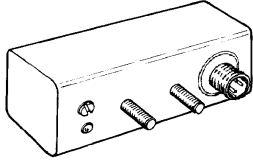
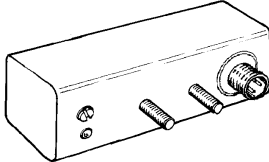
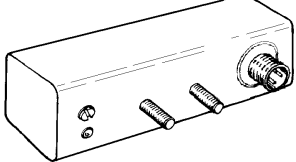
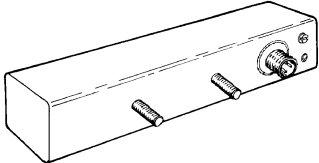
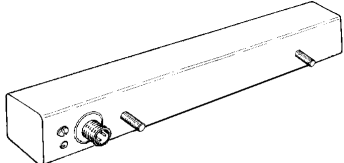


Sensors to follow up material

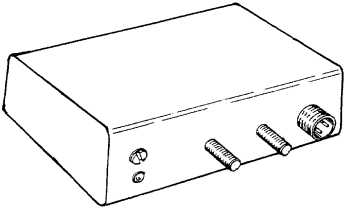
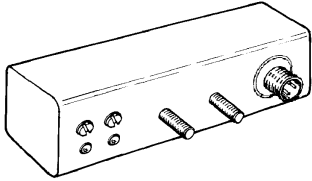
Supply - Counting - Coating - Movement - Jam - Sorting - Positioning

Inductive sensor strips of series IKU provide information concerning coverage of their active surface by metallic objects. Combining several sensor signals results in further information, e. g. as to size or velocity of the object. If the active surfaces are of different dimensions (e. g. IKU 022), additional features such as direction of movement of the objects can be identified.

Length:	80 mm	100 mm	150 mm
			
Sensing distance:	30 mm (target 80 x 50 mm) 8 mm (target 8 x 50 mm)	30 mm (target 100 x 50 mm) 8 mm (target 8 x 50 mm)	30 mm (target 150 x 50 mm) 8 mm (target 8 x 50 mm)
Target: Steel St37, 1 mm thick			
Adjustable:	yes (5 – 45 mm)	yes (5 – 45 mm)	yes (5 – 45 mm)
Dimension: L x W x H	80 x 35 x 35 mm	100 x 35 x 35 mm	150 x 35 x 35 mm
Fastening:	Bolt M5 x 15, distance 20 mm	Bolt M5 x 15, distance 20 mm	Bolt M5 x 15, distance 20 mm
Switching frequency:	50 Hz	50 Hz	50 Hz
Diagram of connection:	A	A	A
Output:	PNP n. c. + n. o.	PNP n. c. + n. o.	PNP n. c. + n. o.
Type:	IKU 008.28 G S4	IKU 011.28 G S4	IKU 015.28 G S4
Art.-No.:	2408B	2405G	2192P
Note:			

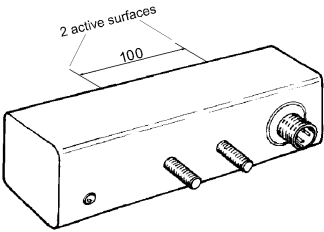
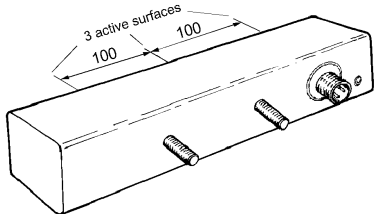
Length:	300 mm	500 mm	
			
Sensing distance:	30 mm (target 300 x 50 mm) 8 mm (target 8 x 50 mm)	30 mm (target 500 x 50 mm) 8 mm (target 8 x 50 mm)	
Target: Steel St37, 1 mm thick			
Adjustable:	yes (5 – 45 mm)	yes (5 – 45 mm)	
Dimension: L x W x H	300 x 35 x 35 mm	500 x 35 x 35 mm	
Fastening:	Bolt M5 x 15, distance 100 mm	Bolt M5 x 15, distance 270 mm	
Switching frequency:	50 Hz	30 Hz	
Diagram of connection:	A	A	
Output:	PNP n. c. + n. o.	PNP n. c. + n. o.	
Type:	IKU 031.28 G S4	IKU 051.28 G S4	
Art.-No.:	2451A	2452A	
Note:			

Additional lengths and construction forms on request.

