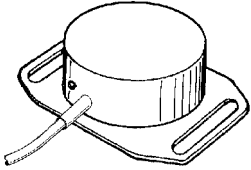
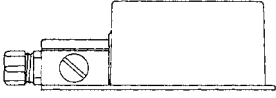
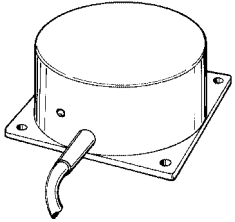
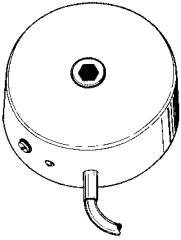
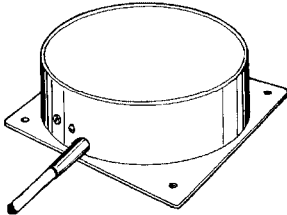
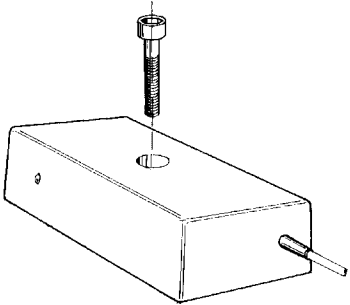


Inductive Proximity Switches

2 or 4 wire connection - all current or PNP - cable or plug connection - short-circuit proof

Type:	N \varnothing 100 mm	NR \varnothing 100 mm	N \varnothing 100 mm
			
Sensing distance:	60 mm	60 mm	70 mm
Adjustable: ¹⁾	yes	yes	yes
Type of installation:	non-flush mount	non-flush mount	non-flush mount
Housing material:	Plastic	Plastic	Plastic
Dimensions:	108 x 150 x 58 mm	160 x 150 x 58 mm	110 x 110 x 43 mm
Fastening:	8,4x63 mm, borehole dimension:130 mm	8,4x63mm, borehole dimension:130 mm	4x \varnothing 5,5mm, borehole dimension: 92 mm
Protection type: ²⁾	IP 67	IP 67	IP 67
Switching frequency:	100 Hz (DC) / 50 Hz (AC)	100 Hz (DC) / 50 Hz (AC)	80 Hz (DC) / 20 Hz (AC)
Type AC/DC 2-wire:	IKN 060.05 G	IKNR 060.05 G	IKN 070.05 G
Type DC 3/4-wire:	IKN 060.38 G S4	IKNR 060.38 G	IKN 070.38 G S4
Note:	also as rolling-mill type available		

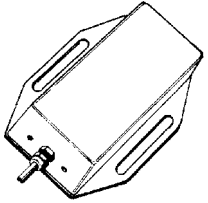
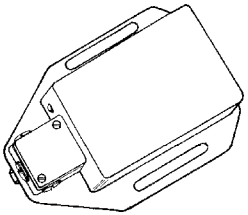
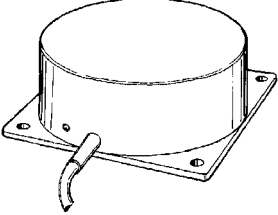
Type:	M \varnothing 95 mm	NB \varnothing 130 mm	Q 98 x 178 mm
			
Sensing distance:	70 mm	80 mm	90 mm
Adjustable: ¹⁾	yes	yes	yes
Type of installation:	non-flush mount	non-flush mount	non-flush mount
Housing material:	Plastic	Plastic	Plastic
Dimensions:	\varnothing 95 mm x 40 mm	140 x 140 x 35 mm	98 x 178 x 56 mm
Fastening:	Nylonscrew M12 x 70	4x \varnothing 7mm, borehole dimension:114 mm	Nylonscrew M16 x 90
Protection type: ²⁾	IP 67	IP 67	IP 67
Switching frequency:	80 Hz (DC) / 25 Hz (AC)	50 Hz (DC) / 20 Hz (AC)	50 Hz (DC) / 15 Hz (AC)
Type AC/DC 2-wire:	IKM 070.05 G	IKNB 080.05 G	IKQ 090.05 G
Type DC 3/4-wire:	IKM 070.38 G S4	IKNB 080.38 G S4	IKQ 090.38 G S4
Note:			

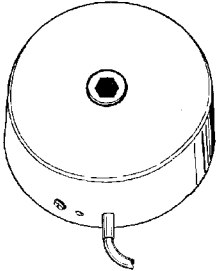
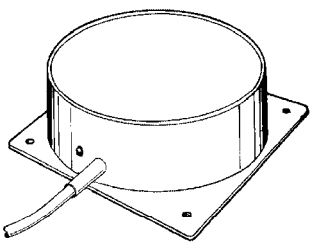
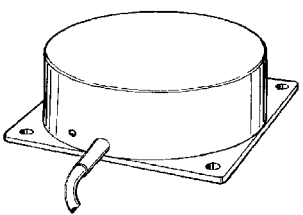
The advantages of the AC/DC 2-wire connection are the wide and universal voltage range and the wire saving installation. The residual current of 1,7 mA due to the load and the voltage drop of 9V over the switch in case of low mains voltage are to be observed.

