

dimensions	35 x 20 x 60mm to 145 x 45 x 190mm	
static / dynamic	ring $\varnothing$	6.1mm 10.1mm 15.1mm 20.1mm 25.1mm 35.2mm 51.0mm 101.0mm
wire break (static)	ring $\varnothing$	4.0mm 6.0mm

- ✓ high resolution
- ✓ insensitive to soiling
- ✓ adjustable pulse stretching
- ✓ 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 reliable 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.

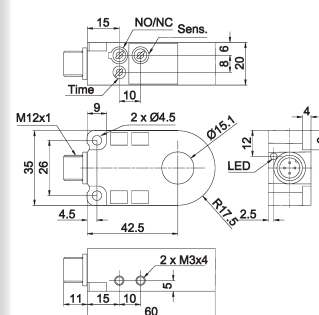
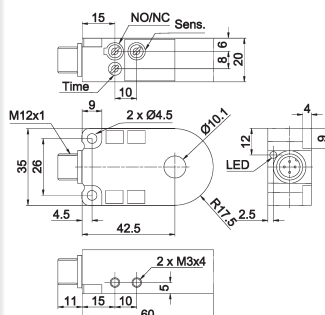
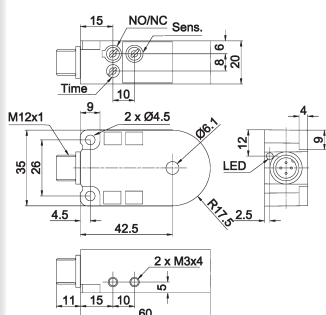
soiling which contains metal.

*ipf* wire fracture sensors are especially adjusted for fracture control of thin wires. They are characterized by their very short response time. Versions which have interior diameters of the ring measuring 4mm and 6mm are fitted with a ceramic element for improving resistance.

**application examples**

- ▶ in processing situations, reliable 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
- ▶ reliable controlling of wire breakage where wires are wound and pulled
- ▶ controlling the supply of metal parts

article-no.	IY060320	IY100320	IY150320
inner ring diameter	6.1mm	10.1mm	15.1mm
version	static	static	static
resolution (steel ball)	1.0mm	1.5mm	2.0mm
article-no.	IY060325	IY100325	IY150325
inner ring diameter	6.1mm	10.1mm	15.1mm
version	dynamic	dynamic	dynamic
resolution (steel ball)	0.5mm	0.6mm	0.8mm

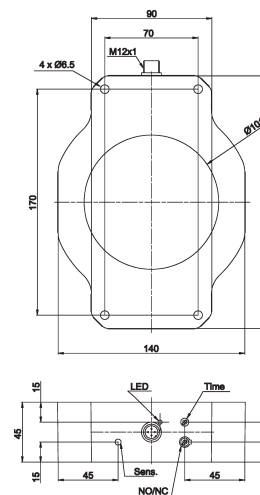
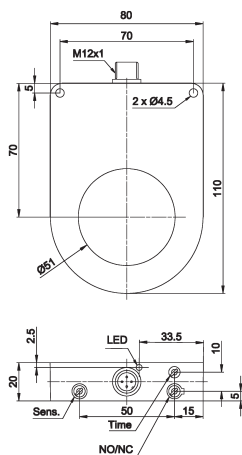


### TECHNICAL DATA

inner ring diameter	6.1mm	10.1mm	15.1mm
output signal	pnnp, no/nc	pnnp, no/nc	pnnp, no/nc
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)	2.0V DC	2.0V DC	2.0V DC
short response and decay time	static: 0.5ms/10ms dynamic: 0.2ms/10ms	static: 0.5ms/10ms dynamic: 0.2ms/10ms	static: 0.5ms/10ms dynamic: 0.2ms/10ms
display (signal)	yellow LED	yellow LED	yellow LED
parts speed (max.)	35m/s	35m/s	35m/s
sensitivity adjustment	potentiometer	potentiometer	potentiometer
setting	change-over switch no/nc	change-over switch no/nc	change-over switch no/nc
pulse stretching	static: 10 ... 150ms dynamic: 10 ... 150ms	static: 10 ... 150ms dynamic: 10 ... 150ms	static: 10 ... 150ms dynamic: 10 ... 150ms
short-circuit protection	+	+	+
reverse polarity protection	+	+	+
dimensions	35x20x60mm	35x20x60mm	35x20x60mm
housing material	polyamide	polyamide	polyamide
ring material	POM	POM	POM
operating temperature	-25 ... +70°C	-25 ... +70°C	-25 ... +70°C
degree of protection (EN 60529)	IP67	IP67	IP67
connection	M12-connector, 3-pin	M12-connector, 3-pin	M12-connector, 3-pin
connection accessories	e.g. <b>VK200025</b>	e.g. <b>VK200025</b>	e.g. <b>VK200025</b>



article-no.	IY500320	IYK00320
inner ring diameter	51.0mm	101.0mm
version	static	static
resolution	6.0mm	10.0mm
article-no.	IY500325	IYK00325
inner ring diameter	51.0mm	101.0mm
version	dynamic	dynamic
resolution	2.5mm	5.0mm



