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Installation condition

The given values are minimum values. They cause changes of the sensing range less than 10%.

Cylindrical proximity switches

Devices with the same diameter may have different switching distances. The following table shows typical examples:

Diameter [mm]	Switching distance		
	flush	not flush	increased switching distance, flush
6.5	2	3	3
8	2	3	3
12	2	4	6
18	5	8	12
30	10	15	22

Proximity switches that are installed non-flush

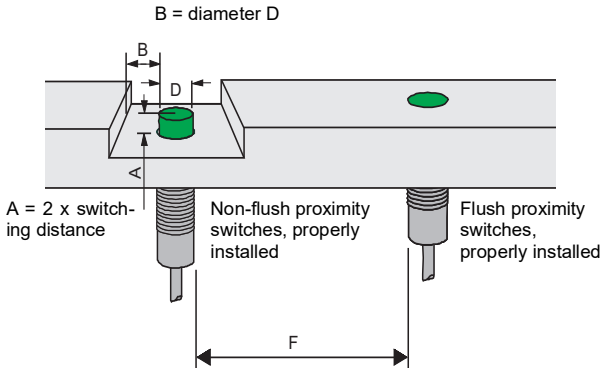
The largest possible switching distance (relative to the diameter) is achieved by proximity switches that are installed non-flush. An inductive proximity switch utilizes coils for generating the electromagnetic field. To achieve a particular direction of the field these coils are wound in an encapsulated core. Nonetheless, some of this field will radiate sideways.

To avoid these products with a large range to be already attenuated by the environment, a clear space must be created around the sensor element complying with the minimum values in the following table.

Dimensions [mm]		
A	**B**	**F**
2 x S_n	B = D	flush F = D not flush F = 3 x D

Proximity switches that are installed flush

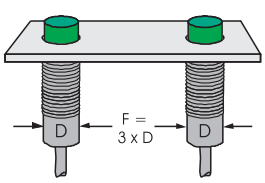
Flush installed inductive proximity switches can be used without clearance (A = 0). An advantage is that they are thus mechanically better protected and less sensitive to erroneous effects than non-flush installed types. The required reduction of the lateral field is achieved by a special internal shielding. This is at the expense of the range; these proximity switches only achieve approx. 60 % of the switching distance of designs for non-flush installation.



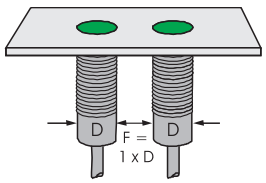
Mutual interference

The minimum distances F specified in the table above must be kept to prevent any mutual interference. If these distances cause problems with the application, then proximity switches with offset frequencies are available upon request. These can then be installed directly adjacent.

If in doubt please enquire.



Non-flush installed proximity sensors, F must be 3 times the housing diameter

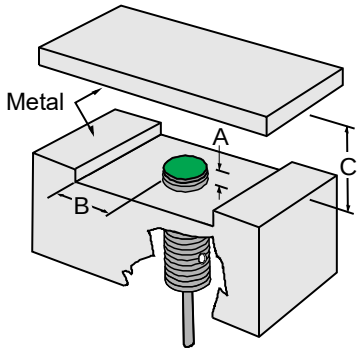


Flush installed proximity sensors, F must be equivalent to the housing diameter

Sensors with increased switching distance

These sensors with extremely increased switching distance cannot be installed fully flush in metal. They are described as semi-flush installed.

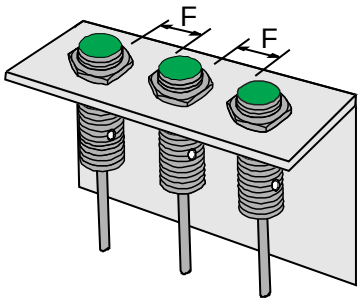
Type	Distance [mm]				
	A (steel, nonferrous heavy metal)	A (stainless steel)	B	C	F
NEB 3-8...	1	0	3	9	8
NEB 4-8...	1	0	3	9	8
NEB 6-12...	2	1	6	18	18
NEB 12-18...	4	1,5	12	36	26
NEB 22-30...	6	1,5	22	66	50
NEN 6-8...	8	8	8	18	20
NEN 10-12...	12	12	12	30	30
NEN 20-18...	22	22	22	60	60
NEN 40-30...	40	40	40	120	120



Mutual interference

To prevent the mutual interference between two similar sensors the minimum distances specified in these tables must be kept.
For applications where these distances cannot be maintained proximity switches with offset frequencies are available upon request. These can then be installed directly adjacent.

Please talk to our product specialist.