Apart from the wide voltage range the DC technology offers the possibility to apply the normally-open and normally-closed outputs separately or linked

¹⁾ In the factory on assembly the proximity switches are adjusted with a square measuring plate (FE 360, edge length = 3 times the nominal sensing distance) to a steel plate of identical size. If the real switching distance measured deviates from the nominal switching distance by more than 10 %, new adjustment is recommended. Thereafter the protection screw for the adjusting device is to be screwed in again.

Sensing distance 60 - 120 mm

Type:	Q 150 x 150 mm	QR 150 x 170 mm	OH Ø 163 mm
			
Sensing distance:	100 mm	100 mm	100 mm
Adjustable: ¹⁾	yes	yes	yes
Type of installation:	non-flush mount	non-flush mount	non-flush mount
Housing material:	Plastic	Plastic	Plastic
Dimensions:	150 x 150 x 56 mm	150 x 170 x 56 mm	170 x 170 x 68 mm
Fastening:	8,4x63 mm, borehole dimension:130 mm	8,4x63 mm, borehole dimension:130 mm	4x Ø9 mm, borehole dimension: 150 mm
Protection type: ²⁾	IP 67	IP 67	IP 67
Switching frequency:	50 Hz (DC) / 30 Hz (AC)	50 Hz (DC) / 30 Hz (AC)	50 Hz (DC) / 15 Hz (AC)
Type AC/DC 2-wire:	IKQ 100.05 G	IKQR 100.05 MG	IKOH 100 05 G
Type DC 3/4-wire:	IKQ 100.38 G S4	IKQR 100.38 MG	IKOH 100.38 G S4
Note:	also as rolling-mill type available		

Type:	O Ø 163 mm	E Ø 210 mm Aluminium housing	OA Ø 200 mm
			
Sensing distance:	100 mm	100 mm	120 mm
Adjustable: ¹⁾	yes	no	yes
Type of installation:	non-flush mount	flush mount	non-flush mount
Housing material:	Plastic	Aluminium	Plastic
Dimensions:	Ø 163 mm x 64 mm	210 x 210 x 75 mm	210 x 210 x 60 mm
Fastening:	Nylonscrew M16 x 90	4x Ø9 mm, borehole dimension: 170 mm	4x Ø9 mm, borehole dimension: 170 mm
Protection type: ²⁾	IP 67	IP 67	IP 67
Switching frequency:	50 Hz (DC) / 15 Hz (AC)	50 Hz (DC) / 15 Hz (AC)	50 Hz (DC) / 15 Hz (AC)
Type AC/DC 2-wire:	IKO 100.05 G	IKE 100.05 G	IKOA 120.05 G
Type DC 3/4-wire:	IKO 100.38 G S4	IKE 100.38 G	IKOA 120.38 G S4
Note:		steel armoured Silicone cable	

Deviating types available acc. to works standard of Mannesmannröhren Werke AG, Thyssen, Hoesch, HKM and others. Temperature ranges from -40 °C to +100 °C and other customer-specific specifications.

Connection technology

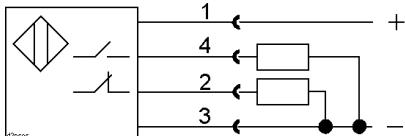
Type DC 3/4 wire (..38 G S4): built-in unit plug M 12x1; type AC/DC 2-wire (..05 G): 2m cable connection

²⁾ Protection type IP 67 is complied with when the appliance plug is perfectly connected with the appertaining socket and the protection screw for the adjusting device is screwed in.