Type:	Active surface 100 x 21 mm	2 response zones of different length Both outputs supply information on velocity, direction, material stop and indication of gaps of the handling path.
		
Sensing distance:	20 mm	15 mm
Target: Steel St37, 1 mm thick	100 x 50 mm	45 x 45 mm
Adjustable:	yes	yes
Dimension: L x W x H	100 x 21 x 60 mm	200 x 35 x 35 mm
Fastening:	Bolt M5 x 15, distance 20 mm	Bolt M5 x 15, distance 20 mm
Switching frequency:	50 Hz	50 Hz
Diagram of connection:	B	C
Output:	PNP n. o.	2 x PNP n. o.
Type:	IKU 010.23 G S4	IKU 022.28 G S4
Art.-No.:	2423A	2446A
Note:		The both response zones with lengths of 150 mm res. 50 mm can be set and evaluated separately.

Multi-zone sensors, addable

For monitoring handling width on smaller objects with reduced influence by metal environment. The sensors can be lined up without mutual influence so paths of random width can be monitored in a 100 mm grid. As soon as an active surface is covered, the output is through-connected. Complete monitoring is possible starting from material width of 75 mm.

Type:	2 active surfaces	3 active surfaces
		
Sensing distance:	15 mm	15 mm
Target: Steel St37, 1 mm thick	45 x 45 mm	45 x 45 mm
Adjustable:	no	no
Dimension: L x W x H	200 x 35 x 35 mm	300 x 35 x 35 mm
Fastening:	Bolt M5 x 15, distance 20 mm	Bolt M5 x 15, distance 100 mm
Switching frequency:	50 Hz	50 Hz
Diagram of connection:	B	B
Output:	PNP n. o.	PNP n. o.
Type:	IKU 023.23 G S4	IKU 032.23 G S4
Art.-No.:	2446B	2451B
Note:		

General technical data

Supply voltage	10 - 30 V DC	Location at metal	non flush
Ripple voltage	max. 15 %	Protection class	IP 67*
Voltage drop	2 V	Switching hysteresis	1 - 15 %
No-load current	< 10 mA	Ambient temperature	-25 to +70 °C
Load current max.	0 - 400 mA	Function display	LED
Short circuit protection	yes, pulsing	Housing material	plastic
Short-time load current	2 A / 10 ms 0,8 A / 100 ms	Connection	plug S4, M12 x 1

*Protection type IP 67 is complied with when the plug is perfectly connected with the socket and the protection screw for the setting unit is screwed in.

Diagram of Connections

A	3-wire PNP n. c. / n. o.	plug S4	
		4 = n. o.	
		2 = n. c.	
B	3-wire PNP n. o.	plug S4	
		4 = n. o.	
C	3-wire PNP n. o. / n. o.	plug S4	
		2 = n. o.	
		4 = n. o.	

Accessories

Suitable connection cable with injected S4 angular coupling, for all types (not included in the scope of delivery)	Type	Art.-No.
Length 2 m	ST 041-2	9841D
Length 5 m	ST 041-5	9841E

We can leave evaluation of the sensor signals to your SPS – or we programme the sensor μ -processor acc. to your application and your SPS is relieved.

Range of products



Since 1979 Proxitron has been developing and manufacturing sensors. Sturdy construction and continuous quality control guarantee maximum reliability

www.proxitron.de

Itemgroup Inductive proximity switch

- WG 210 Sensing distance < 20 mm
- WG 220 Sensing distance 20-60 mm
- WG 230 Sensing distance 60-120 mm
- WG 240 Sensor strips
- WG 241 Surface sensors
- WG 250 Ring-sensors
- WG 260 Inductive analog sensors and evaluation electronics

Itemgroup Other Sensors

- WG 100 Capacitive Sensors
- WG 510 Piros Light barriers
- WG 610 Piros Infrared-Sensors
- WG 620 Piros for fibre optics
- WG 800 Flow-sensors for air
- WG 830 Flow-sensors

Proximity switches of construction type IKU are preferably applied for non-contacting scanning of conveyer belts. For monitoring of conveyer widths concerning narrow conveyed material or for monitoring of tin lines.

