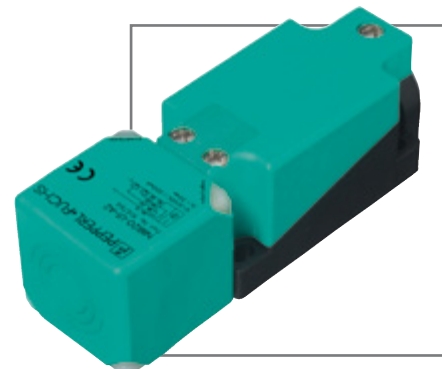
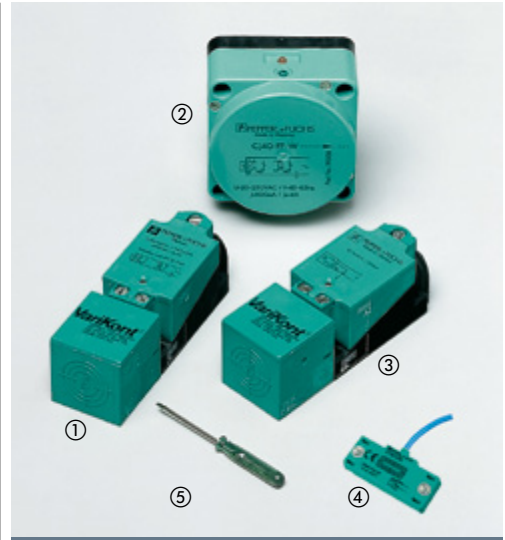




INDUCTIVE AND CAPACITIVE SENSORS OVERVIEW



Capacitive sensors cylindrical and rectangular



Series:

... 12GM, ... 18GM, ... 30GM

Mounting:

... F46, ... FP, VariKont

Electrical version

DC 3-Wire

E2 = pnp Normally Open

10 V DC ... 60 V DC
CJ ...

10 V DC ... 30 V DC
CB ... and CC ...

Sensing range	Part reference	Figure Footnote	
		Figure	Footnote
4	CJ4-12GM-E2	1	1) 2)
4	CJ4-12GM-E2-V1	10	1) 2)
8	CJ8-18GM-E2	2	1) 2)
8	CJ8-18GM-E2-V1	9	1) 2)
10	CJ10-30GM-E2	3	1) 3)
10	CJ10-30GM-E2-V1	4	1) 3)

Sensing range	Part reference	Figure Footnote	
		Figure	Footnote
2	CBN2-F46-E2	4	
2	CCN2-F46A-E2	5	
5	CBN5-F46-E2	4	
5	CCN5-F46A-E2	5	
10	CBN10-F46-E2	4	

DC 4-Wire

A2 = pnp, antivalent
Normally Open and
Normally Closed

10 V DC ... 60 V DC

10	CJ10-30GM-A2	3	1) 3)
10	CJ10-30GM-A2-V1	4	1) 3)

15	CJ15+U1+A2	3	1) 2)
40	CJ40-FP-A2-P1	2	

AC 2-/3-Wire

WS = Normally Open (2-Wire)
WÖ = Normally closed (2-Wire)

10	CJ10-30GM-WS	6	1) 3)
10	CJ10-30GM-WÖ	5	1) 3)

15	CJ15+U1+W	1	1)
40	CJ40-FP-W-P1	2	1)

NAMUR/EN 60947-5-6 nominal voltage 8 V DC

1	CJ1-12GK-N	7	
2	CJ2-18GK-N	8	
4	CJ4-12GK-N	7	
6	CJ6-18GK-N	8	

2	CBN2-F46-N1	4	
5	CBN5-F46-N1	4	
5	CCN5-F46A-N1	5	
10	CBN10-F46-N1	4	
10	CCN10-F46A-N1	5	

Footnotes: 1) Adjustable with potentiometer 2) Voltage range 10 V DC ... 30 V DC 3) Solid plastic housing on demand

Other electrical versions on demand



Mounting clamps

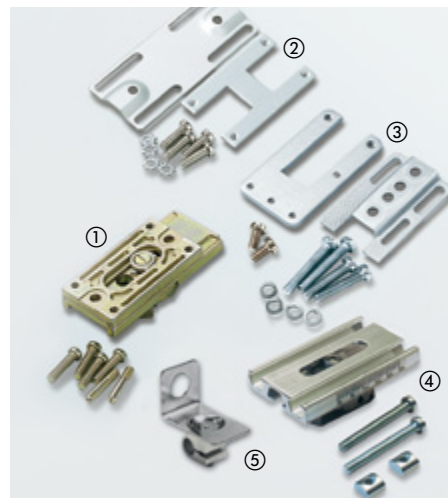
Part reference

Part reference	Figure
BF 4	1
BF 5	2
BF 6,5	3
BF 8	4
BF12	5
BF 18	6
BF 30	7
BF 40	8
BF12-F	9
BF18-F	10
BF30-F	11

Adjustable Brackets for Cylindrical Sensors:

The bracket (BF) for mounting cylindrical sensors directly on plane surfaces, can be adjusted with two screws.

Types BF...-F with fixed stop. In the event of a fault the sensor can be replaced without adjustment.



Mounting brackets

Part reference

Part reference	Figure
MH 04-2681	1
MH 04-2057	2
MH 04-3742	3
MH 02-L	4
OMH-04	5

MH 04-2681

Mounting bracket for use with VariKont (... + U1 + ...) series. It is used to provide 360° turning range of the sensor and can be mounted on a C section rail acc. to EN 50024, allowing easy adjustment of the switching point within a range of max. 20 mm.

MH 04-2057

Mounting bracket for use with VariKont (... + U1+ ...) series, allowing easy adjustment of the switching point along the x-axis within a range of max. 30 mm.

MH 04-3742

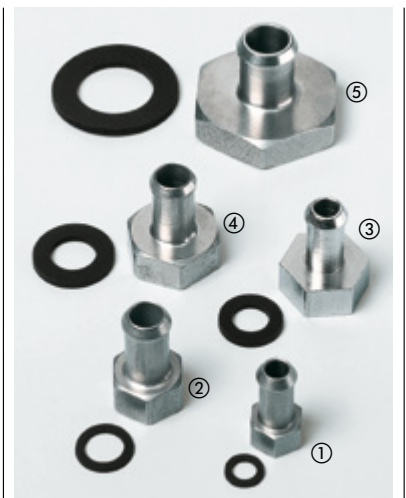
Mounting bracket for use with VariKont M (... - M1K - ...) series, allowing easy adjustment of the switching point along the x-axis within a range of max. 12 mm.

