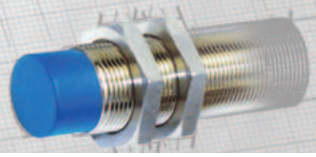


INDUCTIVE SENSORS

Inductive sensors detect the presence of metal objects presence in the sensible area.
They aren't influenced by non-metal materials.

WORKING PRINCIPLE

An oscillating electromagnetic field is generated in the sensible area. When a metal object enters the sensitivity field, it tends to decrease the amplitude of oscillation, creating in this way a switching in the output stage.

In inductive sensors range there are version with linear output in current or in voltage.

In these sensors the presence of metal objects is detected and turned into a signal proportional to the damping of the oscillator, which depends by the distance and metallic composition of the detected object.

INDUCTIVE SENSORS

IPS = high precision (H < 1μm)
AC = amplified a.c. 2 wire cylindrical body inductive series
ACB = amplified a.c. 3 wire cylindrical body inductive series
ACF = amplified a.c. 2 wire slot inductive series
AX = amplified a.c. + d.c. 2 wire 20 ÷ 240 V
AXM = amplified a.c. + d.c. 2 wire 10 ÷ 50 V
DC = cylindrical inductive NOT amplified d.c. NAMUR series 2 wires
DCA = cylindrical inductive amplified d.c. 3-4 wires
DCAL = cylindrical inductive analog linear output
DCE = extended sensing distance d.c. series
DCF = amplified d.c. slot series
DF = inductive slot sensors NOT amplified d.c. NAMUR series
DSA = amplified d.c. cylindrical SHORT body inductive series
DSE = extended sensing distance d.c. SHORT series
DX = amplified d.c. 2 wire 5 function series
DCM = amplified d.c. 2 wire non polarized

Diameter of cylindrical sensor or slot width for slot types.
For other types, change the number with the following:
80B = diameter 80 mm
P = rectangular plastic 5 positions head 40 x 40 x 112
R = rectangular plastic with adjustable sensing distance 100 x 111 x 30
T = rectangular plastic 25 x 40 x 12
X = rectangular plastic 25 x 50 x 10
Y = rectangular plastic 30 x 50 x 15
Z = rectangular plastic 16 x 28 x 10

P = plastic housing

4 = flush mounting **5** = non flush mounting

DCA	18	P/	4	7	0	9	KS	-5	PUR

0 = with connector n° 17 - 18
1 = with connector n° 15 - 16
2 = 90° output with connector n° 1
3 = with connector M12 x 1
4 = with connector n° 1
6 = standard type cable output
7 = cable output with sheath holder
8 = with gland
9 = with connector M8 x 1
A = body length 50 mm completely threaded
E = with connector n° 2
L = side cable output
***** = male connector wired on the sensor (see pag. H-1)

0 = NO (normally open output)
1 = NC (normally closed output)
2 = NO + NC (complementary outputs)
C = NC (output normally closed on pin 2 of connector)
5 = 5 functions sensor

0 = NAMUR series with 2 wires
8 = NPN
9 = PNP
9 = 20 ÷ 240 V. for a.c. sensors
X = 5 functions sensor

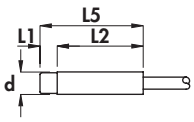
L = smooth body
M = stainless steel sensing face
J = degree of protection IP68
K = protection against short circuit and overload
S = LED output status
T = high temperature version
V = linear sensor with voltage output

Cable length (if required different than standard 2m)

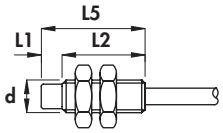
For Polyurethane cable add PUR

NAMUR SERIES - diameters 4 - 5 - 6,5 - 8 - 12 mm •
Non amplified in d.c. 2 wires •
Cable output •

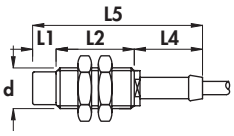
Housing A



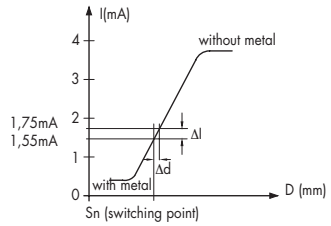
Housing B



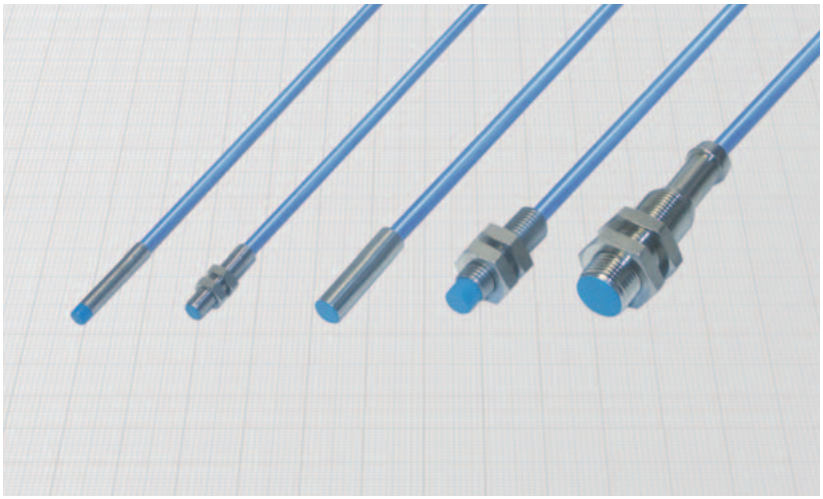
Housing F



Typical curve



Diameter		M5 x 0,5	M8 x 1	M12 x 1
Nut	Size	SW7	SW13	SW17
	Thickness mm	2,5	4	5
Max tightening torque Nm		2	10	15



Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing 4 - 5 - 6,5 - 8 mm: stainless steel
- Housing 12 mm: nickel plated brass
- Sensing face: plastic

Technical data:

- Working voltage: 5 ÷ 30 Vdc
- Supply voltage according to NAMUR: 7,7 ÷ 9 Vdc
- Max ripple: 10%
- Consumption at 8,2 V with Rx = 1000 Ω
  - with metal: ≤ 1 mA
  - without metal: ≥ 3 mA
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Degree of protection: IP67
- Cable conductor cross section: 0,15 mm² on 4 and 5 mm
  0,35 mm² on 6,5 ÷ 12 mm
- According to EN60947-5-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6
- For certified ATEX version see ATEX Catalogue

Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Max switching frequency (f)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES
		mm	mm	mm	mm	mm	mm	mm	KHz	mm	
A	•	-	20	-	-	20	3	4	5	0,8	**DC4/4600L**
B	•	-	20	-	-	20	3	M5 x 0,5	5	0,8	**DC5/4700**
A	•	-	25	-	-	25	4	6,5	5	1,5	**DC6,5/4700L**
A	•	5	20	-	-	25	4	6,5	3	2,5	**DC6,5/5700L**
A	•	-	25	-	-	25	4	8	5	1,5	**DC8/4700L**
B	•	-	25	-	-	25	4	M8 x 1	5	1,5	**DC8/4700**
B	•	5	20	-	-	25	4	M8 x 1	3	2,5	**DC8/5700**
B	•	-	30	-	-	30	4	M12 x 1	5	2	**DC12/4600**
F	•	-	30	-	20	50	4	M12 x 1	5	2	**DC12/4700**
B	•	7	23	-	-	30	4	M12 x 1	1	4	**DC12/5600**
F	•	7	23	-	20	50	4	M12 x 1	1	4	**DC12/5700**

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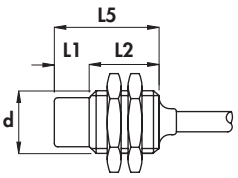
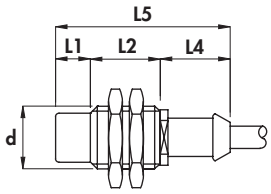
• NAMUR SERIES - diameters 14 - 16 - 18 mm
• Non amplified in d.c. 2 wires
• Cable output