Technical Data

Type	IKU 881.05 MG
Art.-No.	2396A-5
Rated operating distance (S _n)	100 mm
Output	normally open
Operating distance adjustable	yes
Target steel St37, 1 mm thick	200 x 140 mm
Location at metal	non flush
Supply voltage (U _B)	20 - 260 V AC/DC
Power frequency	40 - 440 Hz
Load current max.	5 - 400 mA
Short- time load current	0,8 A / 100 ms 2 A / 10 ms
Short circuit protection	yes, pulsing
Residual current (I _r)	1,7 mA / 260 V AC 1,2 mA / 24 V DC
Voltage drop (U _d)	9 V
Operating frequency (f)	10 Hz
Switching hysteresis (H)	1 - 15 %
Ambient temperature	-25 ... +80 °C
Protection class	IP 67
Connection	5 m cable, 3/8" hose screwing
Function display	LED
Housing material	plastic / aluminium

Further available designs:	Type:
With housing size 480 x 140 mm	IKU 841.05 MG
With housing size 480 x 140 mm	IKU 861.05 MG
Mounting in series possible with different oscillation frequency Types	

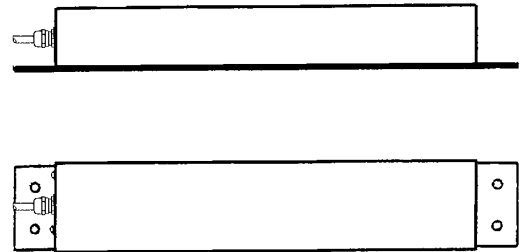
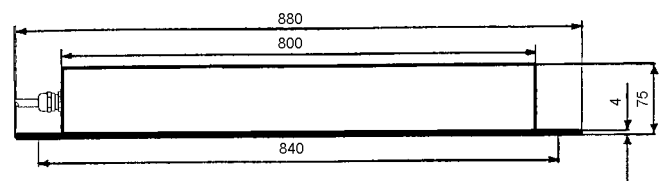
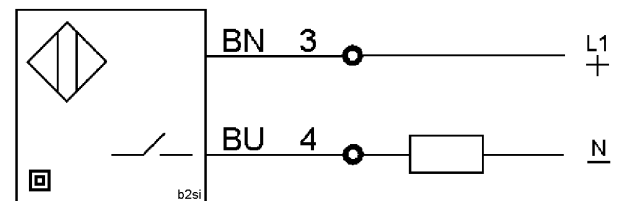


Diagram of Connections



Short circuit protected proximity switch for 120 mm operating distances.

4 wire connection with PNP normally open and normally close output.

Technical Data

Type	IKU 215.38 G S4
Art.-No.	2365F
Rated operating distance (Sn)	120 mm
Output	PNP n. o. + n. c.
Operating distance adjustable	yes
Target steel St37, 1mm thick	360 x 360 mm
Location at metal	non flush
Supply voltage (U _B)	10 - 55 V DC
Ripple voltage	max 15 %
Load current max.	0 - 400 mA
Short-time load current	2 A / 10 ms 0,8 A / 100 ms
Short circuit protection	yes, pulsing
Voltage drop (U _d)	1,5 V / 50 mA
No-load current (I ₀)	< 10 mA
Operating frequency (f)	approx. 25 Hz
Switching hysteresis (H)	1 - 15 %
Ambient temperature	-25 ... +70 °C
Protection class	IP 65
Connection	plug S4 (M12x1)
Function display	LED
Housing material	plastic PBT
Accessories (please order separately)	Art.-No.
Suitable angular connector with moulded 2 m connection cable	9841D