MH 02-L

Mounting bracket for use with VariKont L (... - L2 - ...) series. It can be mounted on a C section rail acc. to EN 50024, allowing easy adjustment of the switching point within a range of max. 60 mm.

OMH-04

Mounting bracket for fastening M18 sensors to a 12 mm round steel. Adjustment via lock nuts and 360° turning range in two planes.



Cable protectors

Part reference

Part reference	Figure
SM 8	1
SM 12	2
SM 14	3
SM 18	4
SM 30	5

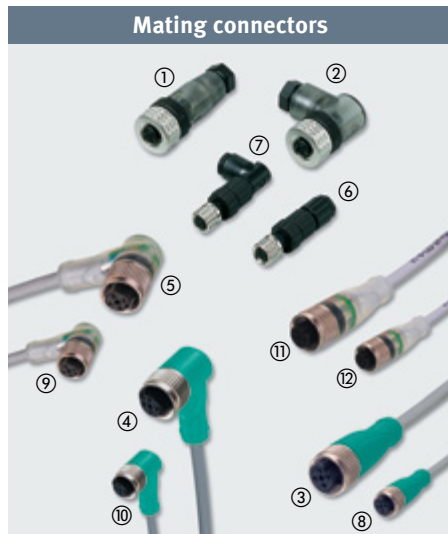
SM...

These cable protectors are available for M8, M12, M14, M18 and M30 cylindrical sensors.

Cable connectors

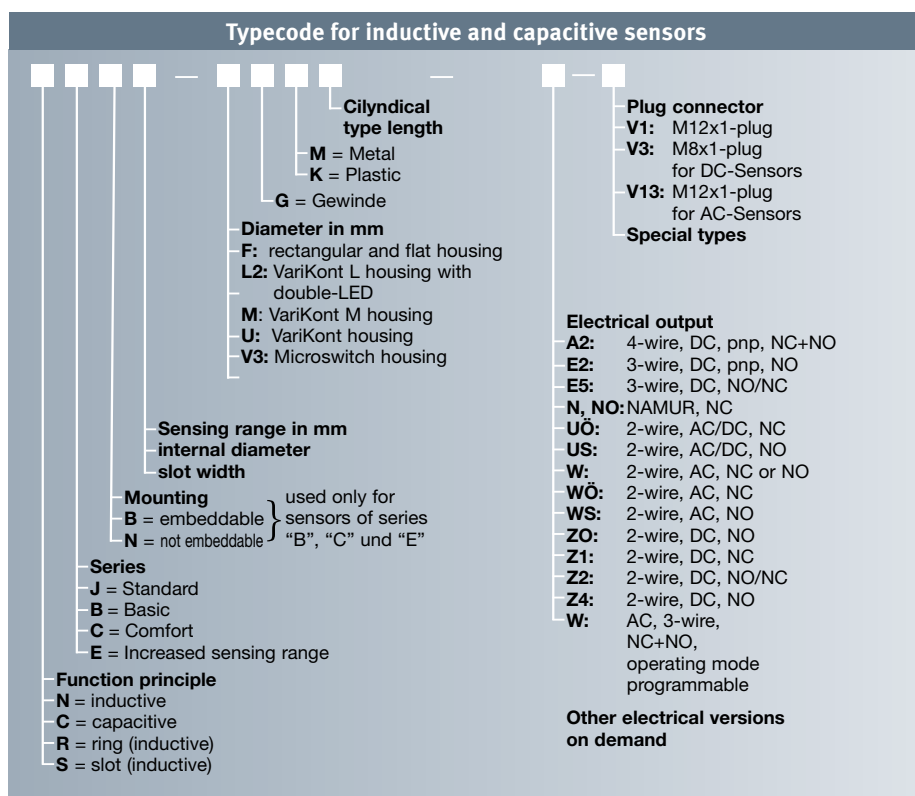
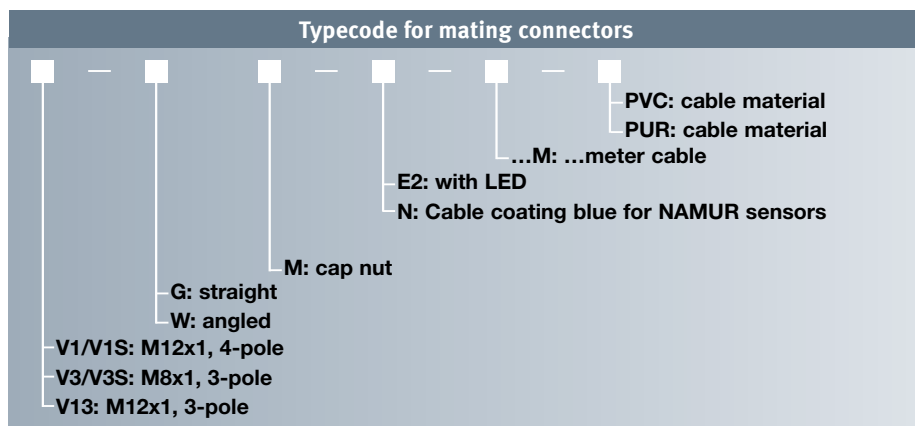
Typecode Mating connectors

Typecode Sensors



All mating connectors are also available with 10 m and 20 m cable lengths. Irradiated or shielded cable on demand.

