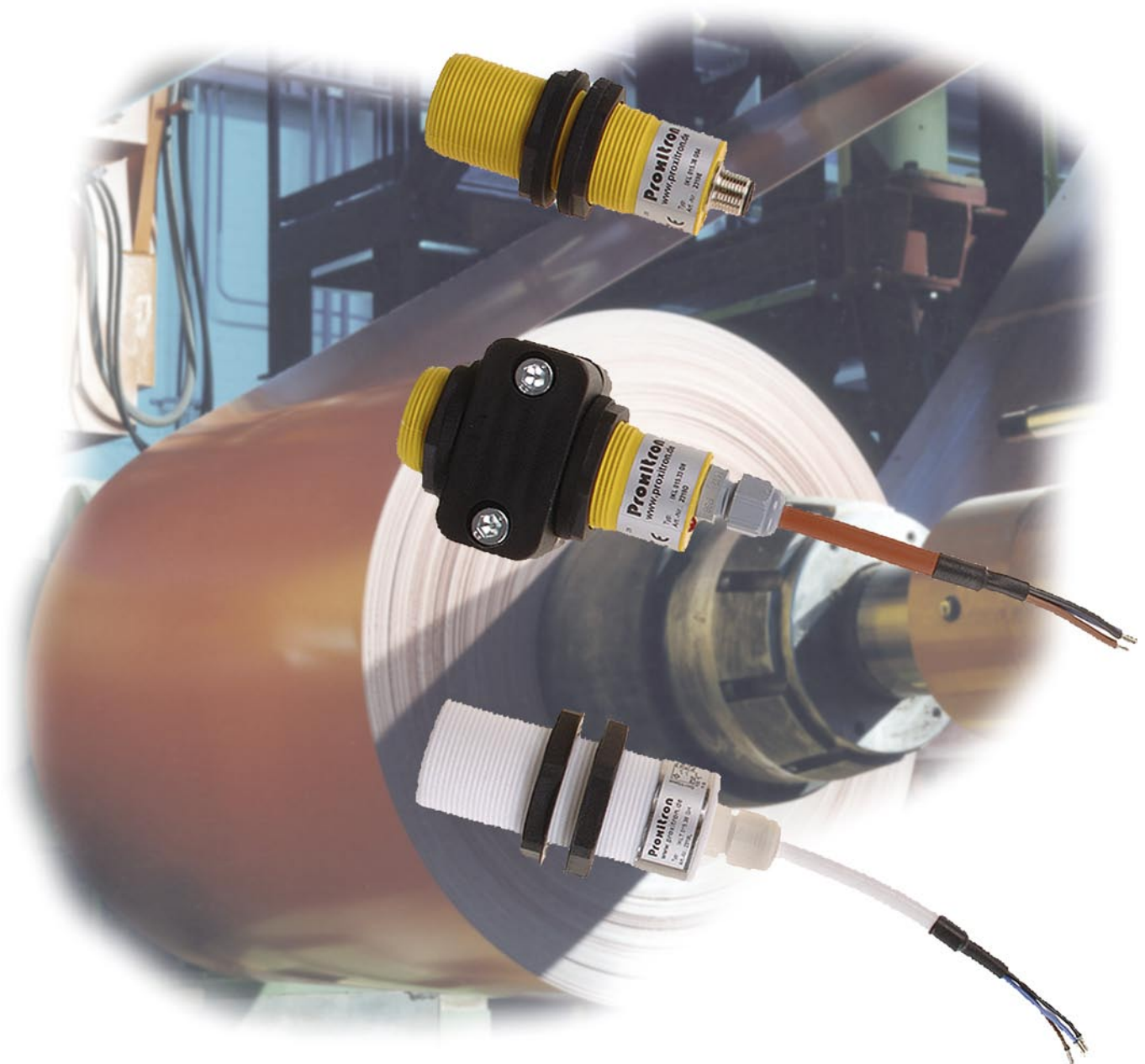


## Inductive Sensors M30



**Sensors in plastic housing IKL  
for steel and rolling mills**

Binary  
Analog  
Timer function  
Temperature-  
resistant

Main feature and sensing distance	Type	Art. no. Example: -5 = 5 m cable	Design	Number of connecting wires	Accessories/ Comment	
<b>Standard</b> -25° C to +80° C PVC cable	15 mm non-flush (nf)	IKL 015.38 G	2319B	PNP normally open + normally closed	4	
		IKL 015.38 G	2319B-5	PNP normally open + normally closed	4	
		IKL 015.33 G	2319A	PNP normally open	3	
		IKL 015.33 G	2319A-5	PNP normally open	3	
		IKL 015.33 G	2319A-10	PNP normally open	3	
		IKL 015.33 G	2319A-15	PNP normally open	3	
		IKL 015.32 G	2301B	PNP normally closed	3	
		IKL 015.31 G	2319N	NPN normally open	3	
		IKL 015.30 G	2319M	NPN normally closed	3	
		IKL 015.05 G	2377B	AC/DC normally open	2	
		IKL 015.05 G	2377B-5	AC/DC normally open	2	
		IKL 015.05 G	2377B-10	AC/DC normally open	2	
		IKL 015.04 G	2376C	AC/DC normally closed	2	
	10 mm flush (f)	IKL 010.33 G	2434B	PNP normally open	3	
		IKL 010.05 G	2434C	AC/DC normally open	2	
	IKL 010.05 G	2434C-5	AC/DC normally open	2		
<b>M12 plug connector</b> -25 to +80° C					<b>Connecting cable</b>	