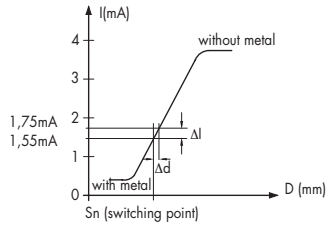
Housing B-1

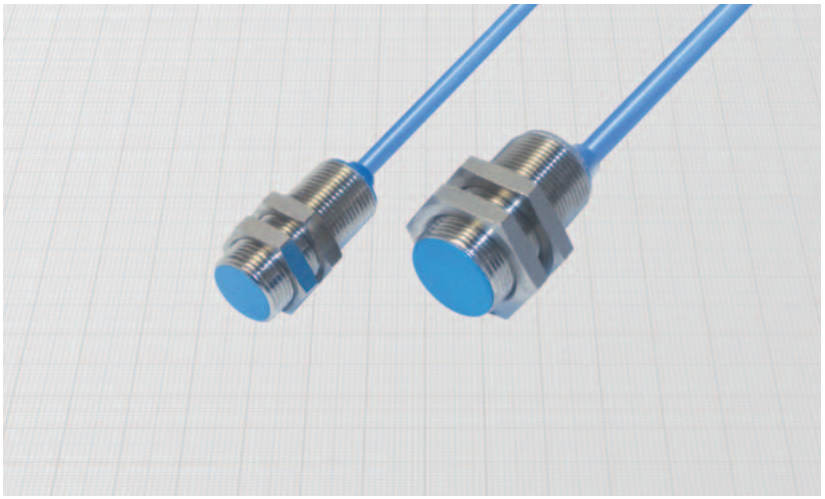


Housing F-1



Typical curve





Diameter		M14 x 1	M16 x 1	M18 x 1
Nut	Size	SW17	SW22	SW24
	Thickness mm	4	4	4
Max tightening torque Nm		20	25	35

Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: nickel plated brass
- Sensing face: plastic

Technical data:

- Working voltage: 5 ÷ 30 Vdc
- Supply voltage according to NAMUR: 7,7 ÷ 9 Vdc
- Max ripple: 10%
- Consumption at 8,2 V with Rx = 1000 Ω
  - with metal: ≤ 1 mA
  - without metal: ≥ 3 mA
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Degree of protection: IP67
- Cable conductor cross section: 0,35 mm² on 14 ÷ 16 mm; 0,50 mm² on 18 mm
- According to EN60947-5-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6
- For certified ATEX version see ATEX Catalogue

Housing	Flush mounting	Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Max switching frequency (f)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES
			mm	mm	mm	mm	mm	mm	mm	KHz	mm	
B-1	•		-	30	-	-	30	4	M14 x 1	2	3	**DC14/4700**
B-1		•	10	30	-	-	40	4	M14 x 1	1	5	**DC14/5700**
B-1	•		-	30	-	-	30	4	M16 x 1	2	4	**DC16/4700**
B-1		•	10	30	-	-	40	4	M16 x 1	1	5,5	**DC16/5700**
B-1	•		-	30	-	-	30	6	M18 x 1	1	5	**DC18/4600**
F-1	•		-	30	-	20	50	6	M18 x 1	1	5	**DC18/4700**
B-1		•	10	20	-	-	30	6	M18 x 1	0,5	8	**DC18/5600**
F-1		•	10	20	-	20	50	6	M18 x 1	0,5	8	**DC18/5700**

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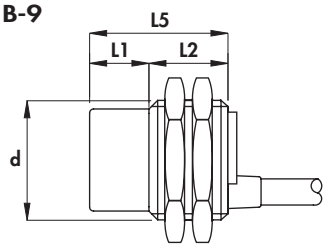
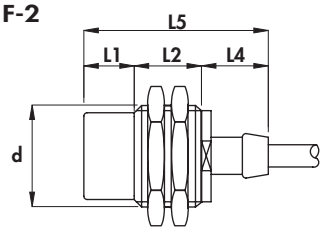
NAMUR SERIES - diameters 4 - 5 - 6,5 - 8 -12 mm •
Non amplified in d.c. 2 wires •
Cable output •

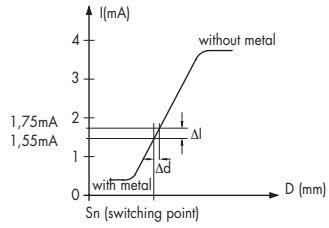
Housing B-9

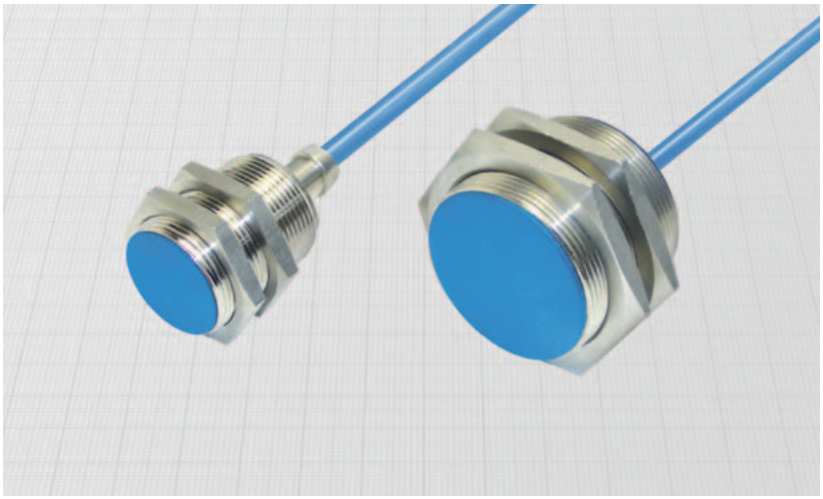


Housing F-2



Typical curve





Diameter		M28 x 1,5	M30 x 1,5	M35 x 1,5	M45 x 1,5
Nut	Size	SW32	SW36	SW41	SW55
	Thickness mm	4	5	5	5
Max tightening torque Nm		80	80	70	70

Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: nickel plated brass
- Sensing face: plastic

Technical data:

- Working voltage: 5 ÷ 30 Vdc
- Supply voltage according to NAMUR: 7,7 ÷ 9 Vdc
- Max ripple: 10%
- Consumption at 8,2 V with Rx = 1000 Ω
  - with metal: ≤ 1 mA
  - without metal: ≥ 3 mA
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Degree of protection: IP67
- Cable conductor cross section: 0,50 mm²
- According to EN60947-5-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6
- For certified ATEX version see ATEX Catalogue

Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Max switching frequency (f)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES
		mm	mm	mm	mm	mm	mm	mm	KHz	mm	
B-9	•	-	35	-	-	35	6	M28 x 1,5	0,3	10	**DC28/4700**
B-9	•	10	25	-	-	35	6	M28 x 1,5	0,2	15	**DC28/5700**
B-9	•	-	35	-	-	35	6	M30 x 1,5	0,3	10	**DC30/4600**
F-2	•	-	35	-	20	55	6	M30 x 1,5	0,3	10	**DC30/4700**
B-9	•	15	20	-	-	35	6	M30 x 1,5	0,2	15	**DC30/5600**
F-2	•	15	20	-	20	55	6	M30 x 1,5	0,2	15	**DC30/5700**
B-9	•	-	35	-	-	35	6	M35 x 1,5	0,3	15	**DC35/4700**
B-9	•	-	35	-	-	35	6	M45 x 1,5	0,3	20	**DC45/4700**

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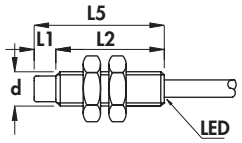
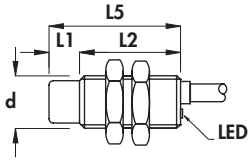
• NAMUR SERIES with LED
• Non amplified in d.c. 2 wires
• Cable output

