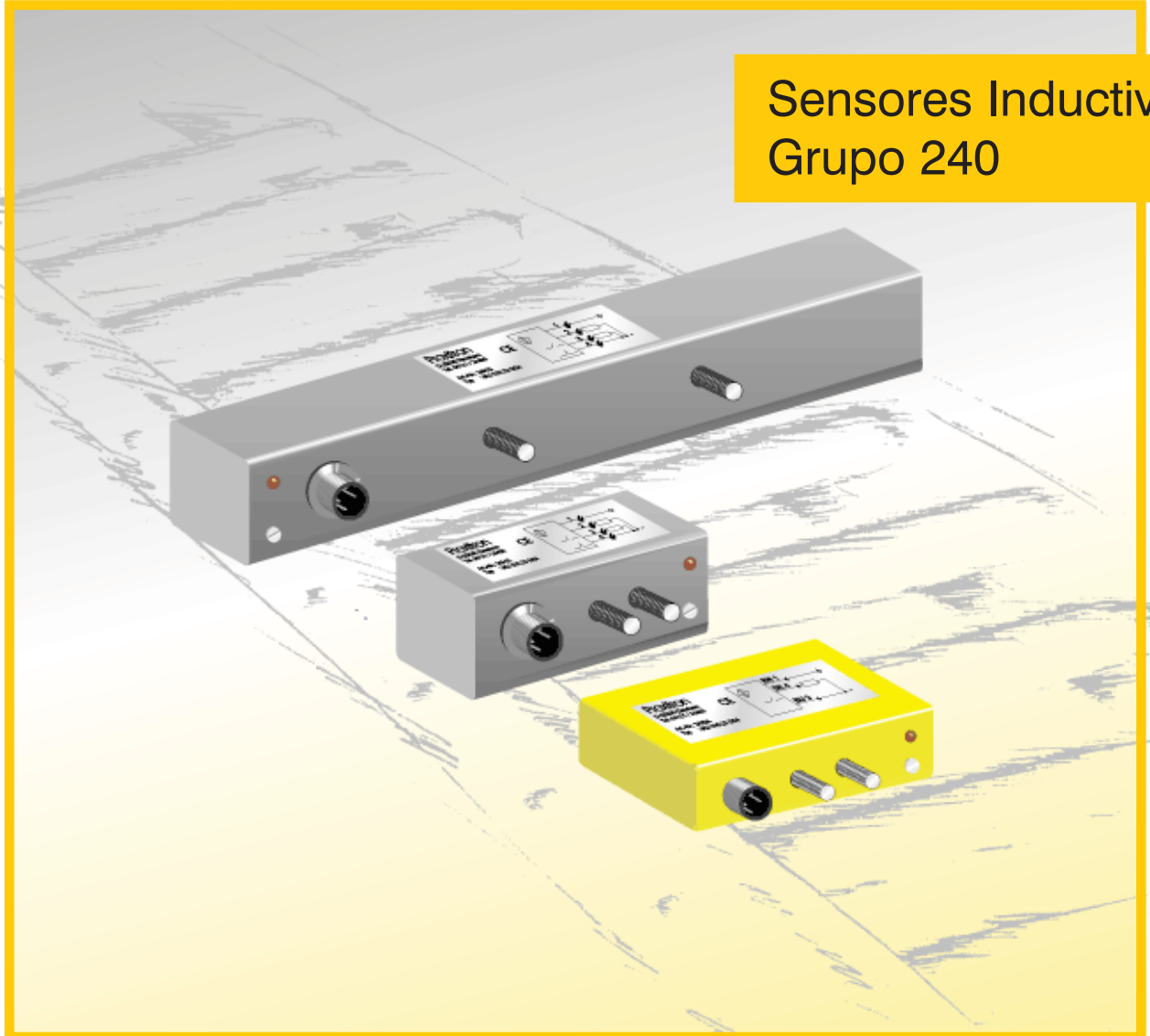


# Proxitron

SENSOREN FÜR AUTOMATION

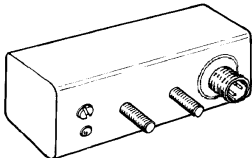
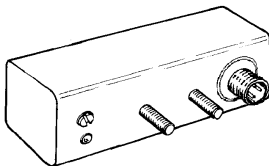
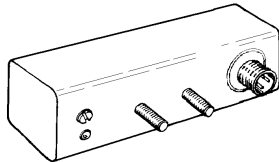
Sensores Inductivos  
Grupo 240