15 mm (nf)	IKL 015.38 GS4	2319E	PNP normally open + normally closed	4	9841D (2m) or 9841E (5m) or 9841S (10m) or 9841T (5m, angle)	
10 mm (f)	IKL 010.38 GS4	2434Q	PNP normally open + normally closed	4		
15 mm (nf) 10 mm (f)	IKL 015.05 GS27 IKL 010.05 GS27	2377D 2434E	AC/DC normally open AC/DC normally open	2 2		
<b>+100° C</b>	15 mm (nf)	IKL 015.33 GHS4	2319 G	PNP normally open	3	9841T
<b>Up to +100 °C</b> Silicone cable (-50 ... +180° C)	15 mm (nf)	IKL 015.33 GH	2319D	PNP normally open	3	
		IKL 015.33 GH	2319D-5	PNP normally open	3	
		IKL 015.33 GH	2319D-10	PNP normally open	3	
		IKL 015.33 GH	2319D-15	PNP normally open	3	
		IKL 015.33 GH	2319D-20	PNP normally open	3	
		IKL 015.32 GH	2301C	PNP normally closed	3	
		IKL 015.32 GH	2301C-15	PNP normally closed	3	
		IKL 015.32 GH	2301C-20	PNP normally closed	3	
		IKL 015.31 GH	2319H	NPN normally open	3	
		IKL 015.31 GH	2319H-20	NPN normally open	3	
		IKL 015.30 GH	2319I	NPN normally closed	3	
		IKL 015.30 GH	2319I-20	NPN normally closed	3	
		IKL 015.05 GH	2377C	AC/DC normally open	2	
		IKL 015.05 GH	2377C-10	AC/DC normally open	2	
		IKL 015.04 GH	2376E	AC/DC normally closed	2	
	IKL 015.04 GH	2376E-15	AC/DC normally closed	2		