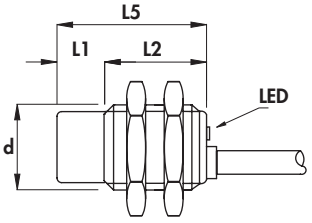
Housing B



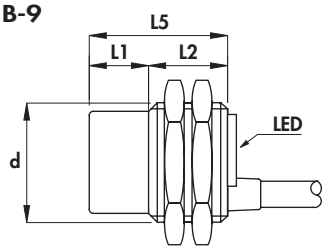
Housing B-4



Housing B-5



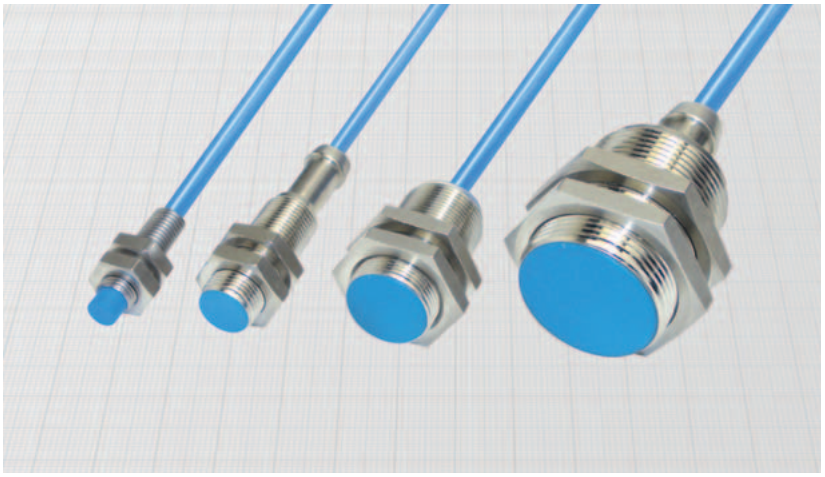
Housing B-9



Diameter		M8 x 1	M12 x 1	M18 x 1	M30 x 1,5
Nut	Size	SW13	SW17	SW24	SW36
	Thickness mm	4	4	4	5
Max tightening torque Nm		10	15	35	80

Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing 8 mm: stainless steel
- Housing 12 - 18 - 30 mm: nickel plated brass
- Sensing face: plastic



General Features:

With this new series of sensors it's possible to drive specific inputs for NAMUR sensors or inputs for 2 wires amplified switches with low current (up to 10 mA). The output is internally triggered and monitored by LED. The load can be applied on both terminals (function PNP or NPN).

Technical data:

- Working voltage: 7,7 ÷ 30 Vdc
- Max ripple: 10%
- Off-state current (I_r): <1 mA
- Minimum operational current (I_m): 2 mA
- Rated operational current (I_e): 10 mA
- Voltage drop (U_d) with load 10 mA: < 6,5 V
- Voltage drop (U_d) with load 8 mA: < 5 V
- Temperature range: - 25° ÷ +70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,35 mm² on 8 and 12 mm
  0,75 mm² on 18 and 30 mm
- Protected against short-circuit and overload (8 mm not included)
- Protected against any wrong connection
- According to EN60947-5-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6
- For certified ATEX version see ATEX Catalogue

Use according to NAMUR:

- Supply voltage: 7,7 ÷ 9 Vdc
- Consumption at 8,2 V with Rx = 1000 Ω with metal: ≤ 1 mA
  without metal: ≥ 3 mA

Housing	Flush mounting	Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Max switching frequency (f)	Nominal sensing distance (S_n) ±10%	ORDERING REFERENCES NO	ORDERING REFERENCES NC
			mm	mm	mm	mm	mm	mm	mm	KHz	mm		
B	•		-	30	-	-	30	4	M8 x 1	3	1,5	**DC8/4600S**	**DC8/4610S**
B		•	5	25	-	-	30	4	M8 x 1	2	2,5	**DC8/5600S**	**DC8/5610S**
B - 4	•		-	30	-	-	30	4	M12 x 1	2	2	**DC12/4600KS**	**DC12/4610KS**
B - 4		•	7	23	-	-	30	4	M12 x 1	1	4	**DC12/5600KS**	**DC12/5610KS**
B - 5	•		-	30	-	-	30	5	M18 x 1	0,8	5	**DC18/4600KS**	**DC18/4610KS**
B - 5		•	10	20	-	-	30	5	M18 x 1	0,6	8	**DC18/5600KS**	**DC18/5610KS**
B - 9	•		-	35	-	-	35	5	M30 x 1,5	0,8	10	**DC30/4600KS**	**DC30/4610KS**
B - 9		•	15	20	-	-	35	5	M30 x 1,5	0,4	15	**DC30/5600KS**	**DC30/5610KS**

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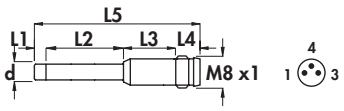
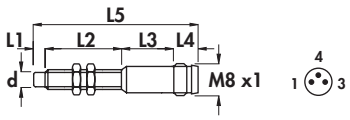
NAMUR SERIES •
Non amplified in d.c. •
Connector output M8 x 1 •

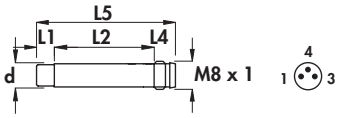
Housing I-3



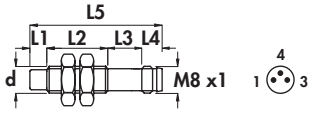
Housing I-4



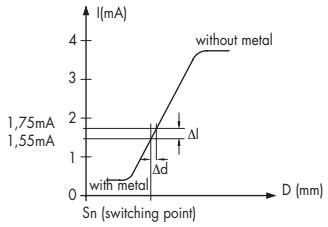
Housing I-8



Housing I-6



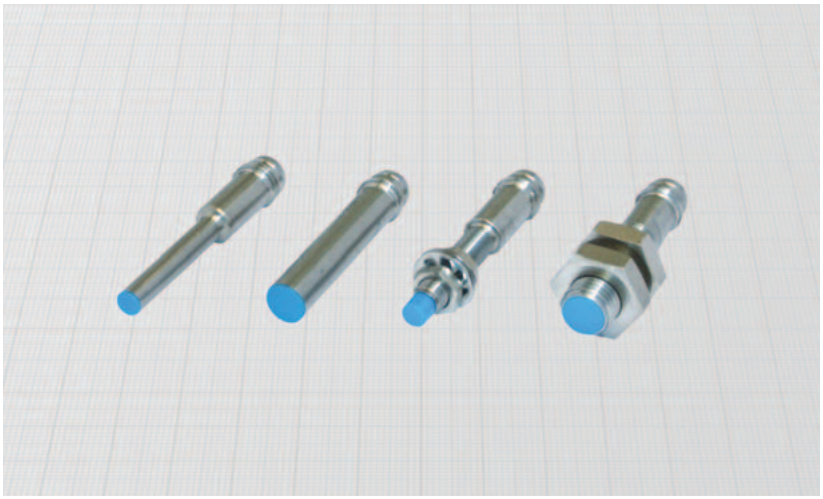
Typical curve



Diameter		M5 x 0,5	M8 x 1
Nut	Size	SW7	SW13
	Thickness mm	2,5	4
Max tightening torque Nm		2	10

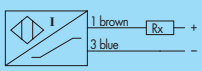
Materials:

- Housing: stainless steel
- Sensing face: plastic



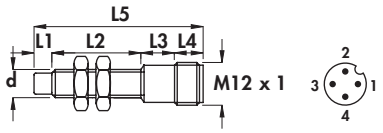
Technical data:

- Working voltage: 5 ÷ 30 Vdc
- Supply voltage according to NAMUR: 7,7 ÷ 9 Vdc
- Max ripple: 10%
- Consumption at 8,2 V with Rx = 1000 Ω
  - with metal: ≤ 1 mA
  - without metal: ≥ 3 mA
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Degree of protection: IP67
- According to EN60947-5-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

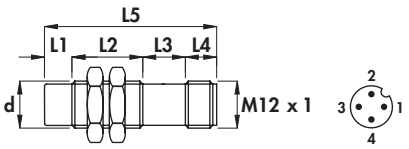
Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Max switching frequency (f)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES
		mm	mm	mm	mm	mm	n°	mm	KHz	mm	
I-3	•	-	22	12	5,5	39,5	11-12	4	5	0,8	**DC4/4900L**
I-4	•	-	22	12	5,5	39,5	11-12	M5 x 0,5	5	0,8	**DC5/4900**
I-8	•	-	29,5	-	5,5	35	11-12	6,5	4	1,5	**DC6,5/4900L**
I-8	•	5	24,5	-	5,5	35	11-12	6,5	3	2,5	**DC6,5/5900L**
I-6	•	-	21	8,5	5,5	35	11-12	M8 x 1	4	1,5	**DC8/4900**
I-6	•	5	16	8,5	5,5	35	11-12	M8 x 1	3	2,5	**DC8/5900**

