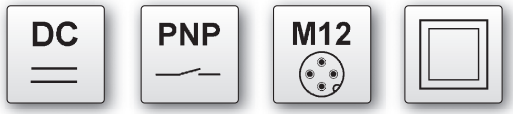
design	**35 x 20 x 60mm to 200 x 71 x 200mm**	
static / dynamic	ring-Ø	**6.1mm** **10.1mm** **15.1mm** **20.1mm** **25.1mm** **35.2mm** **51.0mm** **101.0mm**
wire break (static)	ring-Ø	**4.0mm** **6.0mm** **8.0mm**

- ✓ **high resolution**
- ✓ **insensitive to soiling**
- ✓ **adjustable pulse width**
- ✓ **adjustable sensitivity**
- ✓ **high object speed possible**
- ✓ **short response time**

functions “static” and “dynamic” as well as “wire break sensors”



description

In the case of inductive ring sensors, the active detection range is located within a ring-shaped opening. When passing this ring, all metal objects trigger a defined output signal. Pulse stretching is integrated so that it can be reliably used for control, registration, checking and other processing tasks.

ipf ring sensors are especially suited for use in machine and system engineering and are increasingly used in the fields of installation technology and feed automation.

Static ring sensors offer optimum functions for all conceivable applications, e.g. detection and jam control of small metal parts in feed hoses.

Dynamic ring sensors guarantee the secure detection of parts which are quickly moved at a minimum speed of 15cm/sec.

They have a resolution which is still higher and guarantees the detection of the smallest of parts / parts which have a low mass (e.g. springs). The high resolution also remains preserved for a long time when environmental conditions are changed, e.g. soiling which contains metal.

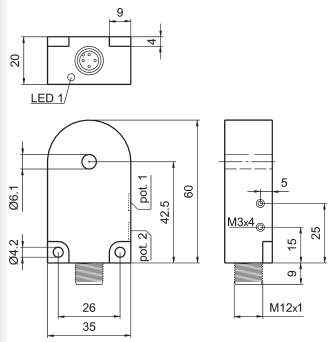
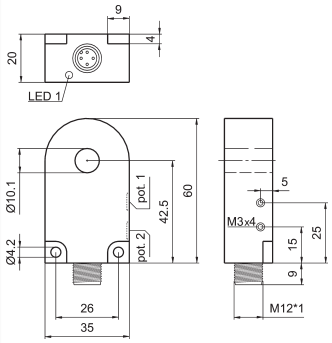
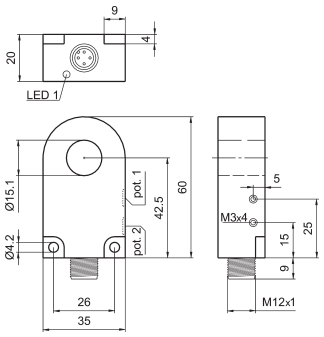
ipf wire fracture sensors are especially adjusted for fracture control of thin wires. They are characterized by their very short reaction time. Versions which have interior diameters of the ring measuring 4mm and 8mm are fitted with a ceramic element for improving resistance.

application examples

- in processing situations, secure detection of metallic foreign bodies in bulk material or foodstuffs
- in manufacturing processes, controlling the ejection of small parts partially containing metal
- the reliable selection of different part sizes in transportation or assembly lines
- secure controlling of wire breakage where wires are wound and pulled
- controlling the supply of metal parts

inductive sensors

2200 ring sensors

article-no.	**IY060121**	**IY100121**	**IY150121**
version	**static**	**static**	**static**
resolution (steel ball)	**1.0mm**	**1.5mm**	**2.0mm**
article-no.	**IY060125**	**IY100125**	**IY150125**
version	**dynamic**	**dynamic**	**dynamic**
resolution (steel ball)	**0.5mm**	**0.8mm**	**1.0mm**
			