# Inductive Sensors IKL Plastic Housing M30

Main feature and sensing distance	Type	Art. no. Example: -5 = 5 m cable	Design	Number of connecting wires	Accessories/ Comment
Up to +100° C Silicone cable (-50 ... +180 °C)	10 mm (f) IKL 010.33 GH	2434H	PNP normally open	3	Anaconda
	IKL 010.33 GH	2434H-5	PNP normally open	3	
	IKL 010.33 GH	2434H-20	PNP normally open	3	
	IKL 010.32 GH	2434I	PNP normally closed	3	
	IKL 010.32 GH	2434I-5	PNP normally closed	3	
	IKL 010.32 GH	2434I-20	PNP normally closed	3	
	IKL 010.31 GH	2434G	NPN normally open	3	
	IKL 010.31 GH	2434G-10	NPN normally open	3	
	IKL 010.31 GH	2434G-20	NPN normally open	3	
	IKL 010.30 GH	2434K	NPN normally closed	3	
	IKL 010.30 GH	2434K-20	NPN normally closed	3	
	IKL 010.05GH	2434D	AC/DC normally open	2	
	IKL 010.05GH	2434D-5	AC/DC normally open	2	
	IKL 010.05GH	2434D-20	AC/DC normally open	2	
IKL 010.05 GHM	2434J-5	AC/DC normally open	2		
Bis 100 °C PVC cable -60 ... +150 °C	15mm (nf) IKL 015.05 GH	2377E-5	AC/DC normally open	2	Cable mechanically, thermally and chemically extremely robust.
Up to +100° C Teflon housing M32 Teflon cable (-90 to +180°C)	15 mm (nf) IKLT 015.38 GH	2319L	PNP normally open + normally closed	4	Resistant to emulsions in cold rolling mills.
	IKLT 015.38 GH	2319L-10	PNP normally open + normally closed	4	
Upto+100°C 10mm(f) Silicone cable	IKL 010.04 GH1	2434O	AC/DC normally closed	2	
Analog Sensor  0-15mm (nf)  0-10mm (f)	MKL 015.19 S4	2482A	Output 0-10 V	3	Measured value output via RS485
	MKL 015.190 S4	2482B	Output 0-20 mA	3	
	MKL 015.194 S4	2482C	Output 4-20 mA	3	
	MKL 010.19 S4	2482E	Output 0-10 V	3	
	MKL 010.190 S4	2482F	Output 0-20 mA	3	
	MKL 010.194 S4	2482D	Output 4-20 mA	3	
Speed monitor Programmable with teach function or Proxi-Box	IDL 015.28 G	2473A	2 PNP normally open (distance + speed)	4	5-6000 r.p.m.
	IDLA 015.28 G	2473B-3	2 speeds (rated pulse range)	4	
	IDL 015.05 G	2474A	AC/DC normally open	2	1-3000 r.p.m.
Timer for sequential control	IKL 015.04 Z	2376B-5	AC/DC normally closed	2	Individual programming enables easy function controls
Up to +175 °C	Ask for more information about Proxitron high-temperature sensors up to +175° C!				

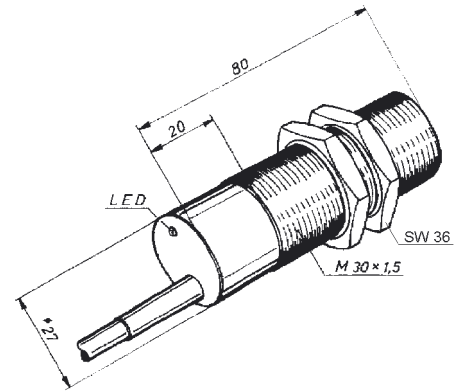
Delivery including 2 mounting screws M30, 8 mm thick; SW36; material PA (HL1, order no. 9848 A).

# Inductive Sensors

## IKL Plastic Housing M30

Sensors in a plastic housing are used for many different purposes and often in applications where presumably stainless steel housings are used. When high reliability is required despite fast change of temperature in aggressive surroundings, our plastic design proves its superiority.

The plastic sealing compound combines rigidly with the plastic housing and the cable. Further constructive measures also prevent diffusion of aggressive emulsions into the cold rolling process. And if necessary this sensor can be replaced easily because it does not combine insolubly with its metallic surroundings. Proxitron sensors in a metal housing can be found in further product catalogues.

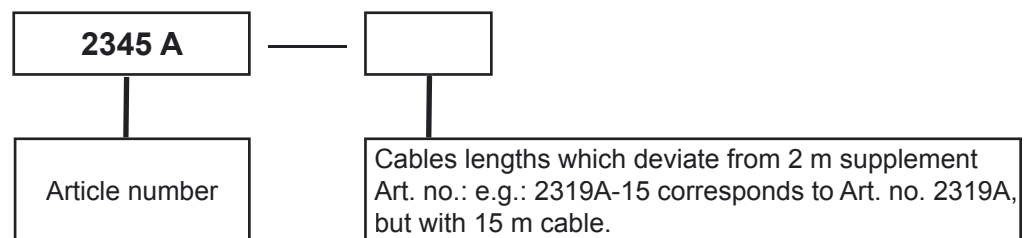


### Type key

IKL	015	.	38	GH
Inductive proximity switch model L	<b>015</b> Sensing distance 15 mm, non-flush installation (nf)		38 - PNP normally open + normally closed 33 - PNP normally open 32 - PNP normally closed 31 - NPN normally open 30 - NPN normally closed 05 - AC/DC normally open 04 - AC/DC normally closed	G – Short-circuit proof H – High temperature range (100°C/120°C/175°C) S4 – M12 plug connector DC S27 – M12 plug connector AC M – Anaconda fitting Z – Special design
<b>MKL</b>	<b>010</b>		19 - Output 0-10 V 190 - Output 0-20 mA 194 - Output 4-20 mA	
Inductive analog sensor model L	Sensing distance 10 mm, flush installation (f)			