• NAMUR SERIES
• Non amplified in d.c.
• Connector output M12 x 1

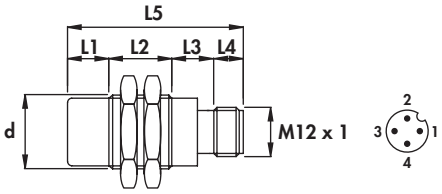
Housing I



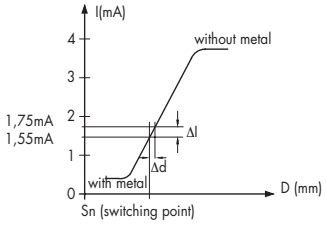
Housing I-9



Housing I-1



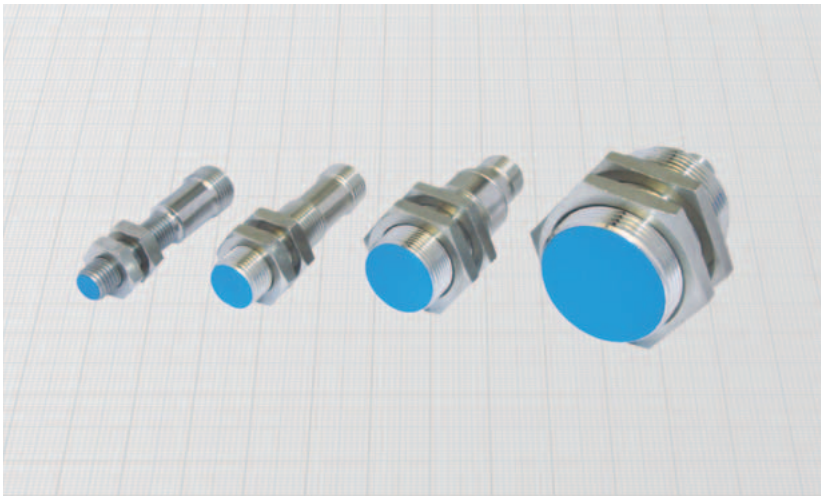
Typical curve



Diameter		M8 x 1	M12 x 1	M18 x 1	M30 x 1,5
Nut	Size	SW13	SW17	SW24	SW36
	Thickness mm	4	4	4	5
Max tightening torque Nm		10	15	35	80

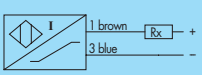
Materials:

- Housing 8 mm: stainless steel
- Housing 12 - 18 - 30 mm: nickel plated brass
- Sensing face: plastic



Technical data:

- Working voltage: 5 ÷ 30 Vdc
- Supply voltage according to NAMUR: 7,7 ÷ 9 Vdc
- Max ripple: 10%
- Consumption at 8,2 V with Rx = 1000 Ω
  - with metal: ≤ 1 mA
  - without metal: ≥ 3 mA
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Degree of protection: IP67
- According to EN60947-5-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6
- For certified ATEX version see ATEX Catalogue

Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Max switching frequency (f)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES
		mm	mm	mm	mm	mm	n°	mm	KHz	mm	
I	•	-	26	13	8	47	6 - 8B - 10	M8 x 1	4	1,5	**DC8/4300**
I	•	5	21	13	8	47	6 - 8B - 10	M8 x 1	3	2,5	**DC8/5300**
I-9	•	-	30	10	8	48	6 - 8B - 10	M12 x 1	2	2	**DC12/4300**
I-9	•	7	23	10	8	48	6 - 8B - 10	M12 x 1	1	4	**DC12/5300**
I-1	•	-	25	15	8	48	6 - 8B - 10	M18 x 1	0,8	5	**DC18/4300**
I-1	•	10	15	15	8	48	6 - 8B - 10	M18 x 1	0,6	8	**DC18/5300**
I-1	•	-	25	17	8	50	6 - 8B - 10	M30 x 1,5	0,8	10	**DC30/4300**
I-1	•	15	25	17	8	65	6 - 8B - 10	M30 x 1,5	0,4	15	**DC30/5300**

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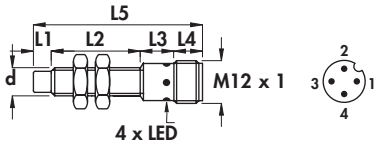
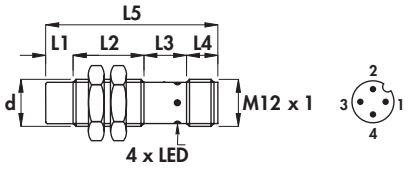
NAMUR SERIES with LED •
Non amplified in d.c. •
Connector output M12 x 1 •

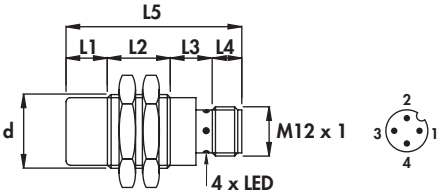
Housing I



Housing I-9



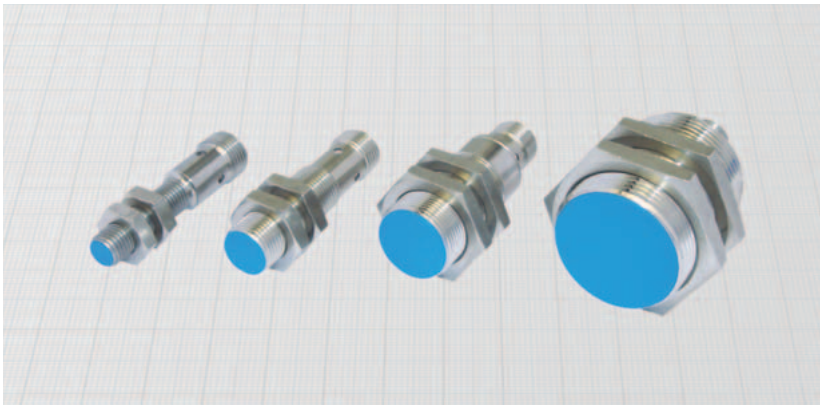
Housing I-1



Diameter		M8 x 1	M12 x 1	M18 x 1	M30 x 1,5
Nut	Size	SW13	SW17	SW24	SW36
	Thickness mm	4	4	4	5
Max tightening torque Nm		10	15	35	80

Materials:

- Housing 8 mm: stainless steel
- Housing 12 - 18 - 30 mm: nickel plated brass
- Sensing face: plastic



General Features:

With this new series of sensors it's possible to drive specific inputs for NAMUR sensors or inputs for 2 wires amplified switches with low current (up to 10 mA). The load can be applied on both terminals (function PNP or NPN).
Thanks to LED monitoring and to the internally triggered output, direct use is allowed with PLC and other electronic inputs optimizing in this way the wiring and the reliability of the entire system.

