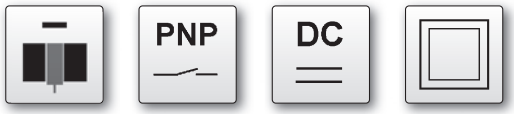
norm sensing ranges, increased sensing ranges 2600

design	**5 x 5 x 25mm to 12 x 12 x 65mm**	
flush	sensing range	**0.8mm** **1.5mm** **2mm** **4mm**
semi-flush	sensing range	**3mm**

- ✓ **short response time because of high sampling frequency**
- ✓ **status display by LED**
- ✓ **robust metal housing**
- ✓ **miniature design with integrated amplifier**
- ✓ **connection with cable or M8-connector**

mounting flush or semi-flush
different sensing ranges



description

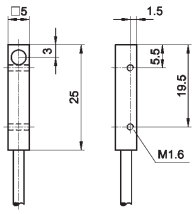
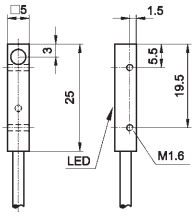
The electronics relating to these inductive sensors are cast into the square shaped metal housing and as such, is protected from vibrations of any kind.
Despite its very small dimensions (5x5x25mm), sensor **IBQ50174** has a plug connector which is easy to handle. This is all possible, as an M8-connector is directly connected via a short (150mm) line.
Sensors with article numbers **IB09...** (8x8mm) are available in different versions with regard to sensing distance and length of housing.
With 4mm, sensors with article numbers **IB13...** (12x12mm) also offer an increased sensing range.
For realizing the maximum sensing range, care should be taken in relation to the size and characteristics of the object to be detected (norm target and/or flat surface).
In the case of inductive proximity switches, a correction factor is stated which evaluates the reduction of the sensing range in relation to the different materials that the object is made from. This factor depends on the type, characteristics (internal structure), size and geometry of the material that the object to be detected is made from. The stated sensing range value relates to St37 (factor 1 steel). In order to assess the approximate sensing range on materials which differ from this, the value has to be multiplied by the appropriate correction factor.
In order to ensure that the device runs safely, it is imperative that the installation requirements on the last page are followed.
Examples for the areas of application in which these inductive proximity switches are used include among others: machine engineering/systems engineering, automotive industry, storage and conveyor technology, technology for the packaging industry, technology for the printing and paper industries, chemical engineering and process engineering and many more.

application examples

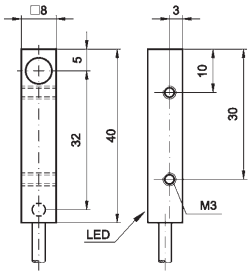
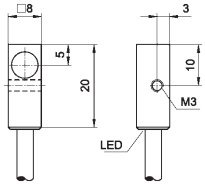
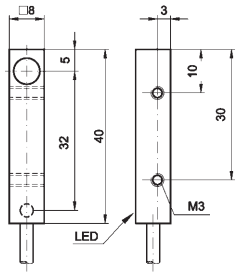
- checking the die cutting of different sized metal parts using different sensing ranges
- integration, even in machine parts with very limited space
- detection of metal objects in abrasive media using a protective teflon wall
- detection of objects through the walls of non-metallic containers and tubes

inductive sensors

2600 norm sensing ranges, increased sensing ranges

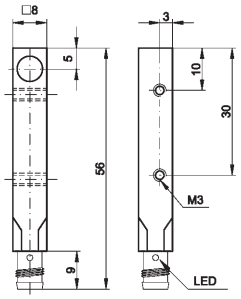
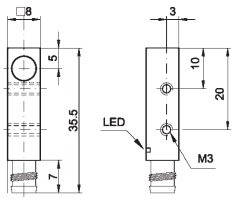
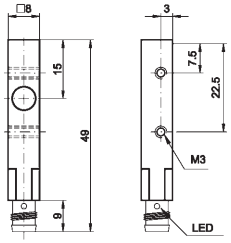
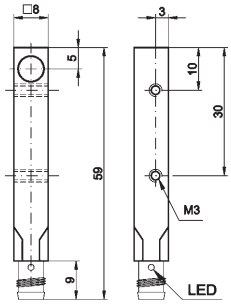
article-no.	**IBQ50104**	**IBQ50174**
sensing range	**0.8mm**	**0.8mm**
design	**5x5x25mm**	**5x5x25mm**
connection	**2m PUR-cable**	**M8-cable connector**
		