	3 wire for PNP/NPN normally open + normally closed	2 wire for normally open/normally closed
Supply voltage	10 - 55 V DC	20 - 260 V AC/DC

### Article number



### Product range

#### 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

#### Further Sensors

- WG 100 Capacitive sensors
- WG 510 Piros light barriers
- WG 610 Piros infrared sensors
- WG 620 Piros for fibre optic cables
- WG 630 Piros infrared pyrometers
- WG 800 Flow sensors, air
- WG 830 Flow sensors, liquid

# Proxitron

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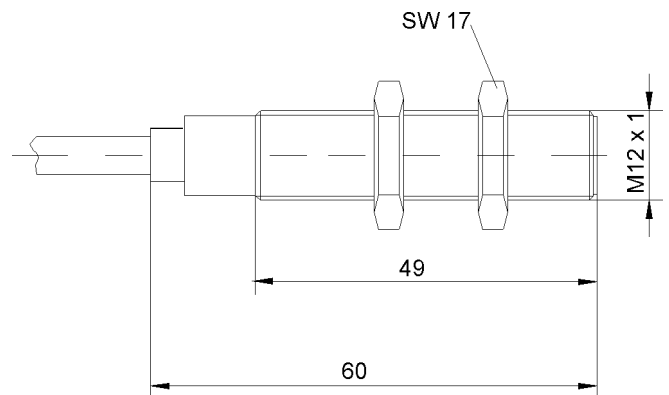
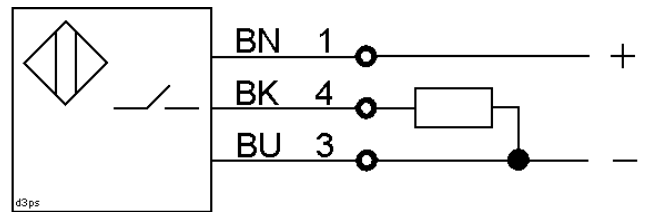
Short circuit protected proximity switch with increased temperature range and M12 metal housing.

upto +150 °C

### Technical Data

<b>Type</b>	<b>IKZ 122.23 GH</b>
Art.-No.	2465A
Rated operating distance (Sn)	3 mm
Operating distance adjustable	no
Output	PNP n. o.
Target steel St37, 1 mm thick	12 x 12 mm
Location at metal	flush
Supply voltage (UB)	10 - 30 V DC
Ripple voltage	< 15 %
Load current max.	120 mA / +100 °C 70 mA / +150 °C
Short circuit protection	yes
Voltage drop (Ud)	2 V
Operating frequency (f)	200 Hz
Switching hysteresis (H)	max. 15 %
Ambient temperature	-25 ... +150 °C
Protection class	IP 67
Connection	2 m silicone cable
Function display	no
Housing material	stainless steel

### Diagram of Connections

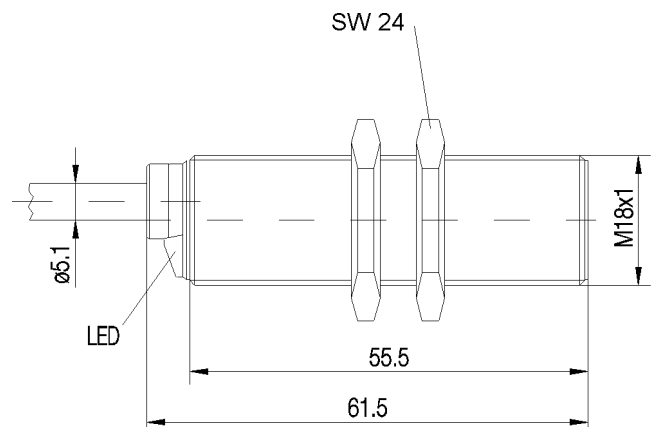
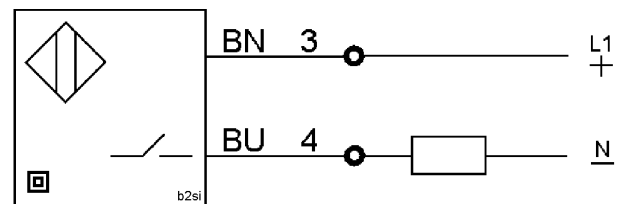


Short circuit protected proximity switch with M18 brass housing and AC/DC 2-wire technology.