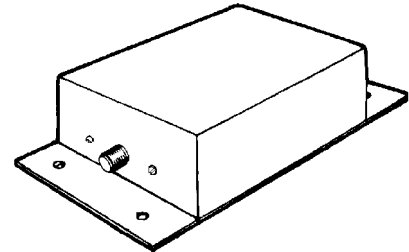
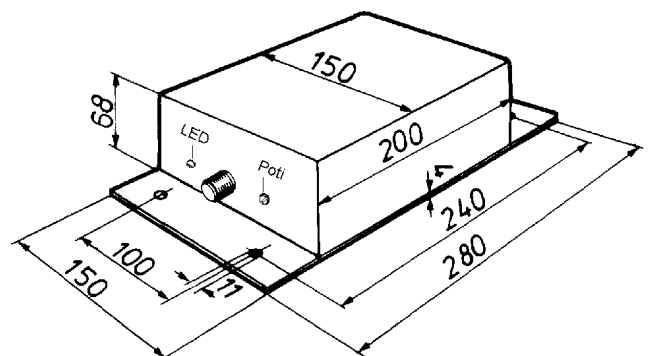
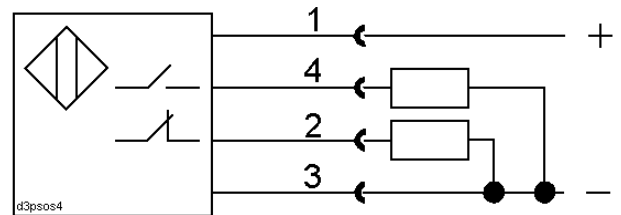


Diagram of Connections



Short circuit protected proximity switch with AC/DC 2-wire technology for higher operating distances.

Technical Data

Type	IKC 200.04 G
Art.-No.	2447C
Rated operating distance (S _n)	200 mm
Output	normally close
Target steel St37, 1 mm thick	600 x 600 mm
Operating distance adjustable	yes
Location at metal	non flush
Supply voltage (U _B)	20 - 260 V AC/DC
Power frequency	40 - 440 Hz
Ripple voltage	max. 15 %
Load current max.	5 - 400 mA
Short- time load current	0,8 A / 100 ms 2 A / 10 ms
Short circuit protection	yes
Residual current (I _r)	1,7 mA / 260 V AC 1,2 mA / 24 V DC
Voltage drop (U _d)	9 V
Operating frequency (f)	5 Hz
Switching hysteresis (H)	1 - 15 %
Ambient temperature	-25 ... +60 °C
Storage temperature	-40 ... +80 °C
Protection class	IP 67
Connection	2 m cable
Function display	LED
Housing material	plastic PP
Further available designs:	Art.-No.:
With 150 mm operating distance flush mount and plug connection	IKC 150.05 G S5

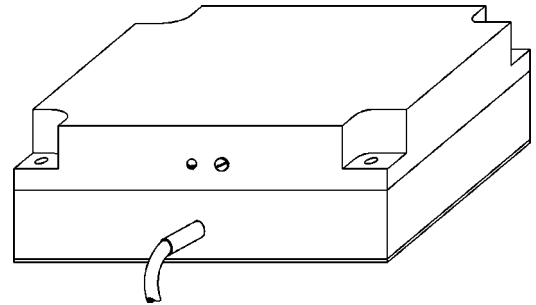
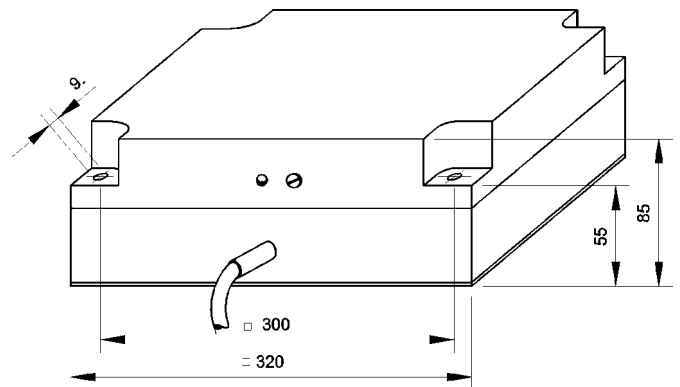
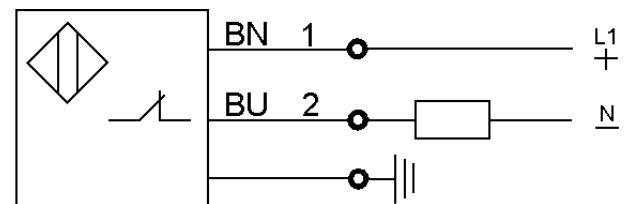