TECHNICAL DATA			
inner ring diameter	6.1mm	10.1mm	15.1mm
sensitivity adjustment	potentiometer 1	potentiometer 1	potentiometer 1
time adjustment	10 ... 150msec (potentiometer 2)*	10 ... 150msec (potentiometer 2)*	10 ... 150msec (potentiometer 2)*
output signal	pnp, no	pnp, no	pnp, no
operating voltage	10 ... 35V DC	10 ... 35V DC	10 ... 35V DC
current consumption (w/o load)	< 10mA	< 10mA	< 10mA
output current (max. load)	200mA	200mA	200mA
voltage drop (max. load)	2.5V DC	2.5V DC	2.5V DC
response time	≤ 2msec	≤ 2msec	≤ 2msec
display (signal)	LED 1 yellow	LED 1 yellow	LED 1 yellow
display (operation)	-	-	-
parts speed (max.)	35m/sec	35m/sec	35m/sec
short-circuit protection	+	+	+
reverse polarity protection	+	+	+
design	35x20x60mm	35x20x60mm	35x20x60mm
housing material	PA	PA	PA
ring material	PETP	PETP	PETP
operating temperature	-25 ... +70°C	-25 ... +70°C	-25 ... +70°C
system of protection (EN 60529)	IP65	IP65	IP65
connection	M12-connector, 3-pin	M12-connector, 3-pin	M12-connector, 3-pin
connection accessories	e.g. **VK200021**, 2m PUR, angular	e.g. **VK200021**, 2m PUR, angular	e.g. **VK200021**, 2m PUR, angular
mounting accessories	-	-	-

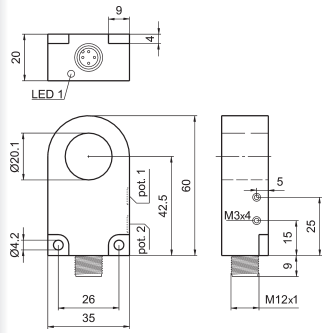
* potentiometer setting for pulse stretching:

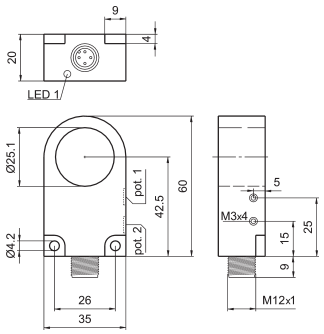
left stop position
approx. 10msec

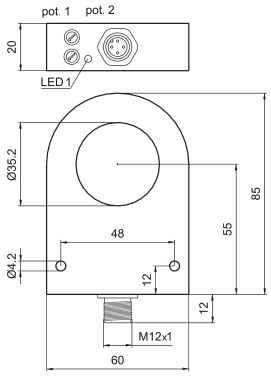
middle position
approx. 100msec

right stop position
approx. 150msec

article-no.	**IY200121**	**IY250121**	**IY350121**
version	**static**	**static**	**static**
resolution (steel ball)	**2.5mm**	**3.0mm**	**4.5mm**
article-no.	**IY200125**	**IY250125**	**IY350125**
version	**dynamic**	**dynamic**	**dynamic**
resolution (steel ball)	**1.2mm**	**1.5mm**	**2.0mm**







TECHNICAL DATA

inner ring diameter	20.1mm	25.1mm	35.2mm
sensitivity adjustment	potentiometer 1	potentiometer 1	potentiometer 1
time adjustment	10 ... 150msec (potentiometer 2)*	10 ... 150msec (potentiometer 2)*	10 ... 150msec (potentiometer 2)*
output signal	pnp, no	pnp, no	pnp, no
operating voltage	10 ... 35V DC	10 ... 35V DC	10 ... 35V DC
current consumption (w/o load)	< 10mA	< 10mA	< 10mA
output current (max. load)	200mA	200mA	200mA
voltage drop (max. load)	2.5V DC	2.5V DC	2.5V DC
response time	≤ 2msec	≤ 2msec	≤ 2msec
display (signal)	LED 1 yellow	LED 1 yellow	LED 1 yellow
display (operation)	-	-	-
parts speed (max.)	35m/sec	35m/sec	35m/sec
short-circuit protection	+	+	+
reverse polarity protection	+	+	+
design	35x20x60mm	35x20x60mm	60x20x85mm
housing material	PA	PA	PA
ring material	PETP	PETP	PETP
operating temperature	-25 ... +70°C	-25 ... +70°C	-25 ... +70°C
system of protection (EN 60529)	IP65	IP65	IP65
connection	M12-connector, 3-pin	M12-connector, 3-pin	M12-connector, 3-pin
connection accessories	e.g. **VK200021**, 2m PUR, angular	e.g. **VK200021**, 2m PUR, angular	e.g. **VK200021**, 2m PUR, angular
mounting accessories	-	-	-

