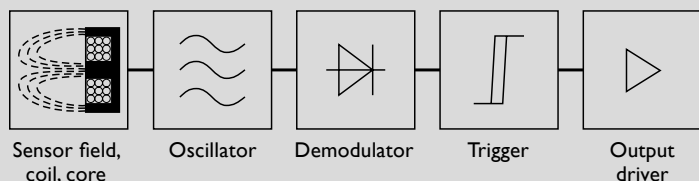


Inductive Sensors

System description

Method of function

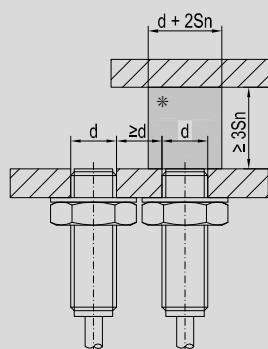


Inductive sensors exploit the interaction of metallic conductors with their alternating electromagnetic fields. Eddy currents are induced in the conductor. They draw energy from the field, reducing the oscillation amplitude. Inductive sensors evaluate this change. The area through which the high-frequency sensor field enters space is described as the active area. It roughly corresponds to the area of the pot core cap.

Applications

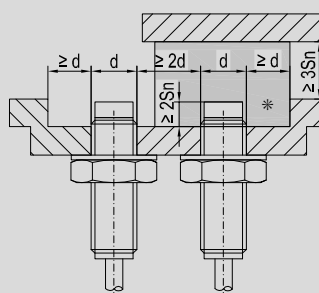
Inductive sensors are suitable for controlling and monitoring machine processes, and for providing signals in counting tasks where metals are involved. In particular, they are characterised by their immunity to vibrations, impacts, dust and dampness, and operate with extreme precision.

Flush-mountable proximity switches



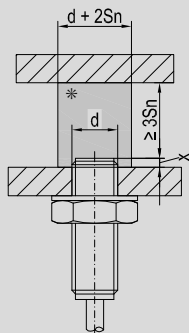
Flush-mountable proximity switches can be embedded in metal up to the active area. The distance to any metal surfaces opposite must be $\geq 3 S_n$ and the distance between two proximity switches (mounted in series) must be $\geq d$.

Non-flush mountable proximity switches



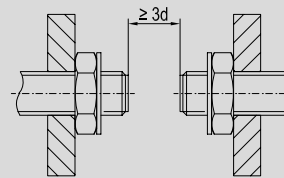
Non-flush mountable proximity switches have no metal housing near the active area. They have a free zone. For this reason they experience no pre-damping of the sensor field and can – unlike flush-mountable sensors – be used at longer switching distances. A metal-free zone, however, must always be maintained around the active area. The distance to any metal surfaces opposite must be $\geq 3 S_n$ and the distance between two proximity switches (mounted in series) must be $\geq 2 d$.

Quasi-flush-mountable proximity switches



Quasi-flush-mountable proximity switches require a space behind the active area that is kept free of conductive materials. As a result, the nominal switching distance is available without restriction. Whereby the value "x" is the shortest distance between the active area and the conductive material located behind it.

Opposite mounting



All inductive proximity sensors mounted facing one another require a minimum distance of $\geq 3 d$ between their active areas.

Mounting in steel or non-ferrous metals

Housing	x in mm
∅ 6.5	1
M 8	1
8 x 8	1
M 12	2
M 18	4
M 30	6

Mounting in stainless steel

Housing	x in mm
∅ 6.5	0
M 8	0
8 x 8	0
M 12	1
M 18	1,5
M 30	2