Diagram of Connections



Proximity switches of construction type IKU are preferably applied for non-contacting scanning of roller paths and conveyer belts. For monitoring of conveyer widths concerning narrow conveyed material.

Type	Length	Rated operating distance (Sn)	Target steel ST37 1 mm thick
IKU 221. __	200 mm	130 mm	390 x 390 mm
IKU 225. __	250 mm	145 mm	435 x 435 mm
IKU 231. __	300 mm	160 mm	480 x 480 mm
IKU 235. __	350 mm	175 mm	525 x 525 mm
IKU 241. __	400 mm	190 mm	570 x 570 mm
IKU 245. __	450 mm	205 mm	650 x 600 mm
IKU 251. __	500 mm	220 mm	700 x 600 mm
IKU 255. __	550 mm	235 mm	750 x 600 mm
IKU 261. __	600 mm	250 mm	800 x 600 mm
IKU 265. __	650 mm	250 mm	850 x 600 mm
IKU 271. __	700 mm	250 mm	900 x 600 mm
IKU 275. __	750 mm	250 mm	950 x 600 mm
IKU 281. __	800 mm	250 mm	1000 x 600 mm
IKU 285. __	850 mm	250 mm	1050 x 600 mm
IKU 291. __	900 mm	250 mm	1100 x 600 mm
IKU 295. __	950 mm	250 mm	1150 x 600 mm
IKU 2101. __	1000 mm	250 mm	1200 x 600 mm

Technical Data

Type	IKU 2 __.83
Output	normally. open.
Operating distance adjustable	yes (after detaching of the protection screw)
Location at metal	non-flush mount
Supply voltage (UB)	230 V AC
Power frequency	45 60 Hz
Load current max.	0,5 - 400 mA
Short-time load current	2 A / 10 ms, 0,8 A / 100 ms
Short circuit protection	yes, pulsing
Residual current (Ir)	10 mA
Voltage drop (Ud)	9 V
Operating frequency (f)	ca. 10 Hz
Switching hysteresis (H)	1 - 15 %
Ambient temperature	-25 ... +70 °C
Protection class	IP 65
Connection	2 m POKT-Therm cable
Power display	LED (green)
Function display	LED (yellow)
Housing material	Plastic with aluminium assembly rails
Assembly accessories (not included in the scope of supply)	rubber / metal buffer MS 84

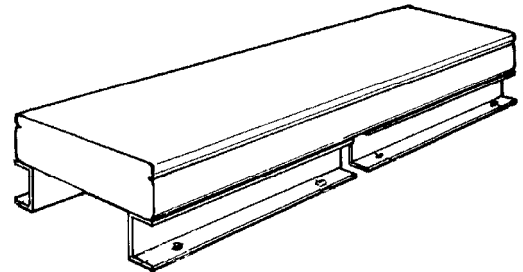
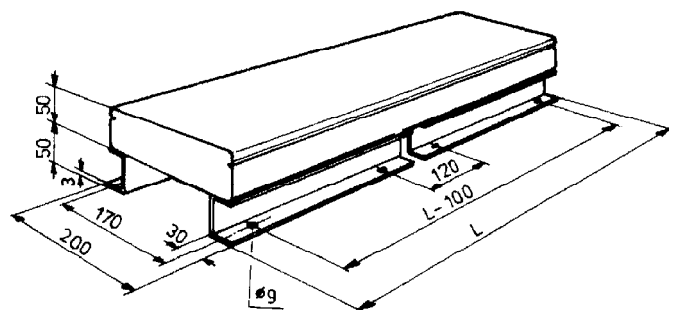
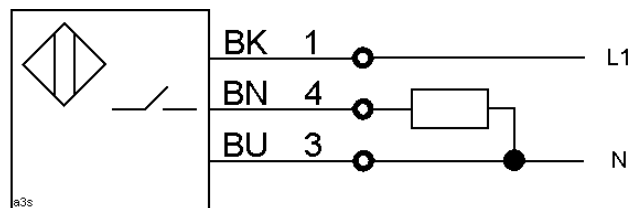