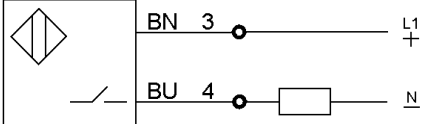
Itemgroup 230

Inductive proximity switches are sensors which react upon presence or absence of metallic objects within their range of supervision. An alternating field of high frequency leaves at the active surface and is influenced and evaluated dependent on distance and properties of metallic objects. The types of itemgroup 230 comprise executions of a sensing distance of 60 to 120 mm. By means of 2 electric variations only with universal voltage ranges all customary controlling tasks can be managed. The pulsing Proxitron protection against short-circuit offers safety against destruction of 2-wire units for AC and DC for mains from 24 V to 240 V. 3-wire designs are protected against short-circuit in case of mains from 12 V to 48 V. Depending on the degree of overload the electronic protection against short-circuit automatically returns to its normal mode of operation after max. 30 s. During this time the blinking LED indicates the trouble. Apart from the universal types already many designs acc. to customer's specification are in operation and are listed in works standards. Their fields of application are to be found in all ranges of industrial automation. If required we shall be glad to place detailed individual data sheets at your disposal.

DC-type

Output	PNP n. o. and n. c.
Supply voltage	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
Residual current	< 10 mA
Voltage drop	1,5 V / 50 mA
Switching hysteresis	1 - 15 %
Ambient temperature	-25 to +70 °C
Connection	Plug S4, M12 x 1
Diagram of connections	DC 4-wire PNP n.o. + n.c. 

AC/DC-type

Output	normally open
Supply voltage	20 - 260 V AC/DC
Power frequency	40 - 440 Hz
Ripple voltage	max 15 % (DC)
Load current max.	5 - 400 mA
Short-time load current	2 A / 10 ms; 0,8 A / 100 ms
Short circuit protection	yes, pulsing
Residual current	1,7 mA / 260 V AC; 1,0 mA / 24 V DC
Voltage drop	9 V
Switching hysteresis	1 - 15 %
Ambient temperature	-25 to +70 °C
Connection	2 m cable
Diagram of connections	AC/DC 2-wire norm. open 

Range of products

Itemgroup

Inductive proximity switches

- 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 630 Piros Infrared pyrometers
- WG 800 Flow-sensors for air
- WG 830 Flow-sensors



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

www.proxitron.de

Adjustage in mendrel mill and Pilger train

Applied: Inductive proximity switch
IKN 060.05 GD

IKU 215.05 MG

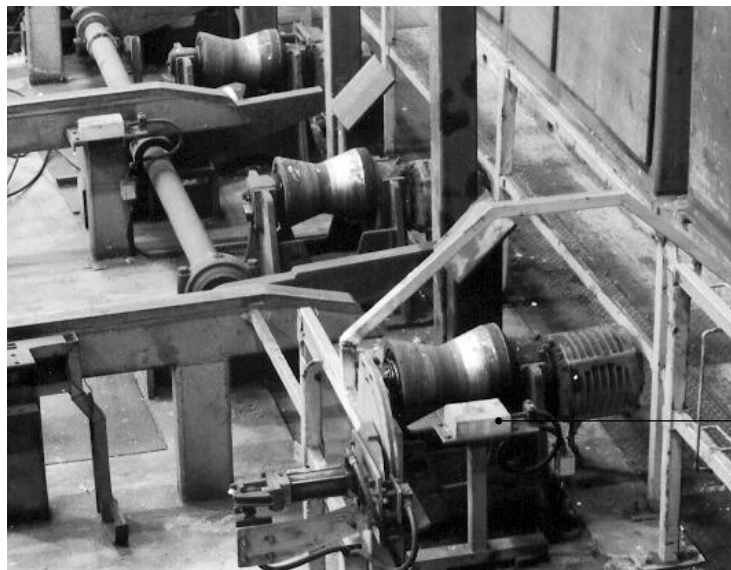
Inductive proximity switches prove to be successful even under difficult conditions in permanent operation. Here you see e. g. application for monitoring roller path occupation or pipe stop in the adjustage of a mendrel mill.



Monitoring of roller path occupation after pipe preservation independent from contamination.

Inductive proximity switch with starting protection in reversing operation.

Pipe detection for controlling the roller path and monitoring of occupation of the high support of the Pilger train.



Factory photos: Mannesmannröhren-Werke

Short circuit protected proximity switch for
10 - 55 V DC with water cooling housing.

