching distance has to be achieved, but the space does not allow for a correspondingly large standard device. Further fields of application can be found where the limited switching distance of standard sensors do not guarantee reliable operation, e.g. when detecting sheet metal parts with large mechanical tolerances.

The range of applications in which these inductive sensors can be used extends, for example, from machine/systems

engineering, automotive industry, conveyor technology and packaging industry, technology for the printing/paper industries, chemical engineering and process engineering (as well as many others).

For attaining the maximum switching distance, attention should be paid concerning the size of the object (standard target) and the kind of surface (level surface). For reliable operation of the devices, it is essential that the installation conditions on this data sheet are adhered to.

application examples

- integration in automation technology machine parts
- 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.	IBR4010H	IBR4017H	IB05010H	IB05017H
switching distance (Sn)	2.5mm	2.5mm	2.5mm	2.5mm
output signal	pnp, no	pnp, no	pnp, no	pnp, no
mounting	flush	flush	flush	flush
connection	cable	M8-connector	cable	M8-connector
article-no.	*	*	*	*
output signal	pnp, nc	pnp, nc	pnp, nc	pnp, nc
	*	*	*	*
article-no.				
output signal	npn, no	npn, no	npn, no	npn, no
article-no.	*	*	*	*
output signal	npn, nc	npn, nc	npn, nc	npn, nc
* on request	82 82 82 82 83.5	Ø4 12 W6.5 LED W6.5 L	SW7 00 00 00 00 00 00 00 00 00 00 00 00 00	M5x0.5 SW7 8 2 LED 06.5
TECHNICAL DATA		2.5	25	25
switching distance (Sn)	2.5mm	2.5mm	2.5mm	2.5mm
switching distance (Sn) output signal	see above	see above	see above	see above
switching distance (Sn) putput signal pperating voltage	see above	see above	see above 10 30V DC	see above 10 30V DC
switching distance (Sn) putput signal operating voltage current consumption (w/o load)	see above 10 30V DC ≤ 10mA	see above 10 30V DC ≤ 10mA	see above 10 30V DC ≤ 10mA	see above 10 30V DC ≤ 10mA
switching distance (Sn) putput signal pperating voltage current consumption (w/o load) putput current (max. load)	see above 10 30V DC ≤ 10mA 200mA	see above 10 30V DC ≤ 10mA 200mA	see above 10 30V DC ≤ 10mA 200mA	see above 10 30V DC ≤ 10mA 200mA
switching distance (Sn) putput signal perating voltage current consumption (w/o load) putput current (max. load) voltage drop (max. load)	see above 10 30V DC ≤ 10mA 200mA 2.0V DC	see above 10 30V DC ≤ 10mA 200mA 2.0V DC	see above 10 30V DC ≤ 10mA 200mA 2.0V DC	see above 10 30V DC ≤ 10mA 200mA 2.0V DC
owitching distance (Sn) coutput signal coperating voltage courrent consumption (w/o load) coutput current (max. load) voltage drop (max. load) norm measuring plate	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm
switching distance (Sn) putput signal operating voltage current consumption (w/o load) putput current (max. load) voltage drop (max. load) norm measuring plate nysteresis	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm < 8%	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm < 8%	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm < 8%	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm < 8%
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switching distance (Sn) putput signal perating voltage current consumption (w/o load) putput current (max. load) voltage drop (max. load) norm measuring plate hysteresis repeat accuracy readiness delay	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm < 8% 0.03mm 30ms	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm < 8% 0.03mm 30ms	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm < 8% 0.03mm 30ms	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm < 8% 0.03mm 30ms
switching distance (Sn) putput signal perating voltage current consumption (w/o load) putput current (max. load) pottage drop (max. load) prorm measuring plate physteresis repeat accuracy readiness delay correction factor (St/Al/Ms)	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm < 8% 0.03mm 30ms 1.0/0.28/0.36	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm < 8% 0.03mm 30ms 1.0/0.28/0.36	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm < 8% 0.03mm 30ms 1.0/0.33/0.42	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm < 8% 0.03mm 30ms 1.0/0.33/0.42
switching distance (Sn) putput signal perating voltage current consumption (w/o load) putput current (max. load) pottage drop (max. load) prom measuring plate prysteresis repeat accuracy readiness delay correction factor (St/Al/Ms) correction factor (stainl. steel/Cu)	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm < 8% 0.03mm 30ms 1.0/0.28/0.36 0.6/0.25	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm < 8% 0.03mm 30ms 1.0/0.28/0.36 0.6/0.25	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm < 8% 0.03mm 30ms 1.0/0.33/0.42 0.67/0.3	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm < 8% 0.03mm 30ms 1.0/0.33/0.42 0.67/0.3
switching distance (Sn) putput signal perating voltage current consumption (w/o load) putput current (max. load) voltage drop (max. load) norm measuring plate nysteresis repeat accuracy readiness delay correction factor (St/Al/Ms) correction factor (stainl. steel/Cu) switching frequency	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm < 8% 0.03mm 30ms 1.0/0.28/0.36 0.6/0.25 800Hz	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm < 8% 0.03mm 30ms 1.0/0.28/0.36 0.6/0.25 800Hz	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm < 8% 0.03mm 30ms 1.0/0.33/0.42 0.67/0.3 800Hz	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm < 8% 0.03mm 30ms 1.0/0.33/0.42 0.67/0.3 800Hz
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switching distance (Sn) putput signal perating voltage current consumption (w/o load) putput current (max. load) potlage drop (max. load) porm measuring plate pysteresis repeat accuracy readiness delay correction factor (St/Al/Ms) correction factor (stainl. steel/Cu) switching frequency display (switching state) short-circuit protection reverse polarity protection dimensions ength (thread/complete) pousing material material (front cap) operating temperature degree of protection (EN 60529)	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm < 8% 0.03mm 30ms 1.0/0.28/0.36 0.6/0.25 800Hz yellow LED + # Ø 4mm -/25mm stainless steel Noryl -25 +70°C IP67	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm < 8% 0.03mm 30ms 1.0/0.28/0.36 0.6/0.25 800Hz yellow LED + + Ø 4mm -/38mm stainless steel Noryl -25 +70°C IP67	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm < 8% 0.03mm 30ms 1.0/0.33/0.42 0.67/0.3 800Hz yellow LED + + M5x0.5 20mm/25mm stainless steel Noryl -25 +70°C IP67	see above 10 30V DC ≤ 10mA 200mA 2.0V DC 7.5x7.5x1mm < 8% 0.03mm 30ms 1.0/0.33/0.42 0.67/0.3 800Hz yellow LED + + M5x0.5 22mm/38mm Noryl -25 +70°C
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INCREASED SWITCHING DISTANCES 1300