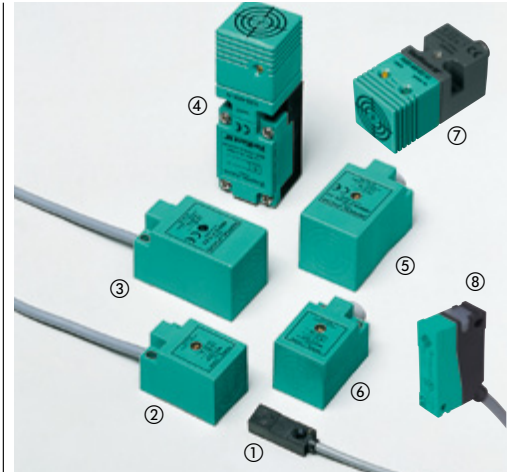
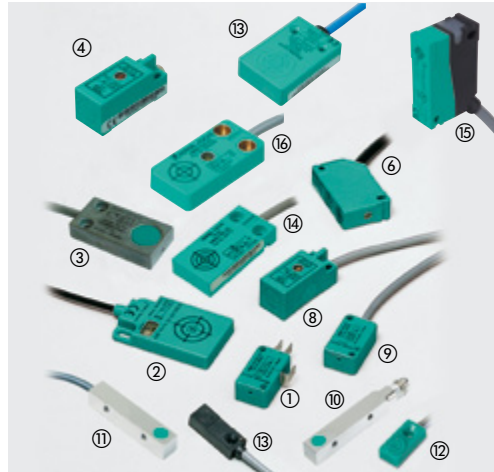
Part reference	
V1-G	1
V1-W	2
V1-G-2M-PVC (...-PUR)	3
V1-G-5M-PVC (...-PUR)	3
V1-G-E2-2M-PUR	11
V1-G-E2-5M-PUR	11
V1-G-N-5M-PUR	-
V1-W-2M-PVC (...-PUR)	4
V1-W-5M-PVC (...-PUR)	4
V1-W-E2-2M-PUR	5
V1-W-E2-5M-PUR	5
as plug: V1S-...	-
as ext. lead: ...-V1-G (-V1-W)	-
<hr/>	
V3-GM	6
V3-WM	7
V3-GM-2M-PUR	8
V3-GM-5M-PUR	8
V3-WM-E2-2M-PUR	9
V3-WM-E2-5M-PUR	9
as plug: V3S-...	-
as ext. lead: ...-V3-G (-V3-W)	-





INDUCTIVE SENSORS RECTANGULAR AND FLAT HOUSING

Inductive sensors rectangular and flat housing



Series:

... F, ... F1, ... F9, ... F17, ... F33, F41, ... F79, ... V3

Mounting:

embeddable

not embeddable

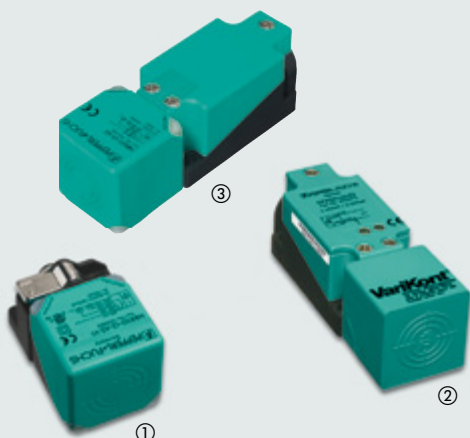
Electrical version

	Sensing range	Part reference	Figure		Sensing range	Part reference	Figure		Footnote
				Footnote				Footnote	
DC 2-Draht Z = Normally Open Z2 = Normally Closed or Normally Open Z4 = Normally Open 10 V DC ... 30 V DC	3	NBB3-V3-Z4	9		15	NCN15-M1K-Z2 NCN15-M1K-E5	4 4		
DC 3-Wire E2 = pnp Normally Open E5 = Normally Open or Normally Closed 10 V DC ... 60 V DC NJ .../NCB .../NCN ... 10 V DC ... 30 V DC NBB .../NBN ...	6	NJ6-F-E2	13		8	NBN8-F1-E2	8		
	2	NBB2-F1-E2	15		8	NBN8-F1-E2-V3	-		
	2	NBB2-F1-E2-V3	-		4	NBN4-F29-E2	1		
	4	NBB4-F1-E2	15		10	NBN10-F10-E2	2		
	4	NBB4-F1-E2-V3	-		10	NBN10-F10-E2-V1	6		
	10	NCB10-F17-E2	2		15	NBN15-F11-E2	3		
	1.5	NBB1,5-F41-E2	11		15	NBN15-F11-E2-V1	5		
	1.5	NBB1,5-F41-E2-V3	10		15	NJ15-M1-E2-V1	7	3)	
	1.5	NBB1,5-F41A-E2	-	1)					
	1.5	NBB1,5-F41A-E2-V3	-	1)					
	2	NBB2-V3-E2	9						
	2	NBB2-V3-E2-V3	-						
	2	NBB2-V3-E2-V5	1						
	5	NBB5-F9-E2	8						
	5	NBB5-F9-E2-V3	4						
5	NBB5-F33-E2	14							
8	NBB8-F33-E2	16							
5	NBB5-F33M-E2	3							
1.5	NBB1,5-F79-E2	12							
DC 4-Wire A2 = pnp, antivalent Normally Open and Normally Closed	6	NJ6-F-A2	13		15	NJ15-M1K-A2	4		
	2	NBB2-F29-A2	-		4	NBN4-F29-A2	1		
	4	NBB4-F1-A2	15		8	NBN8-F1-A2	8		
	5	NBB5-F33-A2	14						
	5	NBB5-F33M-A2	3						
AC 2-/3-Wire U = Allstrom AC/DC W = wiring prog. (2-wire) 20 - 250 V AC W4 = antivalent (4-wire) 20 - 250 V AC	4	NBB4-F1-U0	15						
	4	NBB4-F1-US	15						
NAMUR/EN 60947-5-6 nominal voltage 8 V DC	2	NJ2-F1-N	6	2)	15	NCN15-M1K-N0	4		
	2	NJ2-V3-N	9	2)					
	2	NJ2-V3-N-V5	-	2)					
	6	NJ6-F-N	13	2)					

Other electrical versions on demand

Footnotes: 1) Active face centered, for the rest see ...F41... 2) Without LED 3) Operational voltage 10 V DC ... 30 V DC

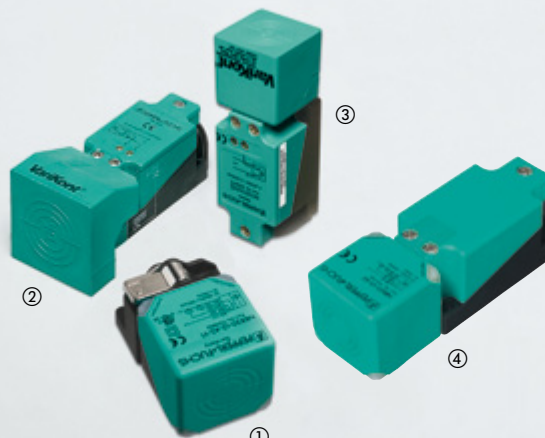
INDUCTIVE SENSORS RECTANGULAR AND FLAT HOUSING