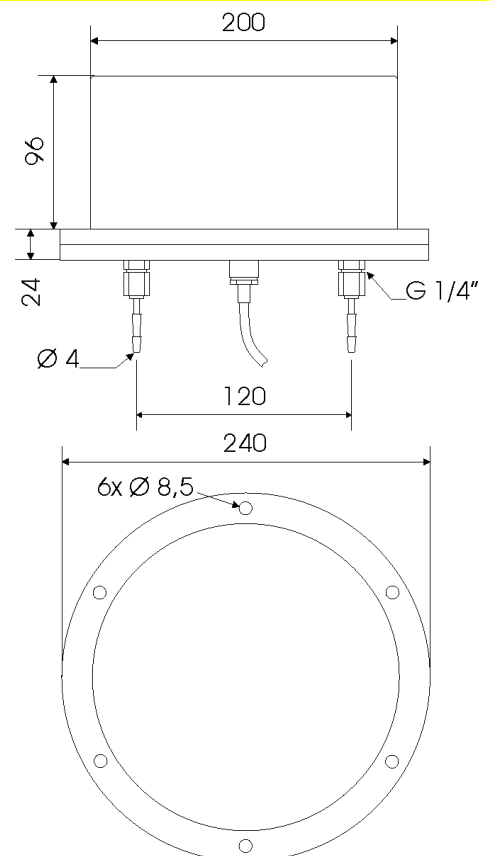
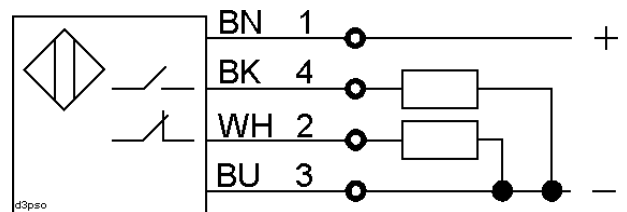
4-wire connection with PNP normally open
and normally close output.

*with
cooling
jacket*

Technical Data

Type	IKB 080.38 G
Art.-No.	2485A
Rated operating distance (S _n)	80 mm
Output	PNP n.o. + n.c.
Operating distance adjustable	no
Target steel St37, 1 mm thick	240 x 240 mm
Location at metal	non flush
Supply voltage (U _B)	10 - 55 V DC
Ripple voltage	< 15 %
Load current max.	0 - 400 mA
Short- time load current	0,8 A / 100 ms 2 A / 10 ms
Short circuit protection	yes, pulsing
No-load current (I ₀)	< 10 mA
Voltage drop (U _d)	< 2 V
Operating frequency (f)	50 Hz
Switching hysteresis (H)	1 - 15 %
Ambient temperature	-25 ... +70 °C (without cooling)
Protection class	IP 67
Connection	2 m POKT-Therm cable up to +175 °C (optional teflon cable up to +260 °C)
Function display	no
Housing material	PTFE (Teflon) up to +260 °C / brass
Water flow rate	about 1l / min

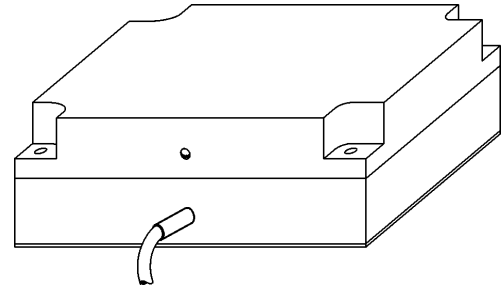
Diagram of Connections



Short circuit protected proximity switch for higher operating distances at flush mount and with IP68 protection class.

3 wire connection with PNP normally open output.

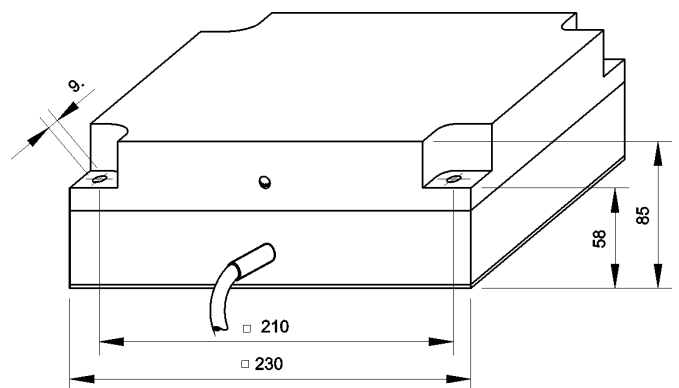
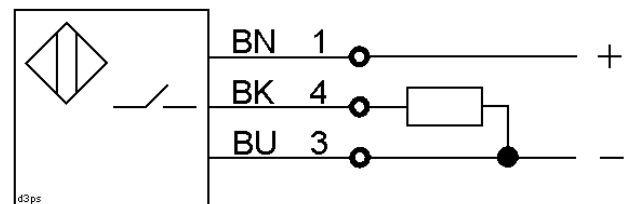
IP68