Technical data:

- Working voltage: 7,7 ÷ 30 Vdc
- Max ripple: 10%
- Off-state current (I_r): < 1 mA
- Minimum operational current (I_m): 2 mA
- Rated operational current (I_e): 10 mA
- Voltage drop (U_d) with load 10 mA: < 6,5 V
- Voltage drop (U_d) with load 8 mA: < 5 V
- Temperature range: - 25° ÷ +70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Protected against short-circuit and overload (8 mm not included)
- Protected against any wrong connection
- According to EN60947-5-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

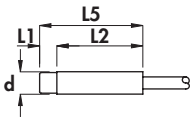
Use according to NAMUR:

- Supply voltage: 7,7 ÷ 9 Vdc
- Consumption at 8,2 V with Rx = 1000 Ω
  - with metal: ≤ 1 mA
  - without metal: ≥ 3 mA
- For certified ATEX version see ATEX Catalogue

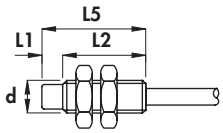
Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Max switching frequency (f)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES NO	ORDERING REFERENCES NC
		mm	mm	mm	mm	mm	n°	mm	KHz	mm		
I	•	-	26	13	8	47	6 - 8B - 10	M8 x 1	3	1,5	**DC8/4300S**	**DC8/4310S**
I	•	5	21	13	8	47	6 - 8B - 10	M8 x 1	2	2,5	**DC8/5300S**	**DC8/5310S**
I-9	•	-	30	10	8	48	6 - 8B - 10	M12 x 1	2	2	**DC12/4300KS**	**DC12/4310KS**
I-9	•	7	23	10	8	48	6 - 8B - 10	M12 x 1	1	4	**DC12/5300KS**	**DC12/5310KS**
I-1	•	-	25	16	8	49	6 - 8B - 10	M18 x 1	0,8	5	**DC18/4300KS**	**DC18/4310KS**
I-1	•	10	15	16	8	49	6 - 8B - 10	M18 x 1	0,6	8	**DC18/5300KS**	**DC18/5310KS**
I-1	•	-	25	17	8	50	6 - 8B - 10	M30 x 1,5	0,8	10	**DC30/4300KS**	**DC30/4310KS**
I-1	•	15	25	17	8	65	6 - 8B - 10	M30 x 1,5	0,4	15	**DC30/5300KS**	**DC30/5310KS**

• NAMUR SERIES - for high temperatures (-25° ÷ +110°C)
• Non amplified in d.c. 2 wires
• Cable output

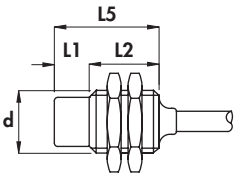
Housing A



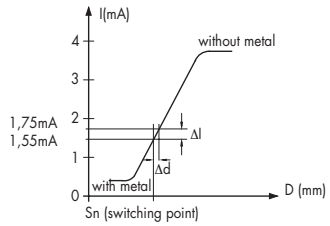
Housing B



Housing B-1



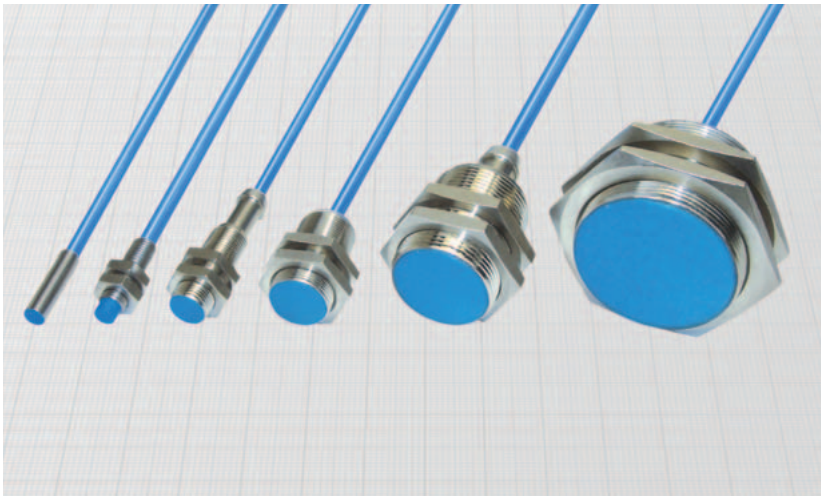
Typical curve



Diameter		M8 x 1	M12 x 1	M18 x 1	M30 x 1,5	M45 x 1,5
Nut	Size	SW13	SW17	SW24	SW36	SW55
	Thickness mm	4	4	4	5	5
Max tightening torque Nm		10	15	35	80	70

Materials:

- Cable: 2 m thermoplastic 140°C; 300 V; O.R.
- Housing 6,5 - 8 mm: stainless steel
- Housing 12 ÷ 45 mm: nickel plated brass
- Sensing face: plastic



Technical data:

- Working voltage: 5 ÷ 30 Vdc
- Supply voltage according to NAMUR: 7,7 ÷ 9 Vdc
- Max ripple: 10%
- Consumption at 8,2 V with Rx = 1000 Ω
  - with metal: ≤ 1 mA
  - without metal: ≥ 3 mA
- Temperature range: - 25° ÷ +110°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Degree of protection: IP67
- Cable conductor cross section: 0,35 mm² on 6,5 ÷12 mm
  0,50 mm² on 18 ÷ 45 mm
- According to EN60947-5-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6
- For certified ATEX version see ATEX Catalogue

Housing	Flush mounting Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Max switching frequency (f)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES
		mm	mm	mm	mm	mm	mm	mm	KHz	mm	
A	•	-	25	-	-	25	4	6,5	5	1,5	**DC6,5/4600LT**
B	•	-	25	-	-	25	4	M8 x 1	5	1,5	**DC8/4600T**
B	•	-	30	-	-	30	4	M12 x 1	5	2	**DC12/4600T**
B - 1	•	-	30	-	-	30	5	M18 x 1	1	5	**DC18/4600T**
B - 1	•	-	35	-	-	35	6	M30 x 1,5	0,3	10	**DC30/4600T**
B - 1	•	-	35	-	-	35	6	M45 x 1,5	0,3	20	**DC45/4600T**

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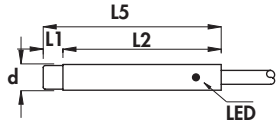
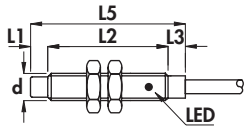
Diameters 4 - 5 mm •
Amplified in d.c. 3 wires •
Cable output •

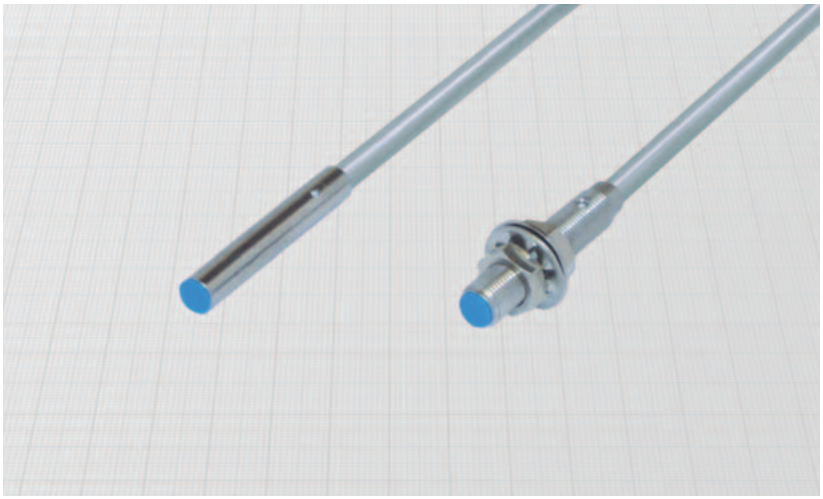
Housing A-3



Housing B-6



Diameter		M5 x 0,5
Nut	Size	SW7
	Thickness mm	2,5
Max tightening torque Nm		2



Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: stainless steel
- Sensing face: plastic

Technical data:

- Supply voltage (U_B): 7 ÷ 30 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 1,5 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,15 mm²
- Protected against short-circuit and overload (versions with letter K)
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting / Non flush mounting	L1	L2	L3	L5	Cable diameter	Body diameter (d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	NC
		mm	mm	mm	mm	mm	mm	KHz	mA	mm		
A - 3	•	-	25	-	25	3	4	5	200	0,8	**DCA4/4609LS**	**DCA4/4619LS**
A - 3	•	3	22	-	25	3	4	5	200	1,4	**DCA4/5609LS**	**DCA4/5619LS**
A - 3	•	-	30	-	30	3	4	5	200	1	**DCA4/4B09LKS**	**DCA4/4B19LKS**
A - 3	•	3	27	-	30	3	4	5	200	1,4	**DCA4/5B09LKS**	**DCA4/5B19LKS**
B - 6	•	-	20	5	25	3	M5 x 0,5	5	200	0,8	**DCA5/4609S**	**DCA5/4619S**
B - 6	•	3	17	5	25	3	M5 x 0,5	5	200	1,4	**DCA5/5609S**	**DCA5/5619S**
B - 6	•	-	25	5	30	3	M5 x 0,5	5	200	1	**DCA5/4B09KS**	**DCA5/4B19KS**
B - 6	•	3	22	5	30	3	M5 x 0,5	5	200	1,4	**DCA5/5B09KS**	**DCA5/5B19KS**