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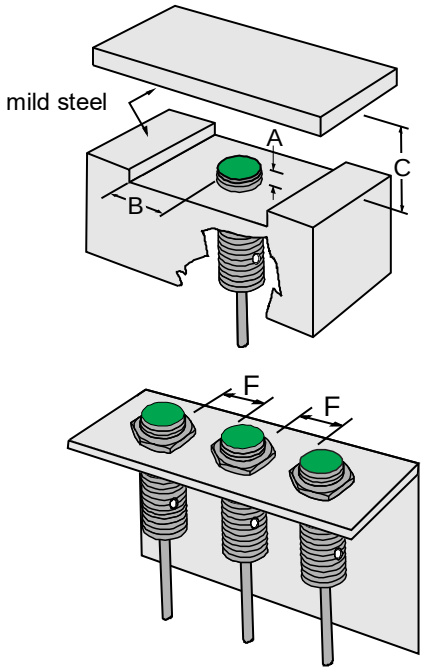
Sensors with Reduction Factor 1

Type	Distance [mm]			
	A (for installation in mild steel)	B	C	F
NRB2-6,5…	0	5	10	20
NRN6-6,5…	10	20	20	30
NRB2-8G…	0	5	10	15
NRN6-8G…	10	20	20	25
NRB4-12G…	0	5	15	15
NRN10-12G…	20	30	30	50
NRB8-18G…	0	5	15	20
NRB12-18G…	5	15	20	20
NRN15-18G…	25	30	40	60
NRB15-30G…	0	15	20	35
NRN30-30G…	30	45	80	160



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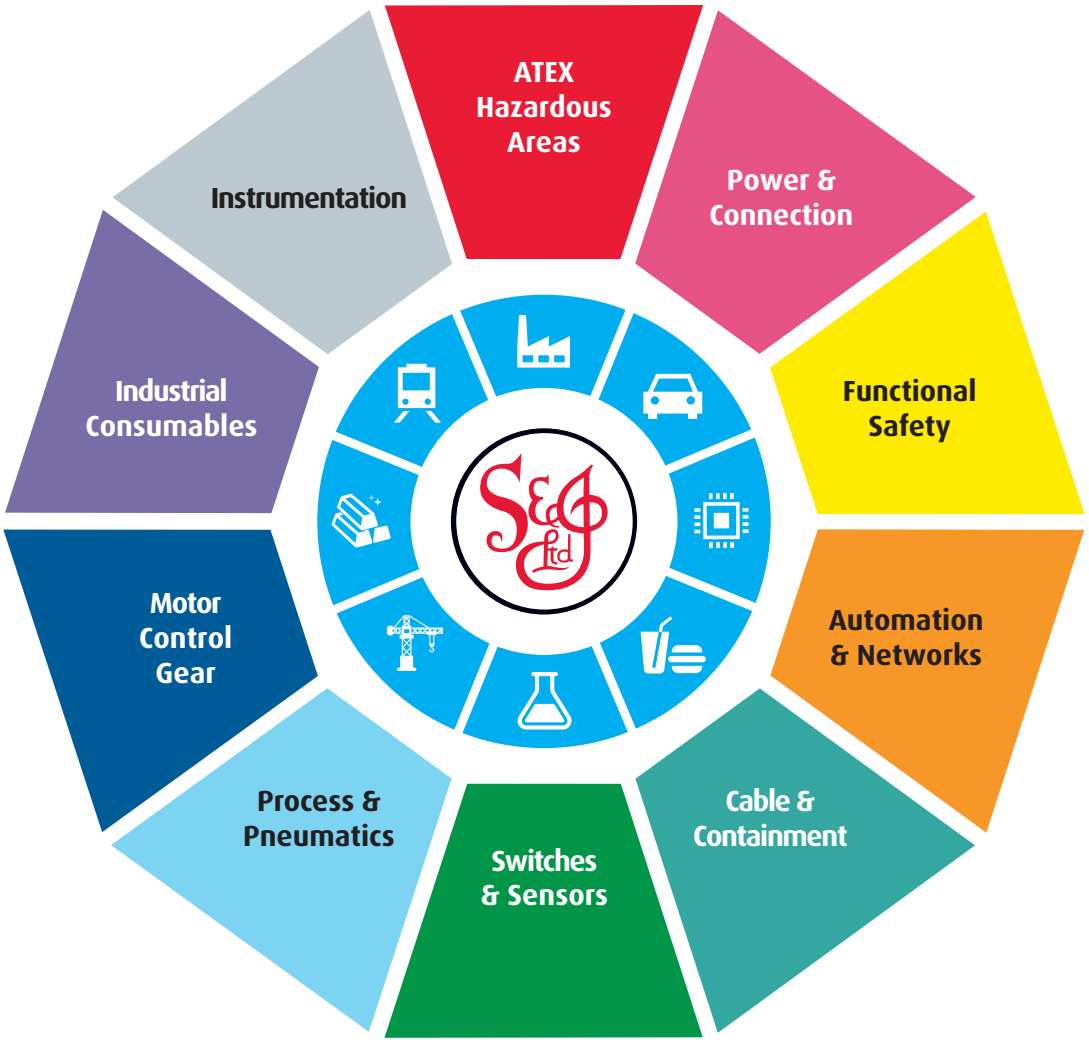

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