Technical Data

Type	IKC 100.33 G
Art.-No.	2447F
Rated operating distance (Sn)	100 mm
Output	PNP normally open
Operating distance adjustable	no
Target steel St37, 1mm thick	300 x 300 mm
Location at metal	flush
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
Voltage drop (Ud)	1,5 V / 50 mA
No-load current (I0)	< 10 mA
Operating frequency (f)	5 Hz
Switching hysteresis (H)	1 - 15 %
Ambient temperature	-25 ... +70 °C
Protection class	IP 68
Connection	2 m PUR cable
Function display	LED
Housing material	Plastic PP with alu assembly plate

Diagram of Connections

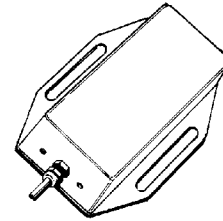


Short circuit protected proximity switch with 4-wire connection.

PNP normally open / normally close output and Proxi-Teach function.

The sensor recognises the existing installation conditions after the key is pressed, and adjusts the operating distance optimally.

Teach - In
Funktion



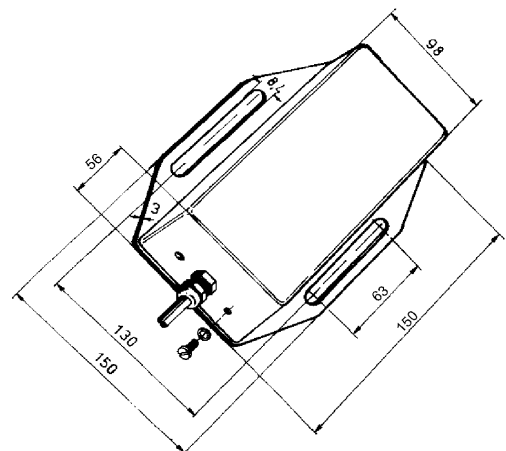
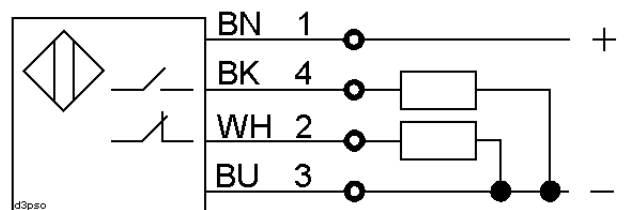
Technical Data

Type	IKQ 100T.38 MG
Art.-No.	2065R
Rated operating distance (S _n)	100 mm
Output	PNP n. o. + n. c.
Operating distance adjustable	Teach In*
Target steel St37, 1mm thick	150 x 150 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)	< 2 V
No-load current (I ₀)	< 10 mA
Switching frequency (f)	50 Hz
Switching hysteresis (H)	1 - 15 %
Ambient temperature	-25 ... +70 °C
Protection class	IP 67**
Connection	2 m cable
Function display	LED
Housing material	Plastic PBT with alu assembly plate

*The teach-in function enables usage under non-standard conditions such as, for example, partly flush installation. For further setting information see PIA002

**The protection class is complied with when the protection screw for the adjusting device is screwed in.

Diagram of Connections

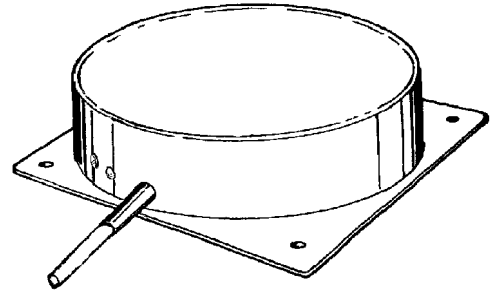


Short circuit protected proximity switch with 4-wire connection.

PNP normally open / normally close output and Proxi-Teach function.

The sensor recognises the existing installation conditions after the key is pressed, and adjusts the operating distance optimally.

Teach - In
Funktion



Technical Data

Type	IKOA 140T.38 G
Art.-No.	2450E
Rated operating distance (S _n)	140 mm
Output	PNP n. o. + n. c.
Operating distance adjustable	Teach In*
Target steel St37, 1mm thick	420 x 420 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)	< 2 V
No-load current (I ₀)	< 10 mA
Switching frequency (f)	25 Hz
Switching hysteresis (H)	1 - 15 %
Ambient temperature	-25 ... +70 °C
Protection class	IP 67**
Connection	2 m cable
Function display	LED
Housing material	Plastic PBT with alu assembly plate

*The teach-in function enables usage under non-standard conditions such as, for example, partly flush installation. For further setting information see PIA002

**The protection class is complied with when the protection screw for the adjusting device is screwed in.

Diagram of Connections

