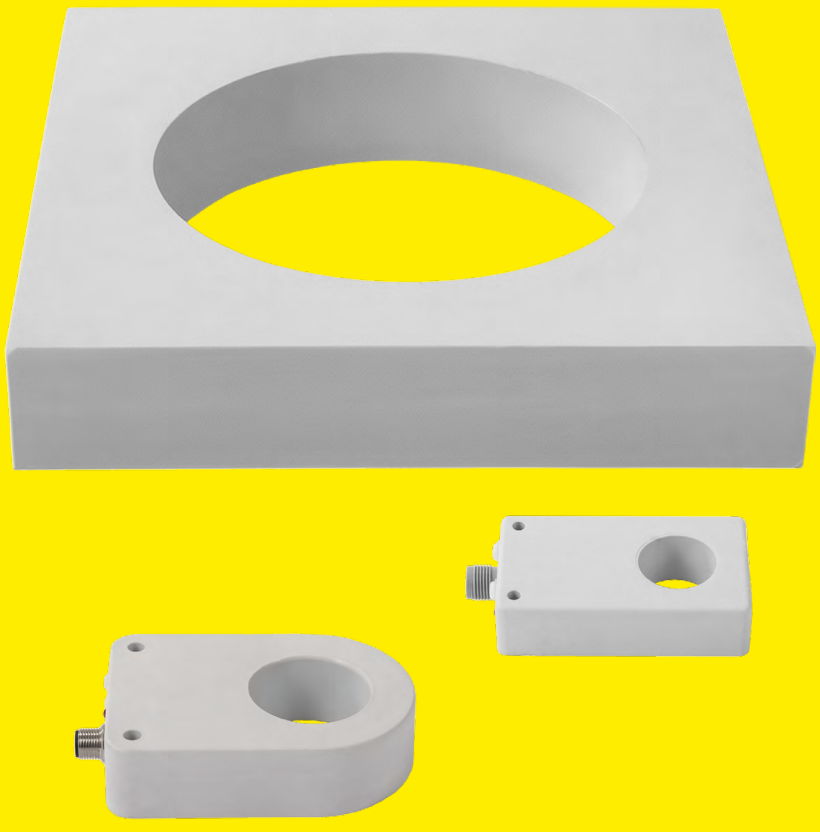
Proxitron

SENSORS MADE IN GERMANY

Inductive Ring Sensors

Ø 10 - 270 mm

For detection of small metal parts



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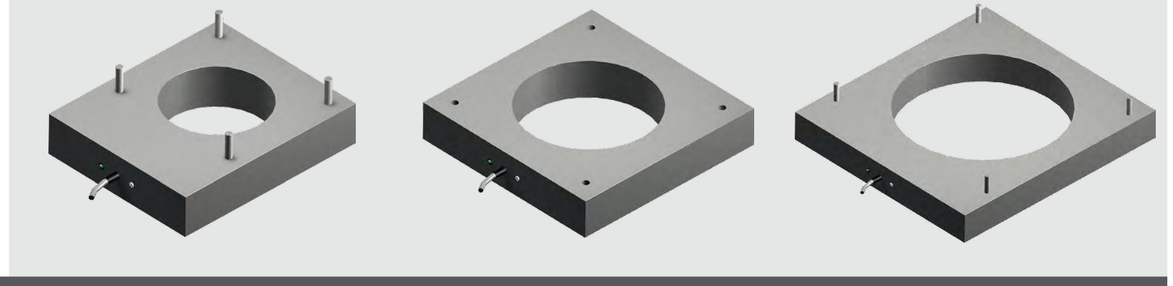
Opening Ø [mm]	10	15	25	45	60	80
Type	**IKV 010**	**IKV 015**	**IKV 025**	**IKV 045**	**IKV 060**	**IKV 080**
Sensitivity	≥ 2 mm Ø (steel ball St37)	≥ 3 mm Ø (steel ball St37)	≥ 4 mm Ø (steel ball St37)	≥ 9 mm Ø (steel ball St37)	≥ 12 mm Ø (steel ball St37)	≥ 16 mm Ø (steel ball St37)
Target velocity	max. 60 m/s	max. 60 m/s	max. 60 m/s	max. 20 m/s	max. 15 m/s	max. 15 m/s
Dimension L x W x H	80 x 45 x 20 mm	80 x 45 x 20 mm	80 x 45 x 20 mm	115 x 80 x 30 mm	145 x 100 x 50 mm	200 x 150 x 64 mm
Fixing	2 x Ø 4,5 mm, distance 33 mm	2 x Ø 4,5 mm, distance 33 mm	2 x Ø 4,5 mm, distance 33 mm	2 x Ø 7 mm, distance 60 mm	4 x M8 x 30, 120 x 75 mm	4 x M8 x 30, 160 x 110 mm
Housing material	PBT	PBT	PBT	PBT	PBT	PBT
Sensitivity adjustable	yes	yes	yes	yes	yes	yes
Pulse extension	no / adjustable 2,5 - 250 m/s	no / adjustable 2,5 - 250 m/s	no / adjustable 2,5 - 250 m/s	no / adjustable 2,5 - 250 m/s	no / adjustable 2,5 - 250 m/s	no / adjustable 2,5 - 250 m/s
Side-by-side mounting	no	no	no	no	no	no
Stackable	no	no	no	no	no	no