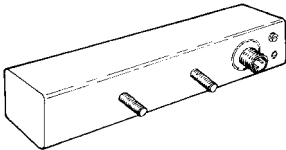
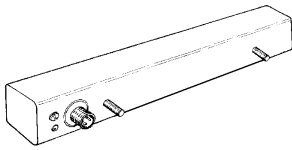


## **Sensores de banda para flujo de materiales**

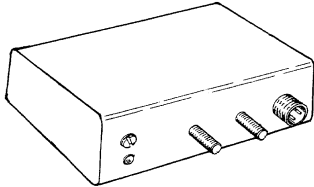
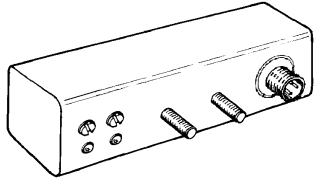
Transporte - Conteo - Movimiento - Selección - Posicionado

Los sensores inductivos de banda de la serie IKU proveen información de la cobertura de su cara activa por parte de objetos metálicos. Combinando la señal de diversos sensores, podemos obtener información sobre tamaños y velocidades de objetos. En el caso de la serie IKU 022 se puede obtener información sobre la dirección del movimiento del objeto metálicos a detectar.

Largo:	80 mm	100 mm	150 mm
			
<b>Distancia de sensado:</b>	<b>30 mm</b> (blanco 80 x 50 mm) <b>8 mm</b> (blanco 8 x 50 mm)	<b>30 mm</b> (blanco 100 x 50 mm) <b>8 mm</b> (blanco 8 x 50 mm)	<b>30 mm</b> (blanco 150 x 50 mm) <b>8 mm</b> (blanco 8 x 50 mm)
Blanco:			
Acero St37, e= 1 mm			
Ajustable:	si ( 5 – 45 mm )	si ( 5 – 45 mm )	si ( 5 – 45 mm )
Dimensión: L x A x H	80 x 35 x 35 mm	100 x 35 x 35 mm	150 x 35 x 35 mm
Fijación:	Tornillo M5 x 15, dist. 20 mm	Tornillo M5 x 15, dist. 20 mm	Tornillo M5 x 15, dist. 20 mm
Frecuencia de conmutación:	50 Hz	50 Hz	50 Hz
Diagrama de conexiones:	A	A	A
Salida:	PNP n. c. + n. a.	PNP n. c. + n. a.	PNP n. c. + n. a.
<b>Código:</b>	<b>IKU 008.28 G S4</b>	<b>IKU 011.28 G S4</b>	<b>IKU 015.28 G S4</b>
Art.-No.:	2408B	2405G	2192P
Notas:			

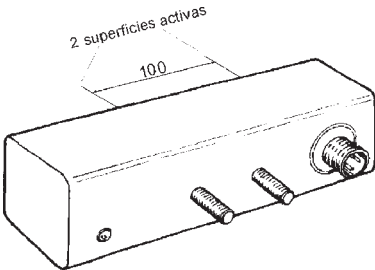
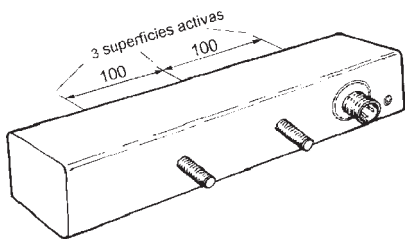
Largo:	300 mm	500 mm
		
<b>Distancia de sensado:</b>	<b>30 mm</b> (blanco 300 x 50 mm) <b>8 mm</b> (blanco 8 x 50 mm)	<b>30 mm</b> (blanco 500 x 50 mm) <b>8 mm</b> (blanco 8 x 50 mm)
Blanco:		
Acero St37, e= 1 mm		
Ajustable:	si ( 5 – 45 mm )	si ( 5 – 45 mm )
Dimensión: L x A x H	300 x 35 x 35 mm	500 x 35 x 35 mm
Fijación:	Tornillo M5 x 15, dist. 100 mm	Tornillo M5 x 15, dist. 270 mm
Frecuencia de conmutación:	50 Hz	30 Hz
Diagrama de conexiones:	A	A
Salida:	PNP n. c. + n. a.	PNP n. c. + n. a.
<b>Código:</b>	<b>IKU 031.28 G S4</b>	<b>IKU 051.28 G S4</b>
Art.-No.:	2451A	2452A
Notas:		