## Technical Data

<b>Type</b>	<b>IKZ 182.05 G</b>
Art.-No.	2229F
Rated operating distance (Sn)	5 mm
Output	normally open
Operating distance adjustable	no
Target steel St37, 1 mm thick	18 x 18 mm
Location at metal	flush
Supply voltage (UB)	20 - 250 V AC/DC
Load current max.	5 - 250 mA
Short- time load current	2 A / 20 ms
Short circuit protection	yes
Residual current (Ir)	1,7 mA / 110 V AC
Voltage drop (Ud)	≤ 10,5 V
Operating frequency (f)	250 Hz
Switching hysteresis (H)	1 - 15 %
Ambient temperature	-25 ... +70 °C
Protection class	IP 67
Connection	3 m cable
Function display	LED
Housing material	Brass, nickel plated

## Diagram of Connections



Proximity switch with M18 metal-housing for lower operating distances.

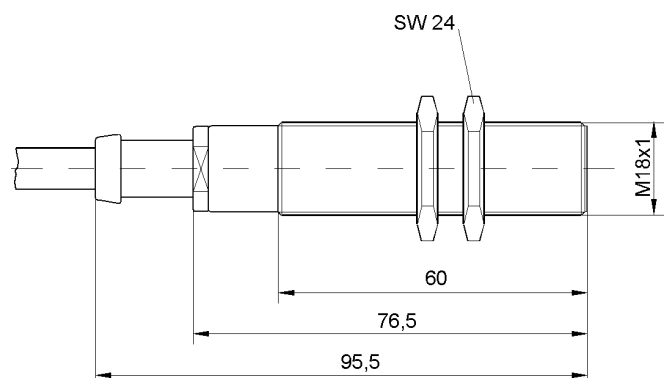
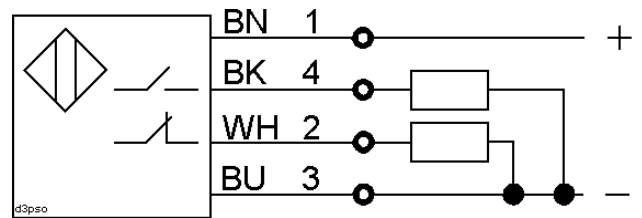
upto +120 °C

The Sensor is suitable for higher ambient temperature by the increased temperature range.

## Technical Data

<b>Type</b>	<b>IKZ 182.28 H</b>
<b>Connection</b>	<b>Art.-No.</b>
5 m silicone cable	<b>2229H-5</b>
Rated operating distance (Sn)	5 mm
Output	PNP n. o. + n. c.
Target steel St37, 1 mm thick	18 x 18 mm
Location at metal	flush
Supply voltage (UB)	10 - 30 V DC
Ripple voltage	< 15 %
Load current max.	0 - 400 mA <70 °C 0 - 150 mA >70 °C
Short circuit protection	no
No load current (I <sub>0</sub> )	≤ 25 mA
Voltage drop (U <sub>d</sub> )	≤ 1,5 V
Operating frequency (f)	200 Hz
Switching hysteresis (H)	max. 15 %
Ambient temperature	-25 ... +120 °C
Protection class	IP 67 on active surface
Function display	no
Housing material	brass, nickel plated