Opening Ø [mm]	10,1	15,1	25,1	120	170	270
Type	**IKVS 010**	**IKVS 015**	**IKVS 025**	**IKV 120**	**IKV 170**	**IKV 270**
Sensitivity	≥ 2 mm Ø (steel ball St37)	≥ 3 mm Ø (steel ball St37)	≥ 4 mm Ø (steel ball St37)	≥ 30 mm Ø (steel ball St37)	≥ 40 mm Ø (steel ball St37)	≥ 60 mm Ø (steel ball St37)
Target velocity	max. 60 m/s	max. 60 m/s	max. 60 m/s	max. 10 m/s	max. 10 m/s	max. 5 m/s
Dimension L x W x H	60 x 35 x 16 mm	60 x 35 x 16 mm	60 x 35 x 16 mm	240 x 200 x 50 mm	260 x 260 x 50 mm	390 x 360 x 50 mm
Fixing	2 x Ø 4 mm, distance 26 mm	2 x Ø 4 mm, distance 26 mm	2 x Ø 4 mm, distance 26 mm	4 x M8 x 30, 140 x 160 mm	4 x Ø 9 mm, 210 x 210 mm	4 x M8 x 30, 290 x 320 mm
Housing material	PBT	PBT	PBT	PP	PP	PP
Sensitivity adjustable	yes	yes	yes	yes	yes	yes
Pulse extension	60 ms	60 ms	60 ms	no / adjustable 2,5 - 250 m/s	no / adjustable 2,5 - 250 m/s	no / adjustable 2,5 - 250 m/s
Side-by-side mounting	yes	yes	yes	no	no	no
Stackable	yes, minimum distance >20 mm	yes, minimum distance >20 mm	yes, minimum distance >20 mm	no	no	no

Ring sensors of the IKVS series are shielded and therefore suitable for row installation.

Ring sensors of the IKV series are subject to mutual interference if the distance between each other is too small. A row installation is possible by combining a standard sensor with sensors of the same design but with offset frequency (see type code).

The ring sensor has a static output, which means the output is switched as long as a metal object is inside its opening. Objects moving very quickly through the ring sensor can produce very short output pulses; in these cases, the optional pulse extension acts as an adjustable switch-off delay, making detection for the associated signal processor safe, even with very short dwell times.

The response sensitivity can be adjusted. The nominal sensitivity is referred to a ball of steel (St37). In case of pins or wires considerably smaller diameters are detected.

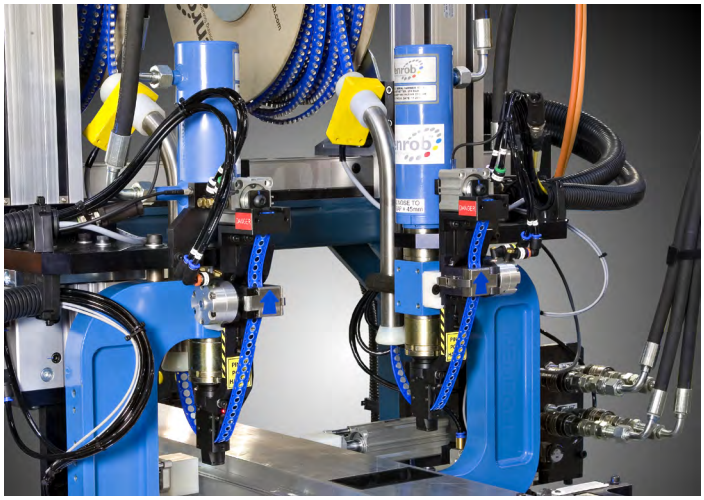
Objects made of brass, aluminum or copper reduce the sensitivity and must be larger in order to be detected. The attainable sensitivity is a function of the material of the metal object and can be calculated using the correction factor:
Sensitivity (new ball dimension) = sensitivity (steel ball) x correction factor

material	steel	stainless steel	brass	aluminium	copper	nickel	cast iron
correction factor	1	1,25 ... 2	2,23	2,5	3,33	1,43	0,95 ... 1,11

Inductive Ring Sensors General Information

Proxitron Inductive Ring Sensors detect metal objects inside their opening. In particular, in feeding systems ring sensors ensure a reliable control of small parts like nails or screws. Ring sensors are available in several designs with opening from 10 to 270 mm, as wells as in different electrical connections.

- **Detection of nails, screws, nuts, bolts, rivets, washers, etc.**
- **Ejection control**
- **Parts counting**
- **Feeding control in assembly technology**
- **Parts jam control in feeding hoses**
- **Easy to install**
- **Highly reliable**



Type Code

Type (see table previous page)	e. g. IKV 060						
10 - 30 V DC		2					
NPN - normally closed			0				
NPN - normally open			1				
PNP - normally closed			2				
PNP - normally open			3				
Short circuit protection				G			
Pulse extension adjustable 2,5 - 250 m/s					Z		
Fixed connection cable*							
Plug M12x1 DC						S4	
Offset oscillation frequency for row installation							F
Customer specific version							SA

* Connection cables are available in standard lengths of 2, 5, 10, 15 and 20 m made of PVC, PUR, silicone and PTFE.

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