## Sensores de Banda

Tipo:	Superficie activa de 100 x 21 mm	2 zonas de sensado de diferente largo
		
<b>Distancia de sensado:</b>	<b>20 mm</b>	<b>15 mm</b>
Blanco:		
Acero St37, e= 1 mm	100 x 50 mm	45 x 45 mm
Ajustable:	si	si
Dimensión: L x A x H	100 x 21 x 60 mm	200 x 35 x 35 mm
Fijación:	Tornillo M5 x 15, dist. 20 mm	Tornillo M5 x 15, dist. 20 mm
Frecuencia de conmutación:	50 Hz	50 Hz
Diagrama de conexiones:	B	C
Salida:	PNP n. a.	2 x PNP n. a.
<b>Código:</b>	<b>IKU 010.23 G S4</b>	<b>IKU 022.28 G S4</b>
Art.-No.:	2423A	2446A
Notas:		Ambas salidas, separadas 150 mm, pueden ser evaluadas independientemente o en conjunto.

## Sensores multizona

Para monitorear el manipuleo de pequeños objetos. Los sensores pueden alinearse sin influenciarse mutuamente, por lo que se pueden armar grillas de detección con paso 100 mm. Cuando una superficie activa es cubierta, se conecta una salida. Se puede obtener un monitoreo completo para piezas menores o iguales a 75 mm frente a la cara activa.

Código:	2 superficies activas	3 superficies activas
		
<b>Distancia de sensado:</b>	<b>15 mm</b>	<b>15 mm</b>
Blanco:		
Acero St37, e= 1 mm	45 x 45 mm	45 x 45 mm
Ajustable:	no	no
Dimensión: L x A x H	200 x 35 x 35 mm	300 x 35 x 35 mm
Fijación:	Tornillo M5 x 15, dist. 20 mm	Tornillo M5 x 15, dist. 100 mm
Frecuencia de conmutación:	50 Hz	50 Hz
Diagrama de conexiones:	B	B
Salida:	PNP n. a.	PNP n. a.
<b>Código:</b>	<b>IKU 023.23 G S4</b>	<b>IKU 032.23 G S4</b>
Art.-No.:	2446B	2451B
Notas:		

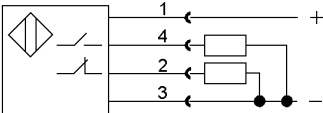
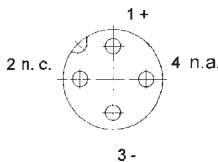
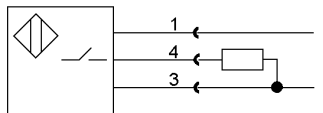
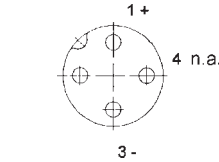
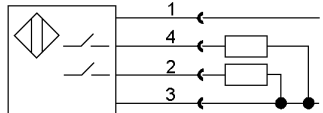
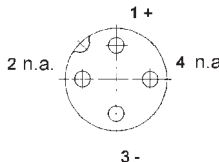
## Datos Técnicos Generales

Alimentación	10 - 30 V CC
Ripple	max. 15 %
Caída de tensión	2 V
Corriente sin carga	< 10 mA
Máxima corriente admisible	0 - 400 mA
Protección contra corto-circuitos	si, pulsante
Corriente de carga de corta duración	2 A / 10 ms 0,8 A / 100 ms

Montaje	No enrasado
Clase de protección mecánica	IP 67*
Histéresis de conmutación	1 - 15 %
Temperatura ambiente	-25 a +70 °C
Indicación de función	LED
Material de la carcasa	plástico
Conexión	conector S4, M12x1

(\*) La clase de protección IP 67 se alcanza cuando el conector está colocado y cuando el potenciómetro está cubierto con su correspondiente tapón de seguridad.

## Diagrama de Conexiones

A	<p>3-hilos PNP n. c. / n. a.</p> 	<p>conector S4 4 = n. a. 2 = n. c.</p>	
B	<p>3-hilos PNP n. a.</p> 	<p>conector S4 4 = n. a.</p>	
C	<p>4-hilos PNP n. a. / n. a.</p> 	<p>conector S4 2 = n. a. 4 = n. a.</p>	

## Accesorios

Cable con conector M12 acodado inyectado, apto para todos los códigos (no incluido en el envío)	Código	Art.-No.
Largo 2 m	ST 041-2	9841D
Largo 5 m	ST 041-5	9841E

## Rango de Productos

Proxitron ha estado desarrollando y fabricando sensores desde 1979. Una construcción a prueba de ambientes muy agresivos y un continuo control de calidad garantizan una máxima confiabilidad de sus productos.