## Diagram of Connections



upto + 175 °C

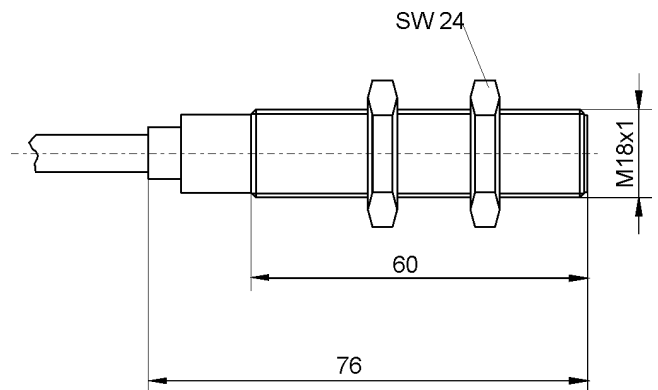
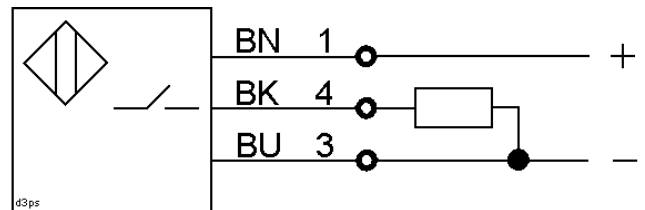
Short circuit protected proximity switch with M18 metal-housing for lower operating distances.

The Sensor is suitable for higher ambient temperature by the increased temperature range.

## Technical Data

<b>Type</b>	<b>IKZ 182.23 GH</b>
Art.-No.	2229D
Rated operating distance (S <sub>n</sub> )	5 mm
Output	PNP n. o.
Target steel St37, 1 mm thick	18 x 18 mm
Location at metal	flush mount
Supply voltage (U <sub>B</sub> )	10 - 30 V DC
Ripple voltage	< 10 %
Load current max.	0 - 150 mA
Short circuit protection	yes, pulsing
Voltage drop (U <sub>d</sub> )	2 V
Operating frequency (f)	400 Hz
Switching hysteresis (H)	max. 15 %
Ambient temperature	-40 ... +175 °C
Protection class	IP 67
Connection	2m silicone cable
Function display	no
Housing material	stainless steel

## Diagram of Connections

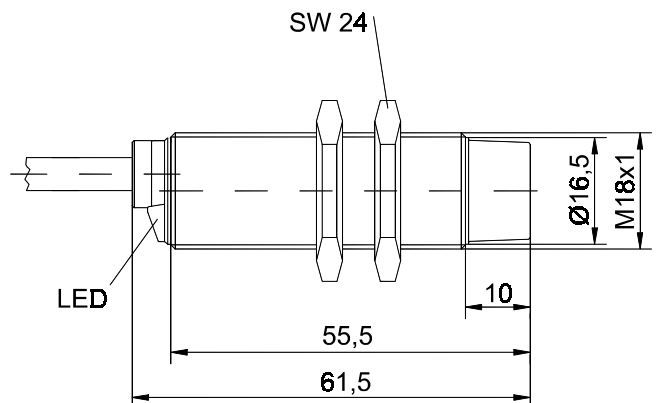
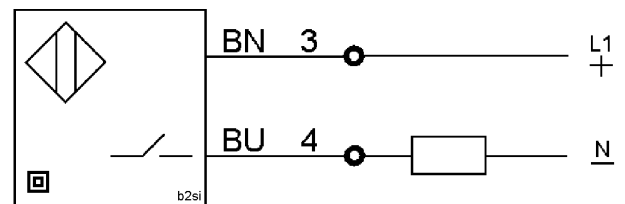


Short circuit protected proximity switch with M18 brass housing and AC/DC 2-wire technology.

## Technical Data

<b>Type</b>	<b>IKZ 181.05 G</b>
Art.-No.	2229C
Rated operating distance (Sn)	8 mm
Output	normally open
Operating distance adjustable	no
Target steel St37, 1 mm thick	24 x 24 mm
Location at metal	non flush
Supply voltage (UB)	20 - 250 V AC/DC
Load current max.	5 - 250 mA
Short- time load current	2 A / 20 ms
Short circuit protection	yes
Residual current (Ir)	1,7 mA / 110 V AC
Voltage drop (Ud)	≤ 10,5 V
Operating frequency (f)	250 Hz
Switching hysteresis (H)	1 - 15 %
Ambient temperature	-25 ... +70 °C
Protection class	IP 67
Connection	3 m cable
Function display	LED
Housing material	Brass, nickel plated

## Diagram of Connections



Proximity switch with M30 metal-housing for lower operating distances.