Diagram of connections



dimension for IKU 241 - IKU 2101
IKU 221 - 235 with continues assembly rails

Proximity switches of construction type IKU are preferably applied for non-contacting scanning of roller paths and conveyer belts. For monitoring of conveyer widths concerning narrow conveyed material.

Type	Length	Rated operating distance (Sn)	Target steel ST37 1 mm thick
IKU 221. __	200 mm	130 mm	390 x 390 mm
IKU 225. __	250 mm	145 mm	435 x 435 mm
IKU 231. __	300 mm	160 mm	480 x 480 mm
IKU 235. __	350 mm	175 mm	525 x 525 mm
IKU 241. __	400 mm	190 mm	570 x 570 mm
IKU 245. __	450 mm	205 mm	650 x 600 mm
IKU 251. __	500 mm	220 mm	700 x 600 mm
IKU 255. __	550 mm	235 mm	750 x 600 mm
IKU 261. __	600 mm	250 mm	800 x 600 mm
IKU 265. __	650 mm	250 mm	850 x 600 mm
IKU 271. __	700 mm	250 mm	900 x 600 mm
IKU 275. __	750 mm	250 mm	950 x 600 mm
IKU 281. __	800 mm	250 mm	1000 x 600 mm
IKU 285. __	850 mm	250 mm	1050 x 600 mm
IKU 291. __	900 mm	250 mm	1100 x 600 mm
IKU 295. __	950 mm	250 mm	1150 x 600 mm
IKU 2101. __	1000 mm	250 mm	1200 x 600 mm

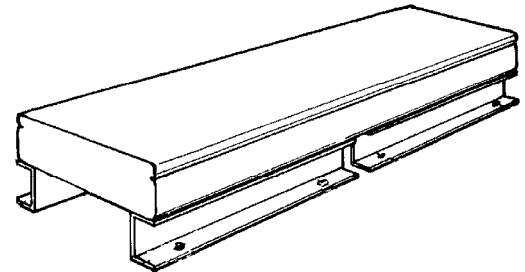
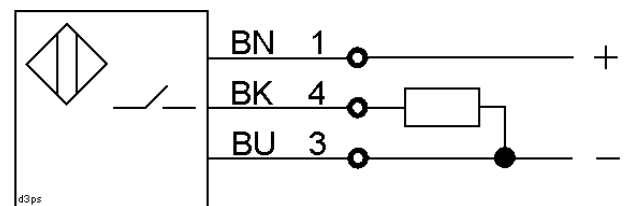
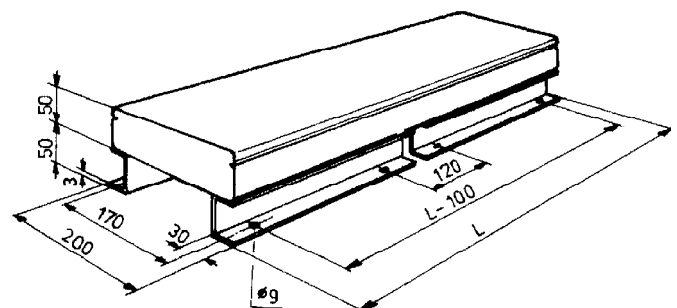