		M8-connector with 150mm PUR-line
TECHNICAL DATA		
sensing range (sn)	0.8mm	0.8mm
mounting	flush	flush
output signal	pnp, no	pnp, no
operating voltage	10 ... 30V DC	10 ... 30V DC
current consumption (w/o load)	≤ 10mA	≤ 10mA
output current (max. load)	200mA	200mA
voltage drop (max. load)	2.0V DC	2.0V DC
hysteresis (s real)	5 ... 15% of sn	< 10% of sr
sampling frequency	1kHz	5kHz
status display	-	LED yellow
short-circuit protection	+	+
reverse polarity protection	+	+
design	5x5x25mm	5x5x25mm
housing material	chrome-plated brass	chrome-plated brass
operating temperature	-25 ... +70°C	-25 ... +70°C
system of protection (EN 60529)	IP67	IP67
connection	2m PUR-cable, 3-wire	M8-PUR-cable connector, 3-pin
connection accessories	-	e.g. **VK200071**, 2m
mounting accessories	-	-

norm sensing ranges, increased sensing ranges 2600

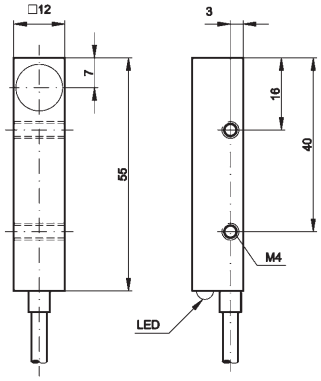
article-no.	IB090100	IB090104	IB090106
sensing range	1.5mm	2mm	3mm
design	8x8x40mm	8x8x20mm	8x8x40mm
connection	2m PVC-cable	2m PVC-cable	2m PVC-cable
			
		short design	enlarged sensing range
TECHNICAL DATA			
sensing range (sn)	1.5mm	2mm	3mm
mounting	flush	flush	semi-flush
output signal	pnp, no	pnp, no	pnp, no
operating voltage	10 ... 30V DC	10 ... 30V DC	10 ... 30V DC
current consumption (w/o load)	≤ 10mA	≤ 12mA	≤ 10mA
output current (max. load)	200mA	200mA	200mA
voltage drop (max. load)	2.0V DC	2.0V DC	2.0V DC
hysteresis (s real)	< 5% of sr	3 ... 20% of sr	< 10% of sr
sampling frequency	5kHz	5kHz	1kHz
status display	LED yellow	LED red	LED yellow
short-circuit protection	+	+	+
reverse polarity protection	+	+	+
design	8x8x40mm	8x8x20mm	8x8x40mm
housing material	nickel-plated brass	nickel-plated brass	chrome-plated brass
operating temperature	-25 ... +70°C	-25 ... +75°C	-25 ... +70°C
system of protection (EN 60529)	IP67	IP67	IP67
connection	2m PVC-cable, 3-wire	2m PVC-cable, 3-wire	2m PVC-cable, 3-wire
connection accessories	-	-	-
mounting accessories	-	-	-