... VariKont, VariKont L

embeddable

Sensing range	Part reference	Figure	Footnote
15	NCB15+U1+Z2	2	
20	NBB20-L2-Z4-V1	1	
20	NBB20-U1-E2	3	
20	NBB20-L2-E2-V1	1	
20	NBB20-U1-A2	3	
20	NBB20-L2-A2-V1	1	
15	NJ15+U1+W	2	
15	NCB15+U1+N0	2	
20	NCB20-L2-N0-V1	1	



... VariKont, VariKont L

not embeddable

Sensing range	Part reference	Figure	Footnote
20	NCN20+U1+Z2	3	
30	NCN30+U1+Z2	3	
40	NCN40+U1+Z2	2	
40	NBN40-L2-Z4-V1	1	
40	NBN40-U1-E2	4	
40	NJ40+U1+E2	2	
40	NBN40-L2-E2-V1	1	
40	NBN40-U1-A2	4	
30	NBN30-L2-A2-V1	1	
40	NBN40-L2-A2-V1	1	
20	NCN20+U1+U	3	
30	NCN30+U1+U	3	
40	NCN40+U1+U	2	
20	NJ20+U1+W	3	
30	NJ30+U1+W	3	
40	NJ40+U1+W	2	
20	NCN20+U1+N0	3	
30	NCN30+U1+N0	3	
40	NCN40+U1+N0	2	
40	NCN40-L2-N0-V1	1	

INDUCTIVE SENSORS RECTANGULAR AND FLAT HOUSING

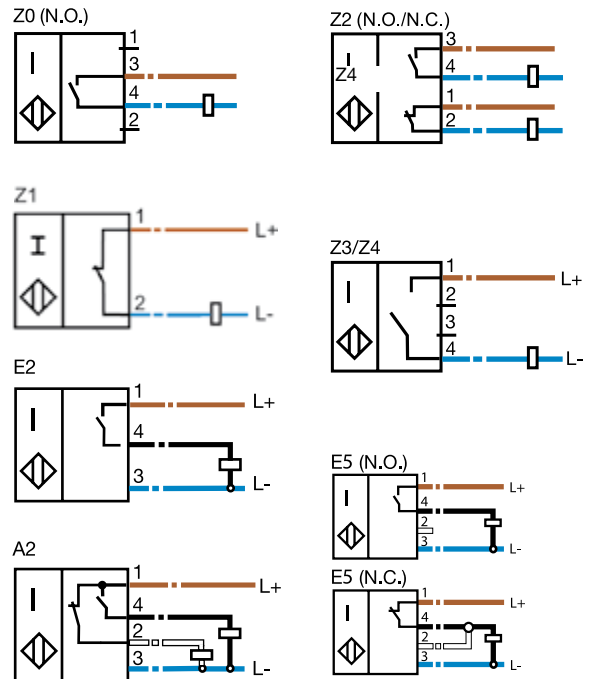


... FP, ... F23

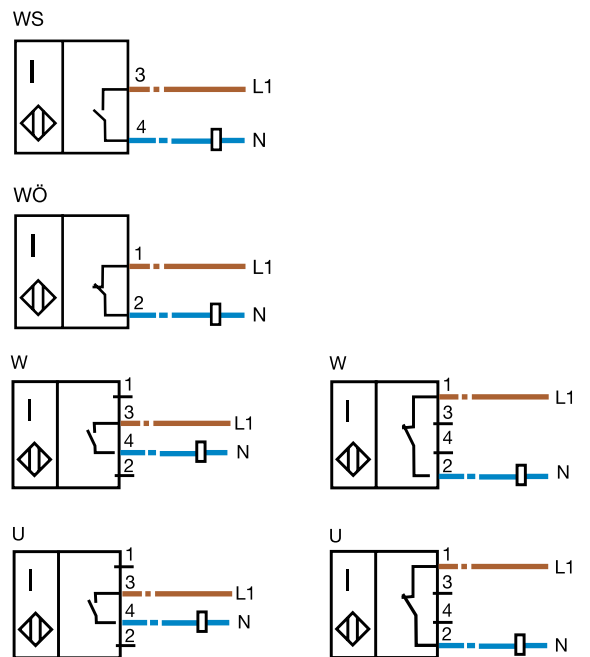
Sensing range	Part reference	Figure	Footnote
50	NCN50-FP-Z2-P1	2	1)
50	NCN50-FP-Z4-V1	2	1)
50	NCB50-FP-Z2-P1	1	2)
50	NCB50-FP-Z4-V1	1	2)
100	NCN100-F23-E2-V1	3	1)
40	NCB40-FP-A2-P1	2	2)
40	NCB40-FP-A2-P1-V1	-	2)
50	NCN50-FP-A2-P1	2	1)
50	NCN50-FP-A2-P1-V1	-	1)
50	NCB50-FP-A2-P1	1	2)
50	NCB50-FP-A2-P1-V1	-	2)
40	NCB40-FP-W-P1	2	2)
50	NCN50-FP-W-P1	2	2)
1)			
40	NCB40-FP-N0-P1	-	2)
50	NCN50-FP-N0-P1	-	1)