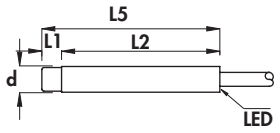
NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie. DCA4/4608LS)

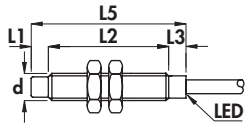
NO / NC

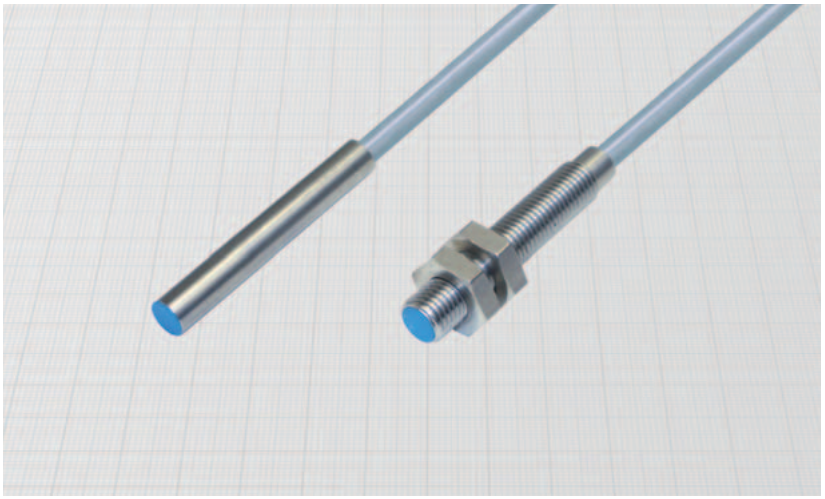
- **Diameters 6,5 - 8 mm**
- **Amplified in d.c. 3 and 4 wires**
- Cable output

Housing A-3



Housing B-6





Diameter		M8 x 1
Nut	Size	SW13
	Thickness mm	4
Max tightening torque Nm		10

Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: stainless steel
- Sensing face: plastic

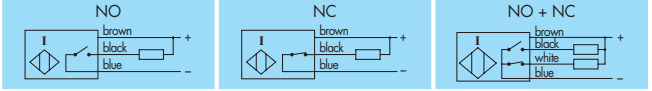
Technical data:

- Supply voltage (U_B): 7 ÷ 30 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 1,5 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,15 mm² on 4 wires versions
  0,22 mm² on 3 wires versions
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting / Non flush mounting	L1	L2	L3	L5	Cable diameter	Body diameter (d)	Max switching frequency (f)	No-load supply current (I_o)	Nominal sensing distance (S_n) ±10%	ORDERING REFERENCES PNP (positive switching) NO	NC	NO + NC
		mm	mm	mm	mm	mm	mm	KHz	mA	mm			
A - 3	•	-	45	-	45	3,5	6,5	4	200	1,5	**DCA6,5/4609LKS**	**DCA6,5/4619LKS**	**DCA6,5/4629LKS**
A - 3	•	5	40	-	45	3,5	6,5	3	200	2,5	**DCA6,5/5609LKS**	**DCA6,5/5619LKS**	**DCA6,5/5629LKS**
A - 3	•	-	45	-	45	3,5	8	4	200	1,5	**DCA8/4609LKS**	**DCA8/4619LKS**	**DCA8/4629LKS**
B - 6	•	-	40	5	45	3,5	M8 x 1	4	200	1,5	**DCA8/4609KS**	**DCA8/4619KS**	**DCA8/4629KS**
A - 3	•	5	40	-	45	3,5	8	3	200	2,5	**DCA8/5609LKS**	**DCA8/5619LKS**	**DCA8/5629LKS**
B - 6	•	5	35	5	45	3,5	M8 x 1	3	200	2,5	**DCA8/5609KS**	**DCA8/5619KS**	**DCA8/5629KS**

NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie. DCA6,5/4608LKS)



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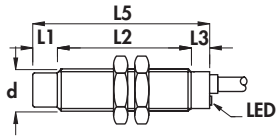
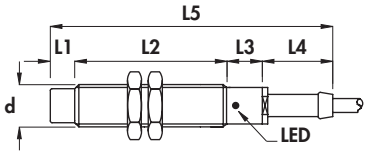
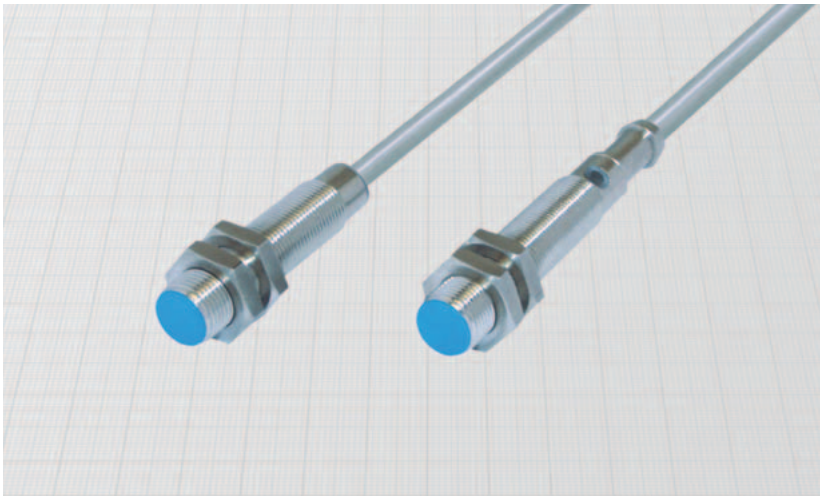
Diameters 12 mm •
Amplified in d.c. 3 and 4 wires •
Cable output •

Housing B-3



Housing D





Diameter		M12 x 1	M14 x 1	M16 x 1
Nut	Size	SW17	SW17	SW22
	Thickness mm	4	4	4
Max tightening torque Nm		15	20	25

Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: nickel plated brass
- Sensing face: plastic

Technical data:

- Supply voltage (U_B): 5 ÷ 40 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 1,5 V
- Temperature range: - 25° ÷ + 75°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,35 mm² on 3 wires
  0,25 mm² on 4 wires

- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

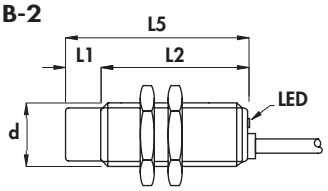
Housing	Flush mounting	Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	NC	NO + NC
			mm	mm	mm	mm	mm	mm	mm	KHz	mA	mm			
B - 3	•		-	43	7	-	50	4	M12 x 1	2	200	2	**DCA12/4609KS**	**DCA12/4619KS**	**DCA12/4629KS**
D	•		-	50	10	20	80	4	M12 x 1	2	200	2	**DCA12/4709KS**	**DCA12/4719KS**	**DCA12/4729KS**
B - 3		•	7	36	7	-	50	4	M12 x 1	1,5	200	4	**DCA12/5609KS**	**DCA12/5619KS**	**DCA12/5629KS**
D		•	7	43	10	20	80	4	M12 x 1	1,5	200	4	**DCA12/5709KS**	**DCA12/5719KS**	**DCA12/5729KS**

NPN (negative switching)
Use the above mentioned part number changing the last number 9 with 8 (ie DCA12/4608KS)

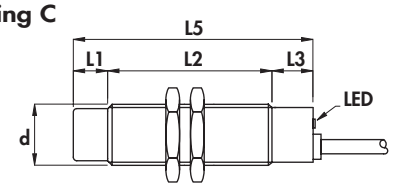
NO: brown, black, blue (+ / −)
NC: brown, black, blue (+ / −)
NO + NC: brown, black, white, blue (+ / −)