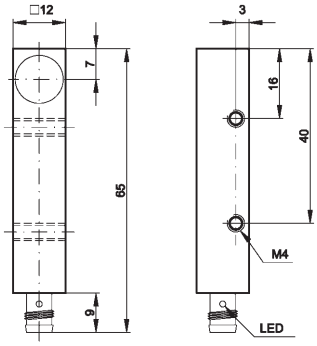
inductive sensors

2600 norm sensing ranges, increased sensing ranges

article-no.	IB090170	IB090174	IB090175	IB090176
sensing range	1.5mm	2mm	2mm	3mm
design	8x8x56mm	8x8x35.5mm	8x8x49mm	8x8x59mm
connection	M8-connector	M8-connector	M8-connector	M8-connector
			 active zone: central	 enlarged sensing range
TECHNICAL DATA				
sensing range (sn)	1.5mm	2mm	2mm	3mm
mounting	flush	flush	flush	semi-flush
output signal	pnp, no	pnp, no	pnp, no	pnp, no
operating voltage	10 ... 30V DC	10 ... 30V DC	10 ... 30V DC	10 ... 30V DC
current consumption (w/o load)	≤ 15mA	≤ 12mA	≤ 15mA	≤ 10mA
output current (max. load)	200mA	200mA	200mA	200mA
voltage drop (max. load)	2.0V DC	2.0V DC	2.0V DC	2.0V DC
hysteresis (s real)	5 ... 15% of sn	3 ... 20% of sr	3 ... 20% of sr	< 10% of sr
sampling frequency	1kHz	5kHz	5kHz	1kHz
status display	LED yellow	LED red	LED red	LED yellow
short-circuit protection	+	+	+	+
reverse polarity protection	+	+	+	+
design	8x8x56mm	8x8x35.5mm	8x8x49mm	8x8x59mm
housing material	nickel-plated brass	nickel-plated brass	nickel-plated brass	chrome-plated brass
operating temperature	-25 ... +75°C	-25 ... +75°C	-25 ... +75°C	-25 ... +70°C
system of protection (EN 60529)	IP67	IP68	IP69	IP70
connection	M8-connector, 3-pin	M8-connector, 3-pin	M8-connector, 3-pin	M8-connector, 3-pin
connection accessories	e.g. **VK200071**, 2m	e.g. **VK200071**, 2m	e.g. **VK200071**, 2m	e.g. **VK200071**, 2m
mounting accessories	-	-	-	-

article-no.	IB130100	IB130170
sensing range	4mm	4mm
design	12x12x55mm	12x12x65mm
connection	2m PVC-cable	M8-connector





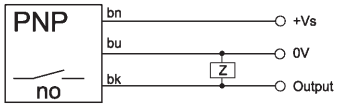
TECHNICAL DATA

sensing range (sn)	4mm	4mm
mounting	flush	flush
output signal	pnp, no	pnp, no
operating voltage	10 ... 60V DC	10 ... 30V DC
current consumption (w/o load)	≤ 15mA	≤ 15mA
output current (max. load)	200mA	200mA
voltage drop (max. load)	2.0V DC	2.0V DC
hysteresis (s real)	5 ... 15% of sn	5 ... 15% of sn
sampling frequency	800Hz	800Hz
status display	LED yellow	LED yellow
short-circuit protection	+	+
reverse polarity protection	+	+
design	12x12x55mm	12x12x65mm
housing material	chrome-plated brass	chrome-plated brass
operating temperature	-25 ... +70°C	-25 ... +70°C
system of protection (EN 60529)	IP67	IP67
connection	2m PVC-cable, 3-wire	M8-connector, 3-pin
connection accessories	-	e.g. **VK200071**, 2m
mounting accessories	-	-

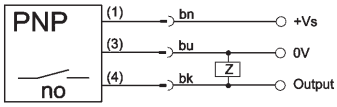
2600 norm sensing ranges, increased sensing ranges

connection

cable device



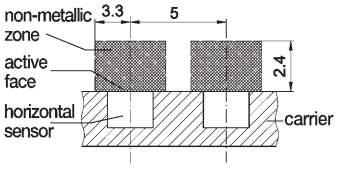
connector device



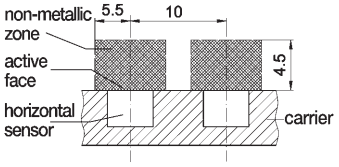
wire colors: bn = brown (1), bu = blue (3), bk = black (4)

mounting parameters

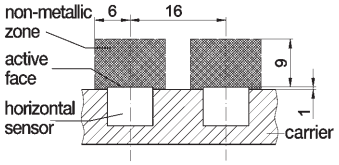
IBQ5... flush mounting



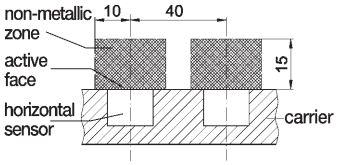
IB09... flush mounting



IB090106 and **IB090176** semi-flush mounting



IB13... flush mounting



correction factors

IBQ5...

material	factor
stainless steel (1.4301)	approx. 0.9
brass (Ms)	approx. 0.7
aluminium (Al)	approx. 0.6
copper (Cu)	approx. 0.6

IB09...

material	factor
stainless steel (1.4301)	approx. 0.8
brass (Ms)	approx. 0.6
aluminium (Al)	approx. 0.5
copper (Cu)	approx. 0.5

IB090106 and **IB090176**

material	factor
stainless steel (1.4301)	approx. 0.8
brass (Ms)	approx. 0.5
aluminium (Al)	approx. 0.4
copper (Cu)	approx. 0.3

IB13...

material	factor
stainless steel (1.4301)	approx. 0.7
brass (Ms)	approx. 0.4
aluminium (Al)	approx. 0.3
copper (Cu)	approx. 0.2

The list of articles 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.