Electrical output

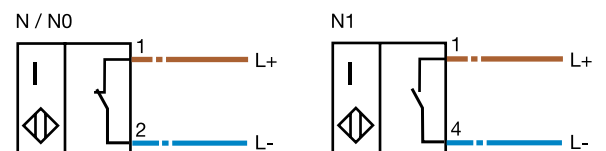
2, 3, 4-Draht



AC/DC, AC

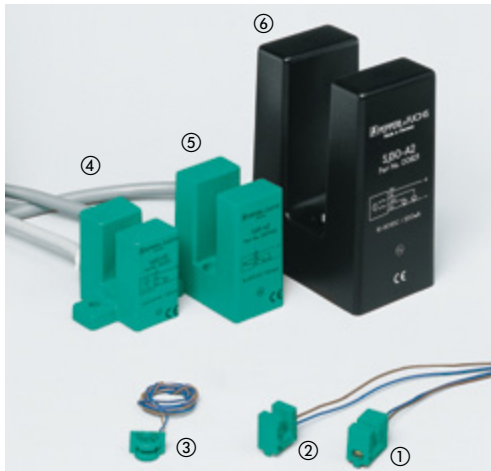


NAMUR

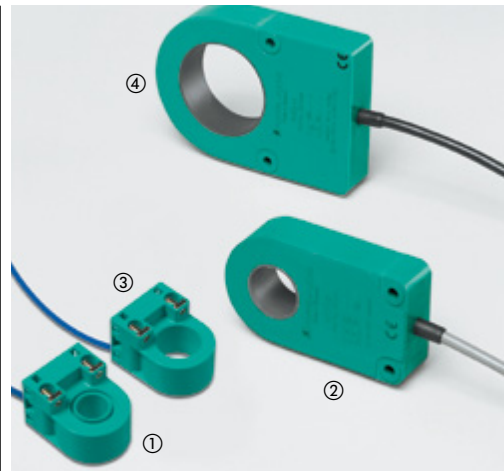


INDUCTIVE SENSORS SLOT AND RING TYPE

Inductive sensors slot and ring type



SB/SJ/SC 2 ... 30



RJ/RC 10 ... 43

Series:

Electrical version

Electrical version	Entry depth	Part reference	Figure		Footnote	Inner diameter	Part reference	Figure		Footnote
			Figure	Footnote				Figure	Footnote	
DC 2-Wire Zo = Normally Open	5 ... 7	SB2-Z0	3							
DC 3-Wire E2 = pnp Normally Open 10 V DC ... 60 V DC SJ .../RJ ...	5 ... 7	SB3,5-E2	1			21	RJ21-E2	2		
	13 ... 16	SJ10-E2	4			43	RJ43-E2	4		
	17 ... 19	SJ15-E2	5							
DC 4-Wire A2 = pnp, antivalent Normally Open and Normally Closed	17 ... 20	SJ15-A2	5							
	27 ... 31	SJ30-A2	6							
AC 2-/3-Wire WS = Normally Open (2-Wire)	18 ... 20	SJ15-WS	5							
	27 ... 31	SJ30-WS	6							
NAMUR/EN 60947-5-6 nominal voltage 8 V DC	5 ... 7	SC2-N0	3			10	RC10-14-N0	1	1)	
	5 ... 7	SC3,5-N0	1			15	RC15-14-N0	3	1)	
	4 ... 6	SJ5-N	2	1)		21	RJ21-N	2	1)	
	13 ... 16	SJ10-N	4	1)		43	RJ43-N	4	1)	
	16 ... 19	SJ15-N	5	1)						
	27 ... 30	SJ30-N	6	1)						

Footnotes: 1) Without LED

Other electrical versions on demand



INDUCTIVE POSITIONING SYSTEMS



Series:

... F90, ... F110, ... F112, ... F130

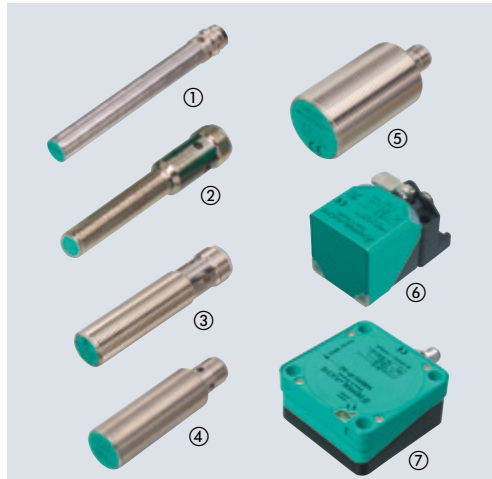
Mounting:

Electrical version	Sensing range	Part reference	Figure	Footnote
0 V ... 10 V 4 mA ... 20 mA	80	PMI80-F90-IU-V1	4	
	80	PMI80-F90-IE8-V15	4	
	104	PMI104-F90-IU-V1	4	
	104	PMI104-F90-IE8-V15	4	
	120	PMI120-F90-IU-V1	4	
	120	PMI120-F90-IE8-V15	4	
	210 360	PMI210-F110-IU-V1 PMI360-F110-IU-V1	2 2	
0 V ... 10 V	14	PMI-14VF112-U-V3	1	
4 mA ... 20 mA	360°	PMI-360D-F130-IE8-V15	3	

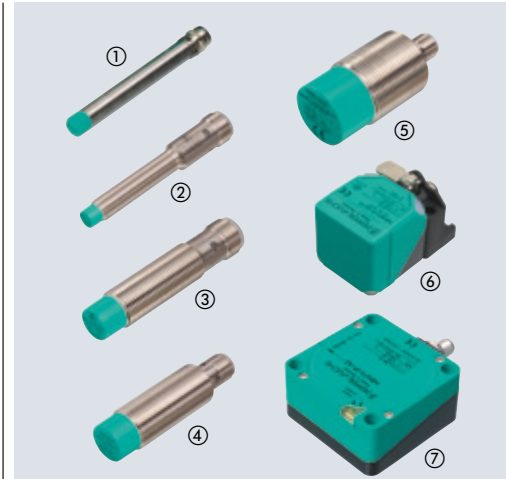


REDUCTION FACTOR 1 SENSORS

Reduction factor 1 Sensors



NRB2 ... NRB50



NRN2 ... NRN75

Series:

Mounting:

embeddable

not embeddable

Electrical version

DC 3-Wire

E2 = pnp Normally Open
10 V DC ... 30 V DC

Sensing range	Part reference	Figure	Footnote
2	NRB2-6,5M50-E2-V3	1	
2	NRB2-8GM40-E2-V1	2	
4	NRB4-12GM40-E2-V1	3	
8	NRB8-18GM50-E2-V	4	
12	NRB12-18GS40-E2-V1	4	
15	NRB15-30GM50-E2-V1	5	