Grupo
<b>Sensores de proximidad inductivos</b>
WG 210 Distancia de sensado < 20 mm
WG 220 Distancia de sensado 20-60 mm
WG 230 Distancia de sensado 60-120 mm
WG 240 Sensores Inductivos de banda
WG 241 Sensores de superficie
WG 250 Sensores Inductivos de anillo
WG 260 Sensores inductivos analógicos

Grupo
<b>Otros sensores</b>
WG 100 Sensores Capacitivos
WG 510 Barreras ópticas Piros
WG 610 Sensores infrarrojos Piros
WG 620 Fibras ópticas Piros
WG 800 Sensores de flujo gaseoso
WG 830 Sensores de flujo líquido

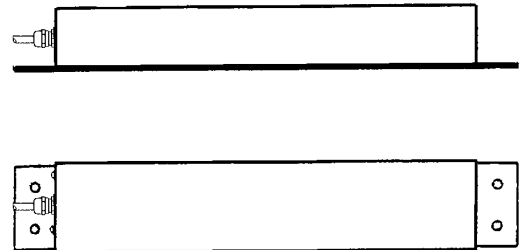
sujeto a cambios sin previo aviso

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.

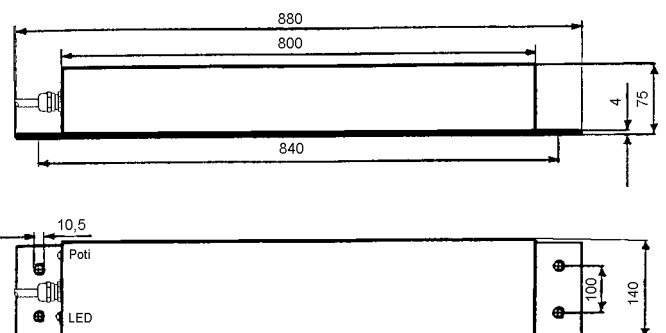
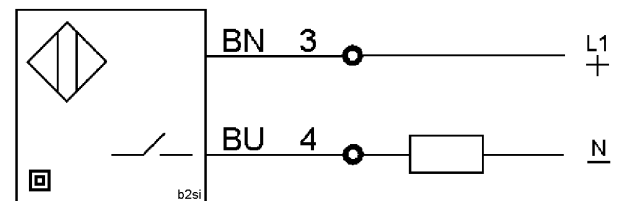
## Technical Data

<b>Type</b>	<b>IKU 881.05 MG</b>
Art.-No.	2396A-5
Rated operating distance (S <sub>n</sub> )	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 <sub>B</sub> )	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 <sub>r</sub> )	1,7 mA / 260 V AC 1,2 mA / 24 V DC
Voltage drop (U <sub>d</sub> )	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

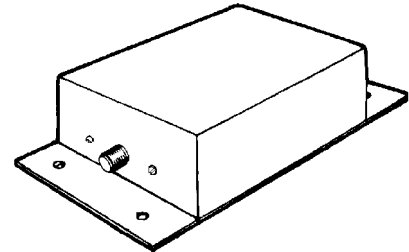


Short circuit protected proximity switch for 120 mm operating distances.

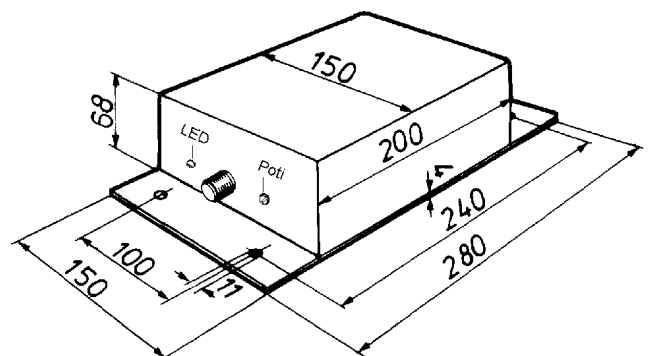
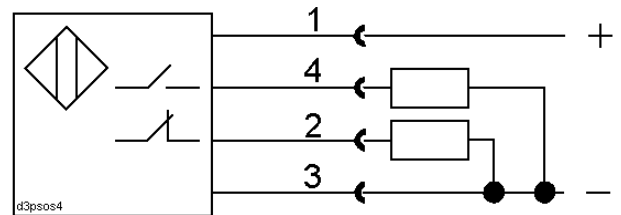
4 wire connection with PNP normally open and normally close output.