article-no.	IB08010H	IB08012H	IB08017H
switching distance (Sn)	4mm	4mm	4mm
output signal	pnp, no	pnp, no	pnp, no
mounting	flush	flush	flush
connection	cable	M12-connector	M8-connector
article-no.	*	*	*
output signal	pnp, nc	pnp, nc	pnp, nc
article-no.	*	*	*
output signal	npn, no	npn, no	npn, no
	*	*	*
article-no.			
output signal	npn, nc	npn, nc	npn, nc
* on request	M8x1	M8x1	M8x1
	SW 13 LED	SW 13 LED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	SW 13 8
TECHNICAL DATA switching distance (Sn)	4mm	4mm	4mm
output signal	see above	see above	see above
operating voltage	10 30V DC	10 30V DC	10 30V DC
current consumption (w/o load)	≤ 10mA	≤ 10mA	≤ 10mA
output current (max. load)	200mA	200mA	200mA
voltage drop (max. load)	2.0V DC	2.0V DC	2.0V DC
norm measuring plate	16x16x1mm	16x16x1mm	16x16x1mm
hysteresis	< 10%	< 10%	< 10%
repeat accuracy	0.2mm	0.2mm	0.2mm
readiness delay	50ms	50ms	50ms
correction factor (St/Al/Ms)	1.0/0.25/0.35	1.0/0.25/0.35	1.0/0.25/0.35
correction factor (stainl. steel/Cu)	0.65/0.22	0.65/0.22	0.65/0.22
switching frequency	500Hz	500Hz	500Hz
display (switching state)	yellow LED	yellow LED	yellow LED
short-circuit protection	+	+	+
reverse polarity protection	+	+	+
dimensions	M8x1	M8x1	M8x1
length (thread/complete)	45mm/45mm	44mm/66mm	45mm/60mm
housing material	chrome-plated brass	chrome-plated brass	chrome-plated brass
material (front cap)	PBTP	PBTP	РВТР
operating temperature	-25 +70°C	-25 +70°C	-25 +70°C
degree of protection (EN 60529)	IP67	IP67	IP67
connection	2m PVC-cable, 3-wire	M12-connector, 3-pin	M8-connector, 3-pin
	Ziii i ve-cabie, 3-wile		
		P G AKSUUSE	
connection accessories mounting accessories (clip)	- AY000047	e.g. VK200025 AY000047	e.g. VK200075 AY000047