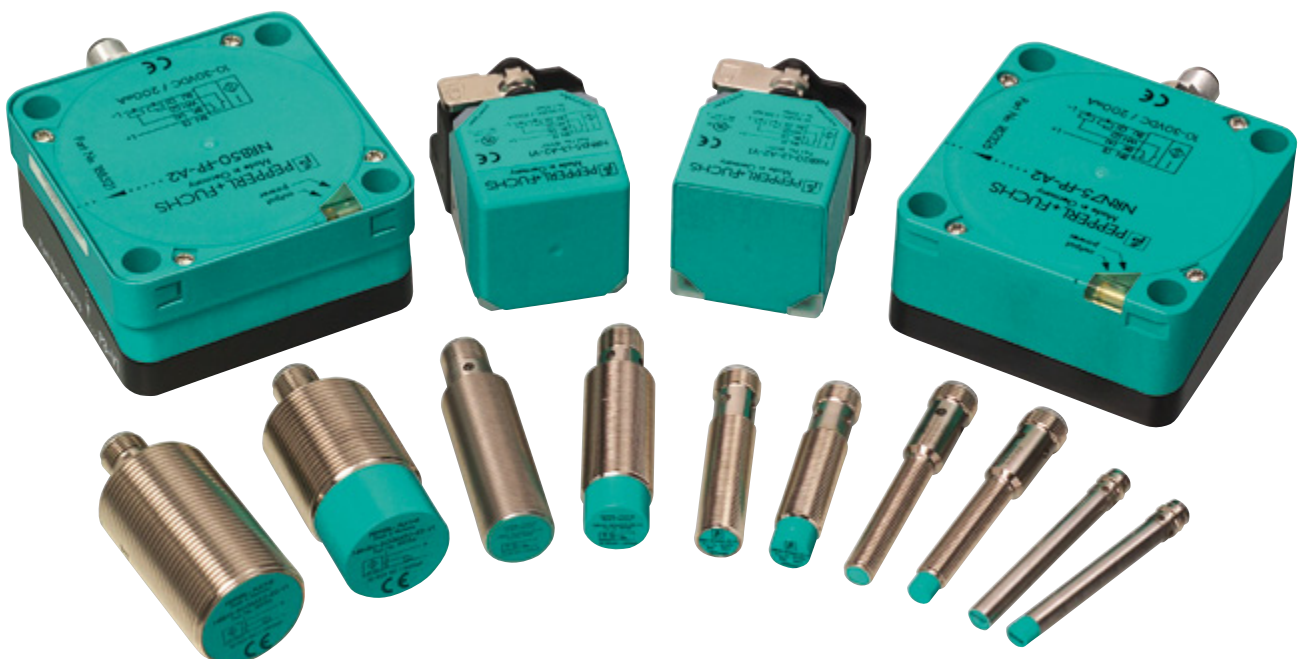
DC 4-Wire

A2 = pnp antivalent
Normally Open and
Normally Closed
10 V DC ... 30 V DC

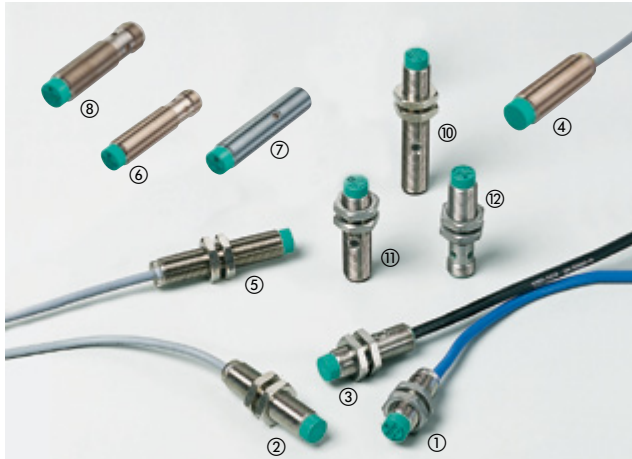
Sensing range	Part reference	Figure	Footnote
20	NRB20-L3-A2-V1	6	
50	NRB50-FP-A2-P3-V1	7	

Sensing range	Part reference	Figure	Footnote
6	NRN6-6,5M50-E2-V3	1	
6	NRN6-8GM40-E2-V1	2	
10	NRN10-12GM40-E2-V	3	
15	NRN15-18GM50-E2-V1	4	
30	NRN30-30GM50-E2-V1	5	

Sensing range	Part reference	Figure	Footnote
35	NRN35-L3-A2-V1	6	
40	NRN40-L3K-A2-V1	6	
75	NRN75-FP-A2-P3-V1	7	



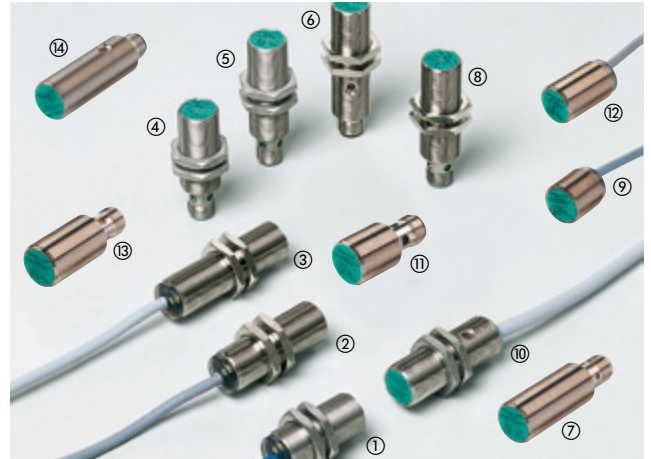
INDUCTIVE SENSORS CYLINDRICAL



... 12GM

not embeddable

Sensing range	Part reference	Figure	Footnote
4	NBN4-12GM40-Z0	-	
4	NBN4-12GM40-Z0-V1	12	
4	NCN4-12GM40-Z1	-	
4	NCN4-12GM40-Z1-V1	12	
8	NCN8-12GM35-Z4	-	
8	NCN8-12GM40-Z4-V1	12	
4	NJ4-12GM40-E2	3	
4	NJ4-12GM40-E2-V1	11	
4	NBN4-12GM50-E2	-	
4	NBN4-12GM50-E2-V1	11	
7	NBN7-12GM35-E2	4	
7	NBN7-12GM35-E2-V1	8	
8	NBN8-12GM50-E2	2	
8	NBN8-12GM50-E2-V1	6	
10	NEN10-12GM50-E2-V1	7	
4	NBN4-12GM35-A2-V1	-	
4	NBN4-12GM60-A2	5	
4	NBN4-12GM60-A2-V1	10	
8	NBN8-12GM50-A2	2	
8	NBN8-12GM50-A2-V1	6	
4	NJ4-12GM50-WS	-	
4	NJ4-12GM50-WS-V11	7	
4	NJ4-12GM50-WS-V12	7	
4	NJ4-12GM50-WS-V13	7	
4	NCN4-12GM35-N0	1	
4	NCN4-12GM35-N0-V1	12	