- **Diameters 18 mm**
- **Amplified in d.c. 3 and 4 wires**
- Cable output

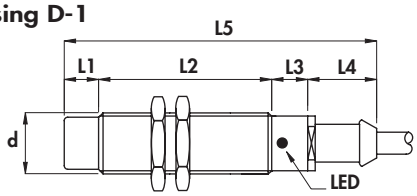
Housing B-2

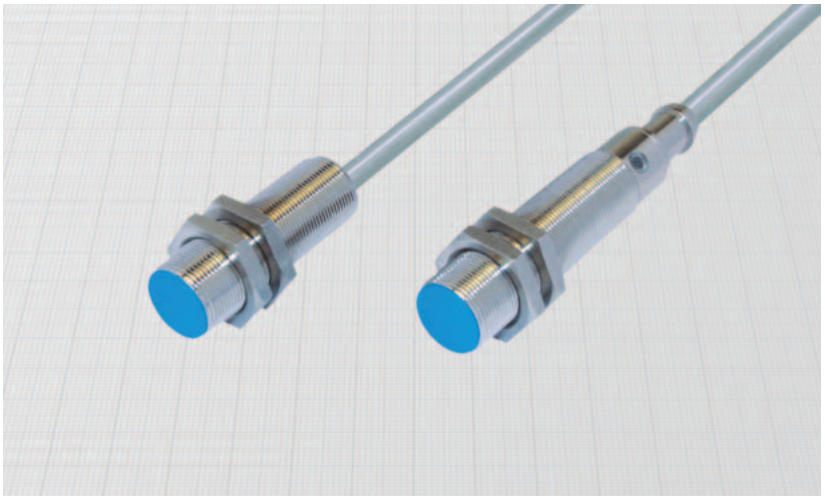


Housing C



Housing D-1





Diameter		M18 x 1
Nut	Size	SW24
	Thickness mm	4
Max tightening torque Nm		35

Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: nickel plated brass
- Sensing face: plastic

Technical data:

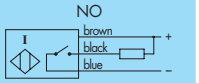
- Supply voltage (U_B): 5 ÷ 60 V
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 2,2 V
- Temperature range: - 25° ÷ + 75°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,50 mm²
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting / Non flush mounting	L1 mm	L2 mm	L3 mm	L4 mm	L5 mm	Cable diameter mm	Body diameter (d) mm	Max switching frequency (f) KHz	No-load supply current (I_e) mA	Nominal sensing distance (S_n) ± 10% mm	ORDERING REFERENCES PNP (positive switching) NO	NC	NO + NC
B - 2	•	-	50	-	-	50	5	M18 x 1	1	400	5	**DCA18/4A09KS**	**DCA18/4A19KS**	**DCA18/4A29KS**
B - 2	•	10	40	-	-	50	5	M18 x 1	1	400	8	**DCA18/5A09KS**	**DCA18/5A19KS**	**DCA18/5A29KS**
C	•	-	58	12	-	70	5	M18 x 1	1	400	5	**DCA18/4609KS**	**DCA18/4619KS**	**DCA18/4629KS**
D - 1	•	-	60	12	20	92	6	M18 x 1	1	400	5	**DCA18/4709KS**	**DCA18/4719KS**	**DCA18/4729KS**
C	•	10	48	12	-	70	5	M18 x 1	1	400	8	**DCA18/5609KS**	**DCA18/5619KS**	**DCA18/5629KS**
D - 1	•	10	50	12	20	92	6	M18 x 1	1	400	8	**DCA18/5709KS**	**DCA18/5719KS**	**DCA18/5729KS**

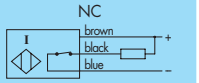
NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie DCA18/4A08KS)

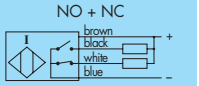
NO



NC



NO + NC



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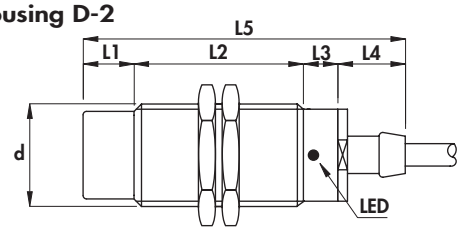
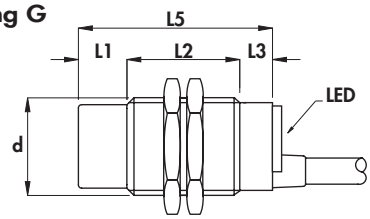
Diameters 30 - 45 mm •
Amplified in d.c. 3 and 4 wires •
Cable output •

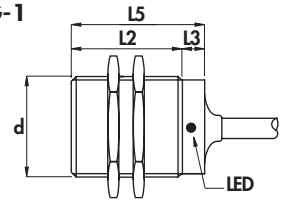
Housing D-2

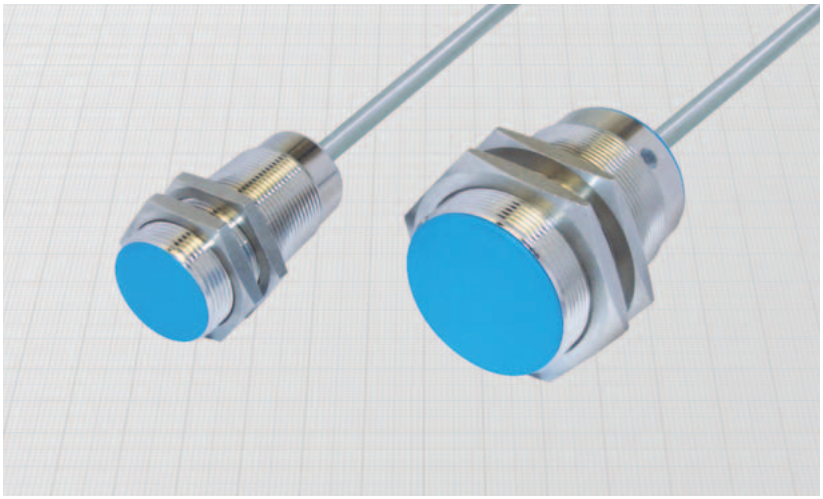


Housing G



Housing G-1





Diameter		M30 x 1,5	M45 x 1,5
Nut	Size	SW36	SW55
	Thickness mm	5	5
Max tightening torque Nm		80	70

Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: nickel plated brass
- Sensing face: plastic

Technical data:

- Supply voltage (U_B): 7 ÷ 60 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 2,2 V
- Temperature range: - 25° ÷ + 75°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,50 mm²
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting	Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Max switching frequency (f)	No-load supply current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	NC	NO + NC
			mm	mm	mm	mm	mm	mm	mm	KHz	mA	mm			
G	•		-	50	10	-	60	6	M30 x 1,5	0,8	400	10	**DCA30/4609KS**	**DCA30/4619KS**	**DCA30/4629KS**
D-2	•		-	65	10	20	95	6	M30 x 1,5	0,8	400	10	**DCA30/4709KS**	**DCA30/4719KS**	**DCA30/4729KS**
G		•	15	35	10	-	60	6	M30 x 1,5	0,4	400	15	**DCA30/5609KS**	**DCA30/5619KS**	**DCA30/5629KS**
D-2		•	15	50	10	20	95	6	M30 x 1,5	0,4	400	15	**DCA30/5709KS**	**DCA30/5719KS**	**DCA30/5729KS**
G-1	•		-	50	10		60	6	M45 x 1,5	0,15	400	20	**DCA45/4609KS**	**DCA45/4619KS**	**DCA45/4629KS**

NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie DCA30/4608KS)

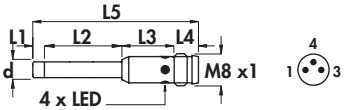
NO: brown, black, blue (+ / –)

NC: brown, black, blue (+ / –)

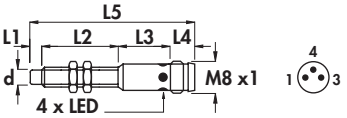
NO + NC: brown, black, white, blue (+ / –)

- **Diameters 4 - 5 - 6,5 - 8 mm**
- **Amplified in c.c.**
- Connector output M8 x 1