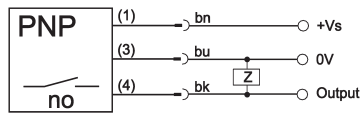
### TECHNICAL DATA

inner ring diameter	51.0mm	101.0mm
output signal	pnp, no/nc	pnp, no/nc
operating voltage	10 ... 35V DC	10 ... 35V DC
current consumption (w/o load)	< 10mA	< 15mA
output current (max. load)	200mA	200mA
voltage drop (max. load)	2.0V DC	2.0V DC
short response and decay time	static: 1.0ms/10ms dynamic: 0.2ms/0.2ms	static: 1.0ms/10ms dynamic: 0.2ms/0.2ms
display (signal)	yellow LED	yellow LED
parts speed (max.)	35m/s	25m/s
sensitivity adjustment	potentiometer	potentiometer
setting	change-over switch no/nc	change-over switch no/nc
pulse stretching	static: 10 ... 150ms dynamic: 0.1 ... 150ms	static: 10 ... 150ms dynamic: 0.1... 150ms
short-circuit protection	+	+
reverse polarity protection	+	+
dimensions	80x20x110mm	140x45x190mm
housing material	polyamide	polyamide
ring material	POM	POM
operating temperature	-25 ... +70°C	-25 ... +70°C
degree of protection (EN 60529)	IP67	IP67
connection	M12-connector, 3-pin	M12-connector, 3-pin
connection accessories	e.g. VK200025	e.g. VK200025

article-no.	IY040322	IY060322
version	wire break (static)	wire break (static)
resolution	copper wire: 0.2mm	copper wire: 0.2mm
<b>TECHNICAL DATA</b>		
inner ring diameter	4.0mm	6.0mm
output signal	pnp, no/nc	pnp, no/nc
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)	2.0V DC	2.0V DC
response/decay time	0.5ms / 10ms	0.5ms / 10ms
display (signal)	yellow LED	yellow LED
parts speed (max.)	35m/s	35m/s
sensitivity adjustment	potentiometer	potentiometer
setting	change-over switch no/nc	change-over switch no/nc
pulse stretching	10 ... 150ms	10 ... 150ms
short-circuit protection	+	+
reverse polarity protection	+	+
dimensions	35x40x60mm	35x40x60mm
housing material	polyamide	polyamide
material (ring)	POM with ceramic insert	POM
operating temperature	-25 ... +70°C	-25 ... +70°C
degree of protection (EN 60529)	IP67	IP67
connection	M12-connector, 3-pin	M12-connector, 3-pin
connection accessories	e.g. VK200025	e.g. VK200025

### connection

#### connector devices



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

### MOUNTING PARAMETERS

article-no.	distance X adjacent to one another	distance Y above one another	bore D flush with metal plate	distance Z bore D1 = Ø ring
IY060320	0mm	0mm	11mm	0mm
IY100320	0mm	0mm	15mm	0mm
IY150320	5mm	0mm	20mm	0mm
IY200320	10mm	50mm	25mm	2mm
IY250320	10mm	50mm	32mm	2mm
IY350320	10mm	50mm	50mm	7mm
IY500320	60mm	180mm	70mm	40mm
IYK00320	10mm	60mm	130mm	80mm
IY060325	5mm	20mm	11mm	0mm
IY100325	20mm	60mm	15mm	0mm
IY150325	60mm	120mm	20mm	2mm
IY200325	70mm	130mm	25mm	4mm
IY250325	150mm	200mm	32mm	8mm
IY350325	40mm	100mm	50mm	0mm
IY500325	230mm	250mm	70mm	0mm
IYK00325	10mm	30mm	130mm	0mm
IY040322	0mm	0mm	-	5mm
IY060322	0mm	0mm	-	5mm

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.

This data sheet as well as your personal contact can be found at [www.ipf-electronic.com](http://www.ipf-electronic.com)