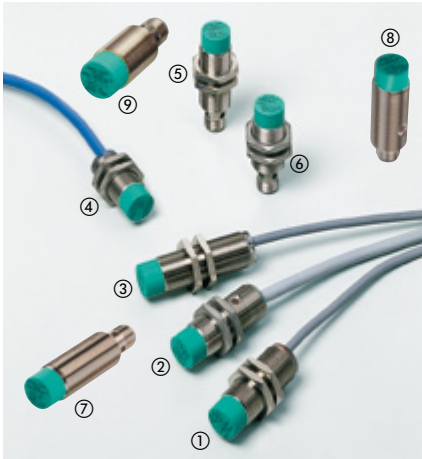
... 18GM

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Sensing range	Part reference	Figure	Footnote
5	NBB5-18GM40-Z0	2	
5	NBB5-18GM40-Z0-V1	7	
5	NCB5-18GM40-Z1	2	
5	NCB5-18GM40-Z1-V1	7	
8	NCB8-18GM50-Z4	-	
8	NCB8-18GM50-Z4-V1	-	
5	NJ5-18GM50-E2	10	
5	NJ5-18GM50-E2-V1	14	
5	NBB5-18GM20-E2	9	
5	NBB5-18GM20-E2-V1	11	
5	NBB5-18GM50-E2	3	
5	NBB5-18GM50-E2-V1	8	
8	NBB8-18GM30-E2	12	
8	NBB8-18GM30-E2-V1	13	
8	NBB8-18GM50-E2	3	
8	NBB8-18GM50-E2-V1	8	
12	NEB12-18GM50-E2	10	
12	NEB12-18GM50-E2-V1	5	
5	NJ5-18GM50-A2	10	
5	NJ5-18GM50-A2-V1	14	
5	NBB5-18GM60-A2	3	
5	NBB5-18GM60-A2-V1	6	
8	NBB8-18GM60-A2	3	
8	NBB8-18GM60-A2-V1	6	
5	NBB5-18GM60-WS	3	
5	NBB5-18GM60-WS-V11	-	
5	NBB5-18GM60-WS-V12	-	
5	NCB5-18GM40-N0	1	
5	NCB5-18GM40-N0-V1	4	
8	NCB8-18GM40-N0	1	
8	NCB8-18GM40-N0-V1	4	

Other electrical versions on demand

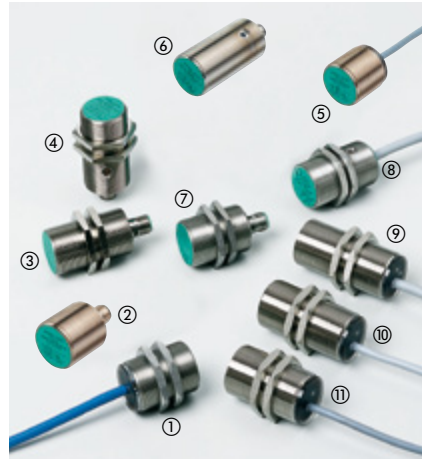
INDUCTIVE SENSORS CYLINDRICAL



... 18GM

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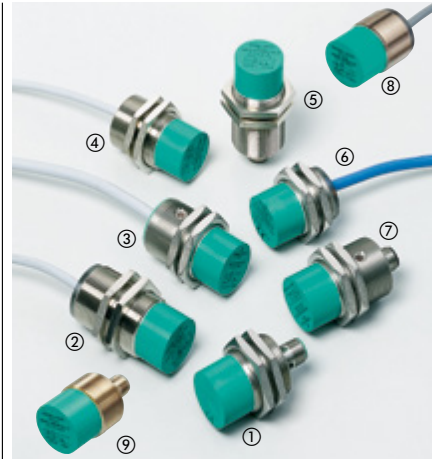
Sensing range	Part reference	Figure	Footnote
8	NBN8-18GM40-Z0	1	
8	NBN8-18GM40-Z0-V1	-	
8	NCN8-18GM40-Z1	1	
8	NCN8-18GM40-Z1-V1	-	
12	NCN12-18GM50-Z4	-	
12	NCN12-18GM50-Z4-V1	7	
8	NJ8-18GM50-E2	2	
8	NJ8-18GM50-E2-V1	5	
8	NBN8-18GM50-E2	3	
8	NBN8-18GM50-E2-V1	5	
12	NBN12-18GM35-E2	-	
12	NBN12-18GM35-E2-V1	9	
12	NBN12-18GM50-E2	3	
12	NBN12-18GM50-E2-V1	5	
20	NEN20-18GM50-E2-V1	5	
8	NJ8-18GM50-A2	2	
8	NJ8-18GM50-A2-V1	8	
8	NBN8-18GM60-A2	-	
8	NBN8-18GM60-A2-V1	8	
12	NBN12-18GM50-A2	3	
12	NBN12-18GM50-A2-V1	5	
8	NBN8-18GM60-WS	-	
8	NBN8-18GM60-WS-V11	-	
8	NBN8-18GM60-WS-V12	-	
8	NCN8-18GM40-N0	4	
8	NCN8-18GM40-N0-V1	6	