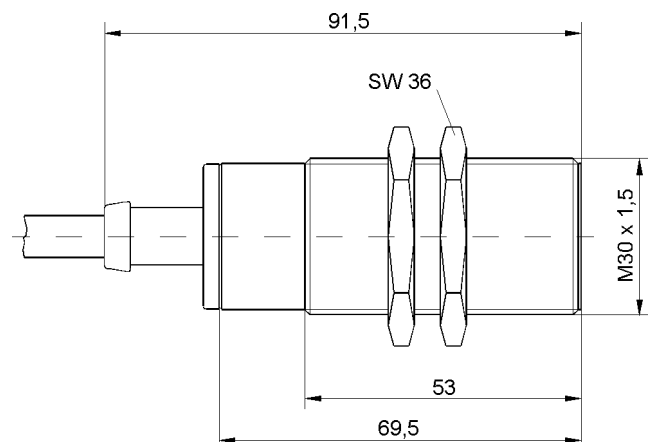
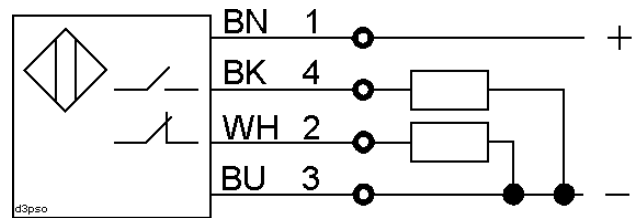
upto +120 °C

The Sensor is suitable for higher ambient temperature by the increased temperature range.

## Technical Data

<b>Type</b>	<b>IKZ 302.28 H</b>
<b>Connection</b>	<b>Art.-No.</b>
5 m silicone cable	<b>23740-5</b>
Rated operating distance (Sn)	10 mm
Output	PNP n. o. + n. c.
Target steel St37, 1 mm thick	30 x 30 mm
Location at metal	flush
Supply voltage (UB)	10 - 30 V DC
Ripple voltage	< 15 %
Load current max.	0 - 400 mA <70 °C 0 - 150 mA >70 °C
Short circuit protection	no
No load current (I <sub>0</sub> )	≤ 15 mA
Voltage drop (U <sub>d</sub> )	≤ 1,5 V
Operating frequency (f)	300 Hz
Switching hysteresis (H)	max. 15 %
Ambient temperature	-25 ... +120 °C
Protection class	IP 67 on active surface
Function display	no
Housing material	brass, nickel plated

## Diagram of Connections



upto + 175 °C

Short circuit protected proximity switch with M30 metal-housing for lower operating distances.

The Sensor is suitable for higher ambient temperature by the increased temperature range.

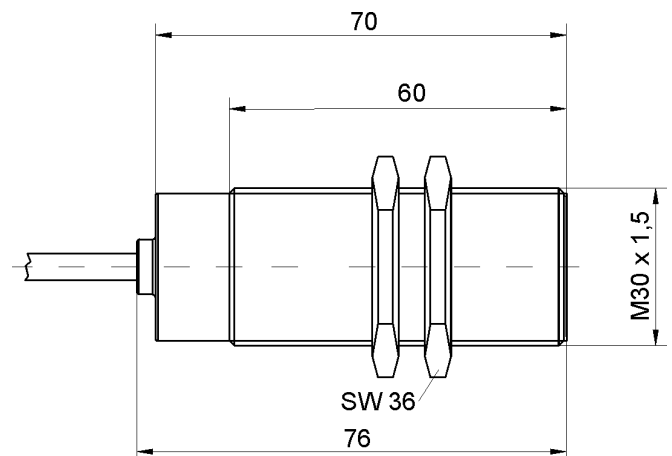
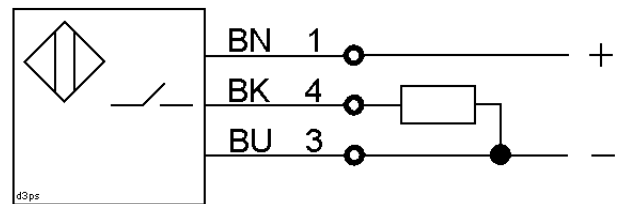
## Technical Data

<b>Type</b>	<b>IKZ 302.23 GH</b>
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Connection	Art.-No.
2 m silicone cable	<b>2374G</b>
5 m silicone cable	<b>2374G-3</b>
10 m silicone cable	<b>2374G-10</b>
15 m silicone cable	<b>2374G-15</b>