* potentiometer setting for pulse stretching:

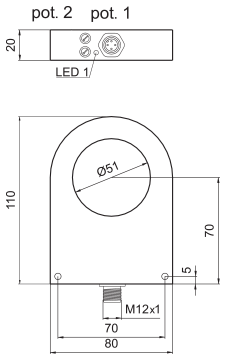
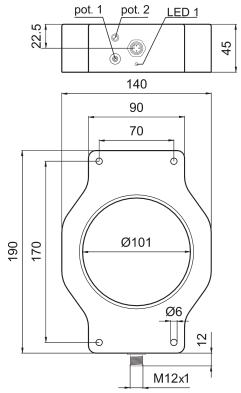
left stop position
approx. 10msec

middle position
approx. 100msec

right stop position
approx. 150msec

inductive sensors

2200 ring sensors

article-no.	**IY500121**	**IYK00121**
version	**static**	**static**
resolution (steel ball)	**6.0mm**	**10.0mm**
article-no.	**IY500125**	**IYK00125**
version	**dynamic**	**dynamic**
resolution (steel ball)	**2.5mm**	**5.0mm**
		
TECHNICAL DATA		
inner ring diameter	51.0mm	101.0mm
sensitivity adjustment	potentiometer 1	potentiometer 1
time adjustment	10 ... 150msec (potentiometer 2)*	10 ... 150msec (potentiometer 2)*
output signal	pnp, no	pnp, no
operating voltage	10 ... 35V DC	10 ... 35V DC
current consumption (w/o load)	< 10mA	< 10mA
output current (max. load)	200mA	200mA
voltage drop (max. load)	2.5V DC	2.5V DC
response time	≤ 2msec	≤ 2msec
display (signal)	LED 1 yellow	LED 1 yellow
display (operation)	-	-
parts speed (max.)	25m/sec	25m/sec
short-circuit protection	+	+
reverse polarity protection	+	+
design	80x20x110mm	140x45x190mm
housing material	PA	PA
ring material	PETP	PETP
operating temperature	-25 ... +70°C	-25 ... +70°C
system of protection (EN 60529)	IP65	IP65
connection	M12-connector, 3-pin	M12-connector, 3-pin
connection accessories	e.g. **VK200021**, 2m PUR, angular	e.g. **VK200021**, 2m PUR, angular
mounting accessories	-	-

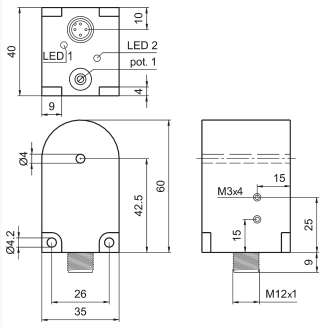
* potentiometer setting for pulse stretching:

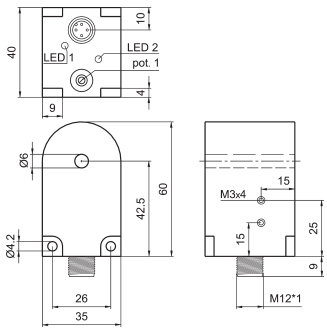
left stop position
approx. 10msec

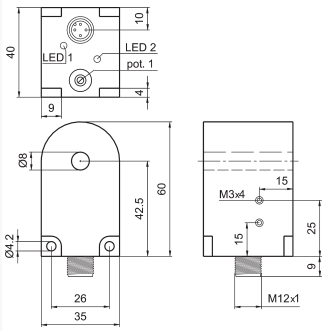
middle position
approx. 100msec

right stop position
approx. 150msec

article-no.	IY040122	IY060122	IY080122
version	wire break (static)	wire break (static)	wire break (static)
resolution (copper wire)	0.18mm	0.18mm	0.25mm