... 30GM

embeddable

Sensing range	Part reference	Figure	Footnote
10	NBB10-30GM40-Z0	11	
10	NBB10-30GM40-Z0-V1	7	
10	NCB10-30GM40-Z1	-	
10	NCB10-30GM40-Z1-V1	-	
15	NCB15-30GM50-Z4	-	
15	NCB15-30GM50-Z4-V1	-	
10	NJ10-30GM50-E2	8	
10	NJ10-30GM50-E2-V1	-	
10	NBB10-30GM50-E2	10	
10	NBB10-30GM50-E2-V1	3	
15	NBB15-30GM30-E2	5	
15	NBB15-30GM30-E2-V1	2	
15	NBB15-30GM50-E2	10	
15	NBB15-30GM50-E2-V1	3	
22	NEB22-30GM60-E2-V1	6	
10	NJ10-30GM50-A2	8	
10	NJ10-30GM50-A2-V1	4	
10	NBB10-30GM60-A2	9	
10	NBB10-30GM60-A2-V1	4	
15	NBB15-30GM60-A2	-	
15	NBB15-30GM60-A2-V1	6	
10	NBB10-30GM50-WS	10	
10	NBB10-30GM50-WS-V11	-	
10	NBB10-30GM50-WS-V12	-	
15	NBB15-30GM50-WS	10	
15	NBB15-30GM50-WS-V11	-	
15	NBB15-30GM50-WS-V12	-	
10	NCB10-30GK40-N0	-	
10	NCB10-30GM40-N0	1	
10	NCB10-30GM40-N0-V1	7	



... 30GM

not embeddable

Sensing range	Part reference	Figure	Footnote
15	NBN15-30GM40-Z0	6	
15	NBN15-30GM40-Z0-V1	1	
15	NCN15-30GM40-Z1	8	
15	NCN15-30GM40-Z1-V1	9	
25	NCN25-30GM50-Z4	2	
25	NCN25-30GM50-Z4-V1	-	
15	NJ15-30GM50-E2	3	
15	NJ15-30GM50-E2-V1	-	
15	NBN15-30GM50-E2	4	
15	NBN15-30GM50-E2-V1	5	
22	NBN22-30GM35-E2	-	
22	NBN22-30GM35-E2-V1	-	
25	NBN25-30GM50-E2	4	
25	NBN25-30GM50-E2-V1	5	
40	NEN40-30GM60-E2-V1	-	
15	NJ15-30GM50-A2	3	
15	NJ15-30GM50-A2-V1	7	
15	NBN15-30GM60-A2	2	
15	NBN15-30GM60-A2-V1	-	
15	NCN15-30GK40-N0	-	
15	NCN15-30GM40-N0	6	
15	NCN15-30GM40-N0-V1	1	

Other electrical versions on demand

Sensor tester



Sensor tester (basic version)

The basic sensor tester for 2- and 3-wire sensors as NAMUR or DC version. Switching function with optical and audible indication.

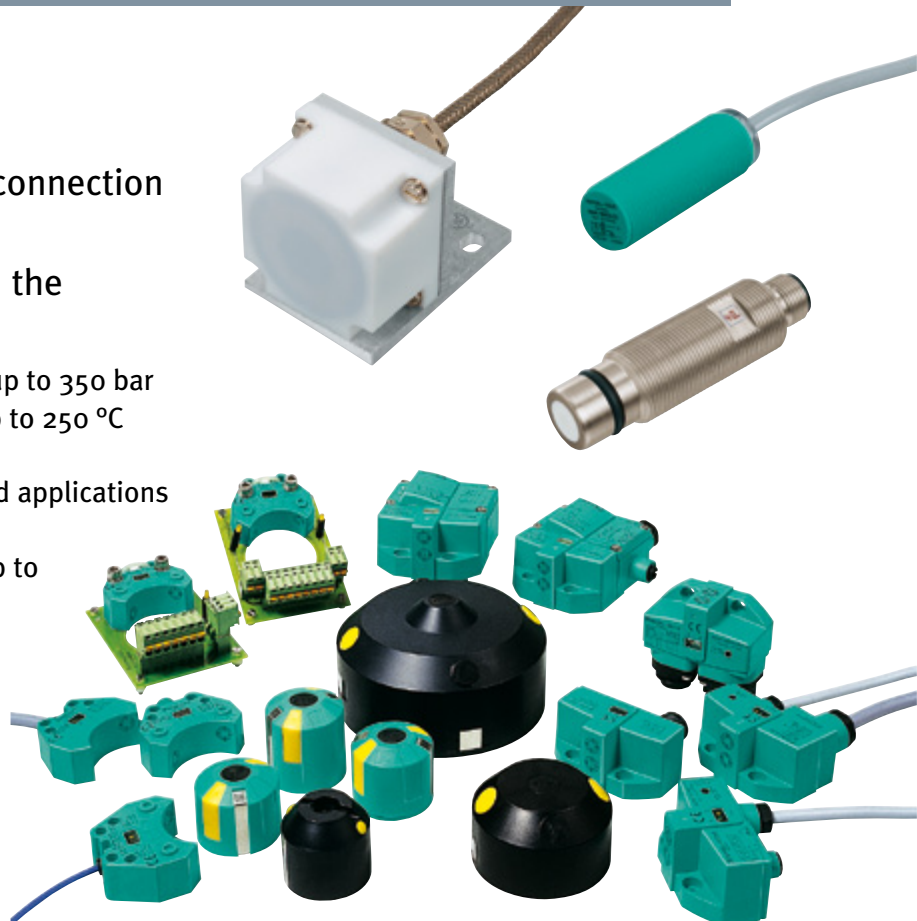


Sensor tester (advanced version)

The advanced sensor tester for 2-, 3- and 4-wire sensors in NAMUR, DC or AC version. The switching function is indicated with LEDs.

IN OUR CATALOG SENSORS FOR FACTORY AUTOMATION YOU WILL FIND:

- Position indicators
- Analog sensors
- Sensors with direct connection to the AS-Interface
- Special sensors with the following features:
 - high pressure resistant up to 350 bar
 - temperature resistant up to 250 °C
 - reduction factor 1
 - sensors for safety related applications
 - weld field immune
 - increased consistency up to IP69k



YOUR APPLICATION. OUR CHALLENGE.

PROCESS INTERFACES

- Intrinsically safe barriers
- Signal conditioners
- Fieldbus infrastructure
- Remote I/O systems
- HART interface solutions
- Wireless solutions
- Level measurement
- Purge and pressurization systems
- Industrial monitors and HMI solutions
- Explosion protection equipment
- Solutions with process interfaces

INDUSTRIAL SENSORS

- Proximity sensors
- Photoelectric sensors
- Industrial vision
- Ultrasonic sensors
- Rotary encoders
- Positioning systems
- Inclination and acceleration sensors
- AS-Interface
- Identification systems
- Logic control units