IB12010H 8mm pnp, no semi-flush	IB12012H 8mm pnp, no
pnp, no	
	h., h,
	semi-flush
cable	M12-connector
*	*
pnp, nc	pnp, nc
	*
	npn, no
•	*
npn, nc	npn, nc
SW 17	M12x1 M12x1 M12x1
8mm	8mm
see above	see above
10 30V DC	10 30V DC
≤ 10mA	≤ 10mA
200mA	200mA
2.0V DC	2.0V DC
32x32x1mm	32x32x1mm
< 10%	< 10%
0.4mm	0.4mm
	50ms
	1.0/0.27/0.36
0.67/0.23	0.67/0.23
400Hz	400Hz
yellow LED	yellow LED
+	+
+	+
M12x1	M12x1
	40mm/60mm
	chrome-plated brass
РВТР	РВТР
	-25 +70°C
	IP67
	M12-connector, 3-pin
Ziii i ve cabie, 3-wiie	e.g. VK200025
AY000049	AY000049
	AY000115
	* npn, no * npn, nc * npn, nc 8mm see above 10 30V DC ≤ 10mA 200mA 2.0V DC 32x32x1mm < 10% 0.4mm 50ms 1.0/0.27/0.36 0.67/0.23 400Hz yellow LED + + M12x1 50mm/50mm chrome-plated brass

6



INCREASED SWITCHING DISTANCES 1300

connection

cable device



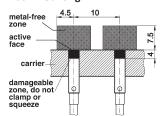
wire colors: bn = brown (1), bu = blue (3), bk = black (4)

connector device

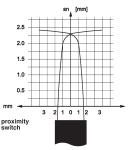


IBR401XH

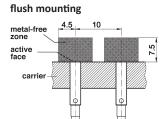
flush mounting



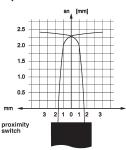




IB0501XH



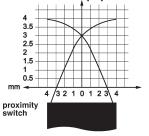


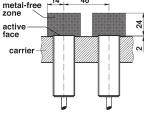


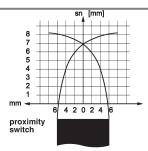
correction factors

steel (St37)	1.0	steel (St37)	1.0
stainless steel	0.60	stainless steel	0.67
aluminum	0.28	aluminum	0.33
copper	0.25	copper	0.30
brass	0.36	brass	0.42

active face carrier







correction factors

steel (St37)	1.0	steel (St37)	1.0
stainless steel	0.65	stainless steel	0.67
aluminum	0.25	aluminum	0.27
copper	0.22	copper	0.23
brass	0.35	brass	0.36

This data sheet contains the 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".

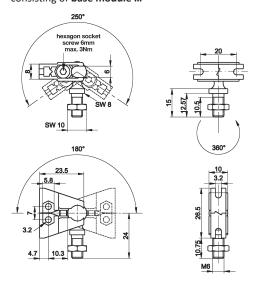
Warning: Never use these devices in applications where the safety of a person depends on their functionality.

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

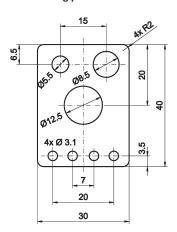
1300 INCREASED SWITCHING DISTANCES



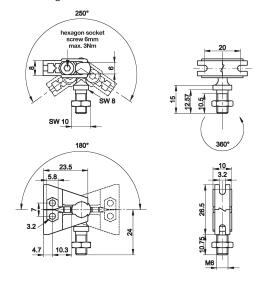
universal mounting AY000115 consisting of base module ...



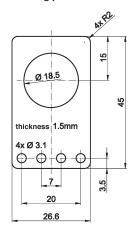
... and fitting panel



universal mounting AY000117 consisting of base module ...



... and fitting panel



ACCESSORIES

article-no.	description	material
AY000088	base module *	flanges: stainless steel, ball pins: 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