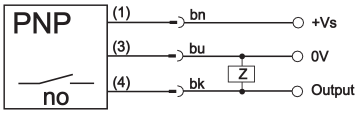
TECHNICAL DATA			
inner ring diameter	4.0mm ±0.2mm	6.0mm ±0.2mm	8.0mm ±0.2mm
sensitivity adjustment	potentiometer 1	potentiometer 1	potentiometer 1
time adjustment	100msec	100msec	100msec
output signal	pnp, no	pnp, no	pnp, no
operating voltage	10 ... 35V DC	10 ... 35V DC	10 ... 35V DC
current consumption (w/o load)	< 10mA	< 10mA	< 10mA
output current (max. load)	200mA	200mA	200mA
voltage drop (max. load)	2.5V DC	2.5V DC	2.5V DC
response time	≤ 0.2msec	≤ 0.2msec	≤ 0.2msec
display (signal)	LED 1 yellow	LED 1 yellow	LED 1 yellow
display (operation)	LED 2 green	LED 2 green	LED 2 green
parts speed (max.)	35m/sec	35m/sec	35m/sec
short-circuit protection	+	+	+
reverse polarity protection	+	+	+
design	35x40x60mm	35x40x60mm	35x40x60mm
housing material	PA	PA	PA
ring material	ceram (ceramic)	PETP	ceram (ceramic)
operating temperature	-25 ... +70°C	-25 ... +70°C	-25 ... +70°C
system of protection (EN 60529)	IP65	IP65	IP65
connection	M12-connector, 3-pin	M12-connector, 3-pin	M12-connector, 3-pin
connection accessories	e.g. **VK200021**, 2m PUR, angular	e.g. **VK200021**, 2m PUR, angular	e.g. **VK200021**, 2m PUR, angular
mounting accessories	-	-	-

inductive sensors

2200 ring sensors

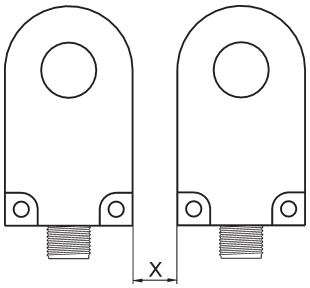
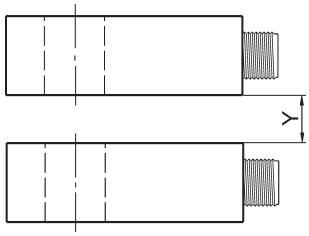
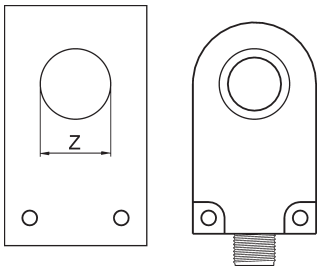
connection

switching devices



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

MOUNTING PARAMETERS

article-no.	distance X (abreast)	distance Y (stacked)	admission boring Z
			
IY060121 / IY060125	0mm	5mm	11mm
IY100121 / IY100125	0mm	5mm	15mm
IY150121 / IY150125	0mm	5mm	20mm
IY200121 / IY200125	0mm	10mm	25mm
IY250121 / IY250125	10mm	10mm	32mm
IY350121 / IY350125	10mm	35mm	50mm
IY500121 / IY500125	10mm	35mm	70mm
IYK00121 / IYK00125	10mm	60mm	130mm
IYKE0121 / IYKE0125	25mm	100mm	170mm
IY040122	0mm	5mm	10mm
IY060122	0mm	5mm	10mm
IY080122	0mm	5mm	15mm

This data sheet 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.