## Technical Data

<b>Type</b>	<b>IKU 215.38 G S4</b>
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 <sub>B</sub> )	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 <sub>d</sub> )	1,5 V / 50 mA
No-load current (I <sub>0</sub> )	< 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
<b>Accessories</b> (please order separately)	<b>Art.-No.</b>
Suitable angular connector with moulded 2 m connection cable	9841D



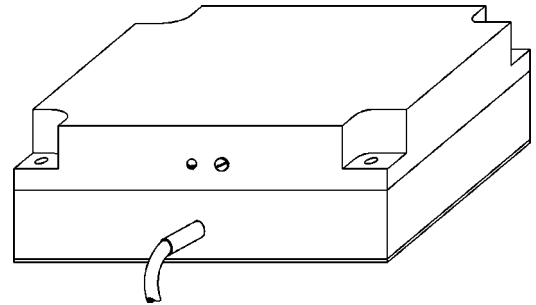
## Diagram of Connections



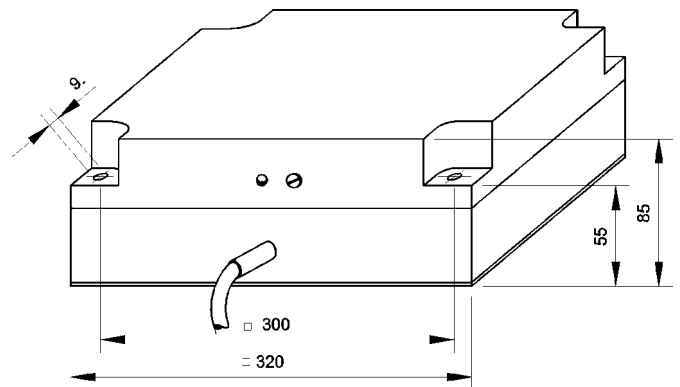
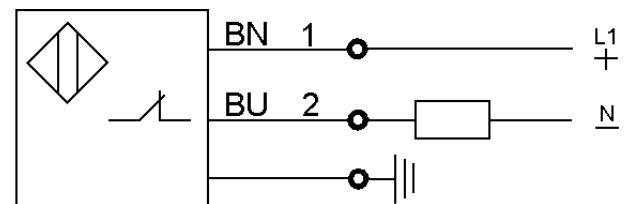
Short circuit protected proximity switch with AC/DC 2-wire technology for higher operating distances.

## Technical Data

<b>Type</b>	<b>IKC 200.04 G</b>
Art.-No.	2447C
Rated operating distance (S <sub>n</sub> )	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 <sub>B</sub> )	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 <sub>r</sub> )	1,7 mA / 260 V AC 1,2 mA / 24 V DC
Voltage drop (U <sub>d</sub> )	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
<b>Further available designs:</b>	<b>Art.-No.:</b>
With 150 mm operating distance flush mount and plug connection	IKC 150.05 G S5

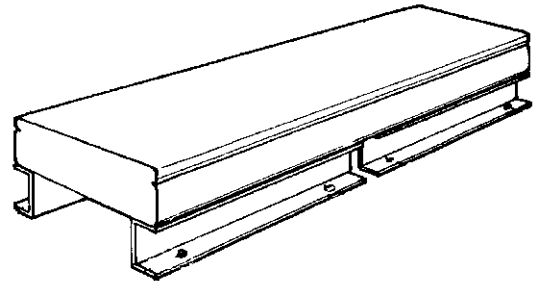


## Diagram of Connections



Los sensores de proximidad del tipo constructivo IKU son aplicables preferentemente en guías de rodillos y cintas transportadoras.