Rated operating distance (Sn)	10 mm
Output	PNP n. o.
Operating distance adjustable	no
Target steel St37, 1 mm thick	30 x 30 mm
Location at metal	shielded
Supply voltage (UB)	10 - 30 V DC
Ripple voltage	< 15 %
Load current max.	0 - 150 mA
Short circuit protection	yes, pulsing
Voltage drop (Ud)	2 V
Operating frequency (f)	200 Hz
Switching hysteresis (H)	max. 15 %
Ambient temperature	-40 ... +175 °C
Protection class	IP 67
Function display	no
Housing material	stainless steel

## Diagram of Connections



Short circuit protected proximity switch with M32 teflon housing and 4 wire connection PNP normally closed and normally open.

upto +100 °C

IP68

The Sensor is suitable for harsh ambient conditions by the increased temperature range and IP68 protection class.

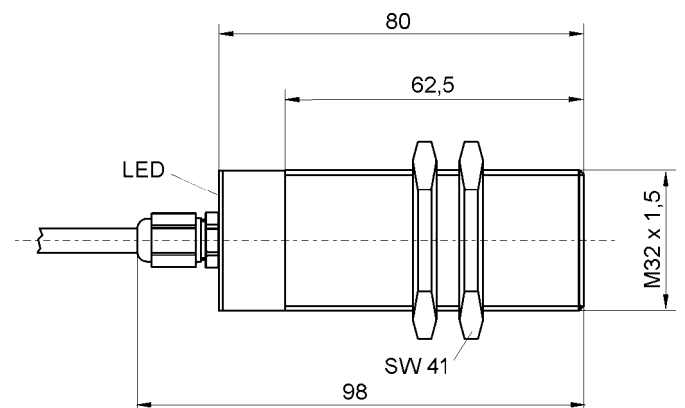
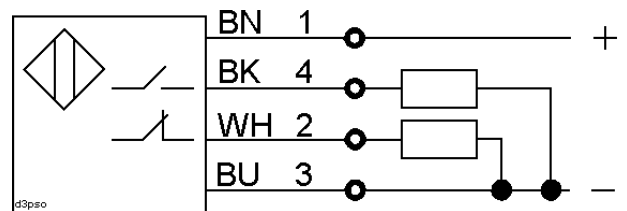
## Technical Data

<b>Type</b>	<b>IKLT 015.38 GH</b>
-------------	-----------------------

<b>Connection</b>	<b>Art.-No.</b>
2 m teflon cable (PTFE)	<b>2319L</b>
10 m teflon cable (PTFE)	<b>2319L-10</b>

Rated operating distance (Sn)	15 mm
Output	PNP n. o.+ n. c.
Operating distance adjustable	no
Target steel St37, 1 mm thick	45 x 45 mm
Location at metal	non flush
Supply voltage (UB)	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 (Io)	< 10 mA
Voltage drop (Ud)	< 2 V
Operating frequency (f)	200 Hz
Switching hysteresis (H)	max. 15 %
Ambient temperature	-20 ... +100 °C
Protection class	IP 68
Function display	LED inside
Housing material	teflon PTFE

## Diagram of Connections



Short circuit protected proximity switch for 20–250 V AC/DC with higher temperature range.

upto +120 °C

**IP68**

### Technical Data

<b>Type</b>	<b>IKH 019.05 GH</b>
Art.-No.	2004A
Rated operating distance (Sn)	19 mm
Output	normally open
Target steel St37, 1 mm thick	57 x 57 mm
Location at metal	non flush
Supply voltage (UB)	20 - 260 V AC/DC
Power frequency	40 - 440 Hz
Ripple voltage	max. 15 %
Load current max.	5 - 350 mA
Short- time load current	0,8 A / 100 ms 2 A / 10 ms
Short circuit protection	yes, pulsing
Residual current (Ir)	1,7 mA / 260 V AC 1,0 mA / 24 V DC
Voltage drop (Ud)	9 V
Operating frequency (f) AC/DC	25 Hz / 250 Hz
Switching hysteresis (H)	1 - 15 %
Ambient temperature	-25 ... +120 °C
Protection class	IP 68
Connection	2m silicone cable
Housing material	plastic PTFE

### Diagram of Connections