Diagram of connections



Technical Data

Type	IKU 2 __.33 G
Output	PNP-n. o.
Operating distance adjustable	yes (after detaching of the protection screw)
Location at metal	non-flush mount
Supply voltage (UB)	10 - 55 V DC
Ripple voltage	max. 15 %
Load current max.	0 - 400 mA
Short-time load current	2 A / 10 ms, 0,8 A / 100 ms
Short circuit protection	yes, pulsing
No-load current (I0)	8 mA
Voltage drop (Ud)	1,5 V / 50 mA
Operating frequency (f)	ca. 10 Hz
Switching hysteresis (H)	1 - 15 %
Ambient temperature	-25 ... +70 °C
Protection class	IP 65
Connection	2 m POKT-Therm cable
Power display	LED (green)
Function display	LED (yellow)
Housing material	plastic with aluminium assembly rails
Assembly accessories (not included in the scope of supply)	rubber / metal buffer MS 84
Further designs available:	Type
NPN n. o.	IKU 2 __.31 G



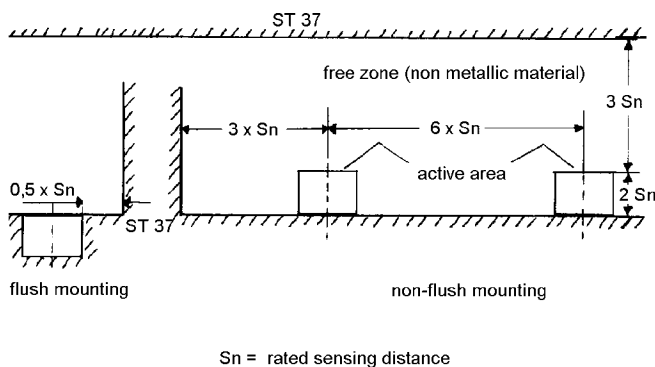
dimension for IKU 241 - IKU 2101

IKU 221 - 235 with continues assembly rails

Directions for application

Generally following standards are applicable for proximity switches: DIN EN 60947-5-2, IEC 60947-5-2, VDE 0660 Teil 208, IEC 60529 (DIN 40050), DIN VDE 0470-1. Moreover, by the CE symbol compliance with EG regulation 89/336/EWG is confirmed.

The standards are applicable for inductive proximity switches of short and mean sensing distances. Usually constructional engineering offers the preconditions for these sensors without possibility of adjustment to be mounted in flush or non-flush manner.



In case of long sensing distances these relations to the metallic surrounding are often not existing. If so attenuation by metal parts within the influence of the active area can be compensated by an adjusting device (pot).

Adjustment can be effected in the factory acc. to consultation with the manufacturer or in accordance with the instructions stated in the right-hand column.

Mounting of several inductive proximity switches having the same oscillation frequency within the reciprocal influence sphere can lead to faulty switchings due to interference's. This reciprocal influence can be excluded by frequency change by the producer.

Under certain conditions inductive proximity switches for non-flush mounting take a larger sensing distance after mounting. This change is due to surrounding metals and can result in uncertain operation.

Re-adjustment is always required when the sensing distance (S) exceeds the rated sensing distance (Sn) by more than 10 %.

The rated sensing distance (Sn) refers to a square operating target of St 37, having an edge length of $m = 3 \times Sn$.

In practise the executions of the targets differ from the standardised values. Therefore the following adjustment instructions can be applied for random operating elements:

Adjustment Instructions

The potentiometer is protected by a Nylon screw and a washer. After adjustment this is to be screwed in again. When the protection screw is detached, the protection type stated cannot be guaranteed any longer.

- 1 Measuring of the max. sensing distance (S max)
 - 1.1 Put potentiometer (20 pitches) to end position (clockwisely) (no mechanical stop!)
 - 1.2 Adjust potentiometer anticlockwisely until the output just changes the switching condition.
 - 1.3 Slowly approach target axially towards the active area. The measured sensing distance is S max
- 2 Adjustment of the sensing distance to the effective sensing distance $S = 0,7 \times S \text{ max}$
This sensing distance guarantees for safe operation.
- 3 The distance between target and active area must not exceed $0,8 \times S$.