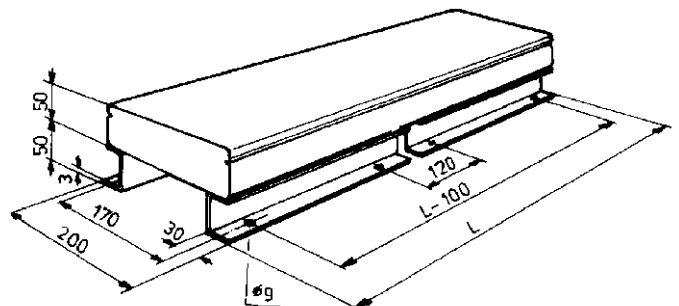
Tipo bra-	Largo	Distancia de operación	Blanco de calibración acero ST37
IKU 221... _	200 mm	130 mm	300 x 300 mm
IKU 225... _	250 mm	145 mm	435 x 435 mm
IKU 231... _	300 mm	160 mm	480 x 480 mm
IKU 235... _	350 mm	175 mm	525 x 525 mm
IKU 241... _	400 mm	190 mm	570 x 570 mm
IKU 245... _	450 mm	205 mm	650 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



## Datos técnicos

Tipo	IKU 2 __.83
Salida	Normal abierto
Distancia de operación ajustable	Si (luego de remover el tornillo de protección)
Montaje	No enrasado
Tensión de alimentación	230 V CA
Frecuencia	40-60 Hz
Corriente de carga máx.	0,5 - 400 mA
Intensidad máx. admisible	2 A / 10 ms, 0,8 A / 100 ms
Protección contra corto circuito	Si, pulsante
Corriente residual	10 mA
Caída de tensión	9 V
Frecuencia de conmutación	ca. 10 Hz
Histéresis de conmutación	1 - 15 %
Temperatura ambiente	-25 ... +70 °C
Clase de protección	IP 65
Conexión	2 m POKT-Therm cable
Led de alimentación	Si, LED verde
Led de funcionamiento	Si, LED amarillo
Material de la carcasa	Plástico con pie de montaje de aluminio
Accesorios de montaje (no incluidos en esta especificación)	Soporte metal/caucho MS 84

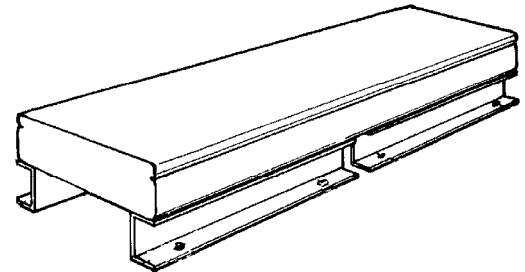
## Diagrama de conexión



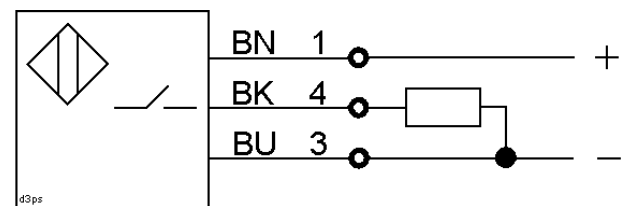
dimensiones para IKU 241 - IKU 2101  
IKU 221 - 235 con pie de montaje continuo

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

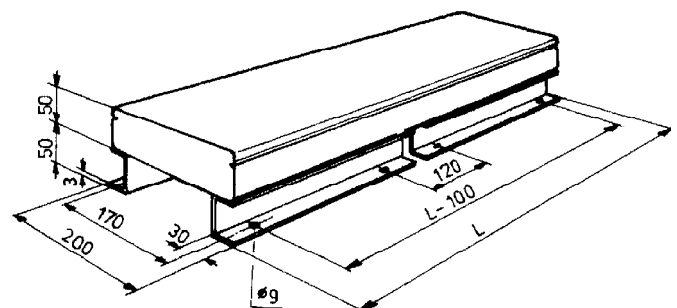


### Diagram of connections



### 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
<b>Further designs available:</b>	<b>Type</b>
NPN n. o.	IKU 2 __.31 G



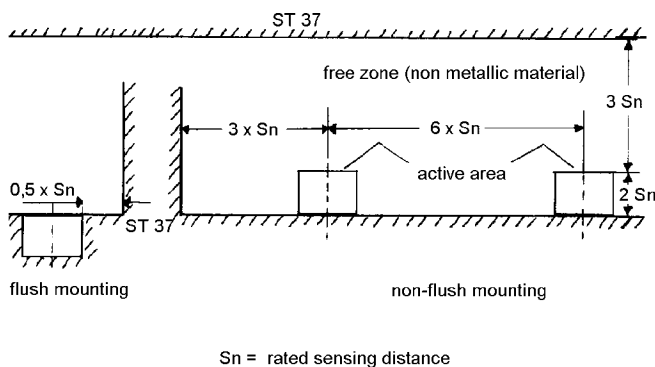
dimension for IKU 241 - IKU 2101

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/EEG 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  $0,8 \times S$ .