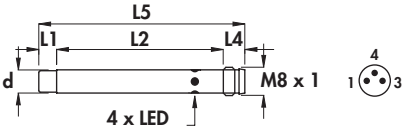
Housing I-3



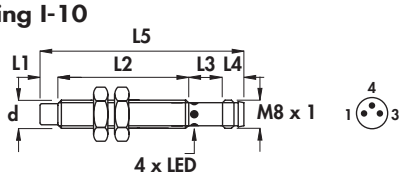
Housing I-4

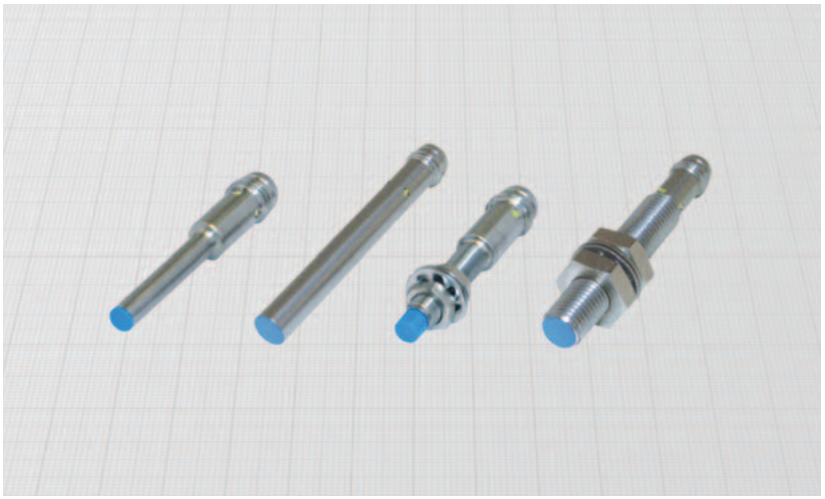


Housing I-5



Housing I-10





Diameter		M5x 0,5	M8 x 1
Nut	Size	SW7	SW13
	Thickness mm	2,5	4
Max tightening torque Nm		2	10

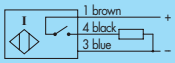
Materials:

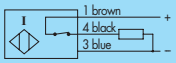
- Housing: stainless steel
- Sensing face: plastic

Technical data:

- Supply voltage (U_B): 7 ÷ 30 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 1,5 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

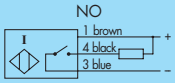
Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	ORDERING REFERENCES PNP (positive switching) NC
		mm	mm	mm	mm	mm	n°	mm	KHz	mA	mm		
I-3	•	-	22	12	5,5	39,5	11-12	4	5	200	1	**DCA4/4909LKS**	**DCA4/4919LKS**
I-3	•	3	19	12	5,5	39,5	11-12	4	5	200	1,4	**DCA4/5909LKS**	**DCA4/5919LKS**
I-4	•	-	22	12	5,5	39,5	11-12	M5 x 0,5	5	200	1	**DCA5/4909KS**	**DCA5/4919KS**
I-4	•	3	19	12	5,5	39,5	11-12	M5 x 0,5	5	200	1,4	**DCA5/5909KS**	**DCA5/5919KS**
I-5	•	-	48,5	-	5,5	54	11-12	6,5	4	200	1,5	**DCA6,5/4909LKS**	**DCA6,5/4919LKS**
I-5	•	5	43,5	-	5,5	54	11-12	6,5	3	200	2,5	**DCA6,5/5909LKS**	**DCA6,5/5919LKS**
I-10	•	-	40	8,5	5,5	54	11-12	M8 x 1	4	200	1,5	**DCA8/4909KS**	**DCA8/4919KS**
I-10	•	5	35	8,5	5,5	54	11-12	M8 x 1	3	200	2,5	**DCA8/5909KS**	**DCA8/5919KS**

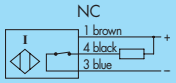




NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie. DCA4/4908LKS)





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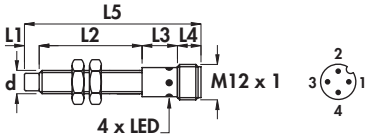
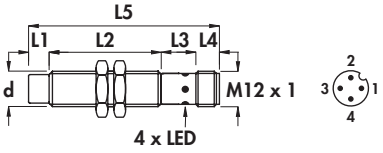
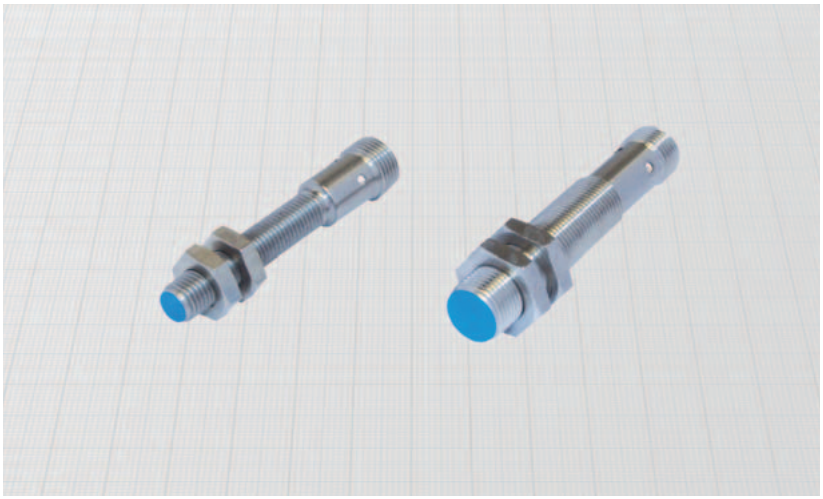
Diameters 8 - 12 mm •
Amplified in d.c. •
Connector output M12 x 1 •

Housing I-11



Housing I-7





Diameter		M8 x 1	M12 x 1
Nut	Size	SW13	SW17
	Thickness mm	4	4
Max tightening torque Nm		10	15

Materials:

- Housing diametro 8 mm: stainless steel
- Housing diametro 12 mm nickel plated brass
- Sensing face: plastic

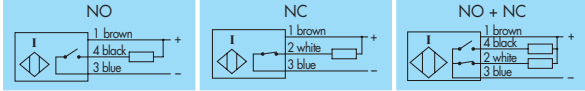
Technical data:

- Supply voltage (U_B): diameter 8 mm 7 ÷ 30 Vdc; diameter 12 mm 5 ÷ 40 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 1,5 V
- Temperature range: - 25° ÷ + 75°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	NC	NO + NC
		mm	mm	mm	mm	mm	n°	mm	KHz	mA	mm			
I-11	•	-	40	12	8	60	6 - 8B -10	M8 x 1	4	200	1,5	**DCA8/4309KS**	**DCA8/43C9KS**	**DCA8/4329KS**
I-11	•	5	35	12	8	60	6 - 8B -10	M8 x 1	3	200	2,5	**DCA8/5309KS**	**DCA8/53C9KS**	**DCA8/5329KS**
I-7	•	-	43	15	8	66	6 - 8B -10	M12 x 1	2	200	2	**DCA12/4309KS**	**DCA12/43C9KS**	**DCA12/4329KS**
I-7	•	7	36	15	8	66	6 - 8B -10	M12 x 1	1,5	200	4	**DCA12/5309KS**	**DCA12/53C9KS**	**DCA12/5329KS**

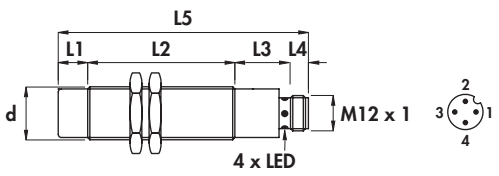
NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie DCA8/4308KS)

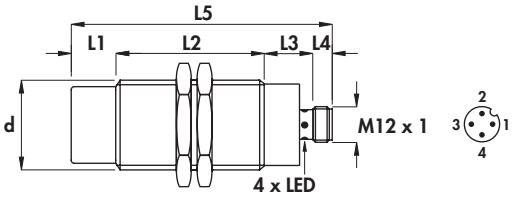


- **Diameters 18 - 30 - 45 mm**
- **Amplified in d.c.**
- Connector output M12 x 1

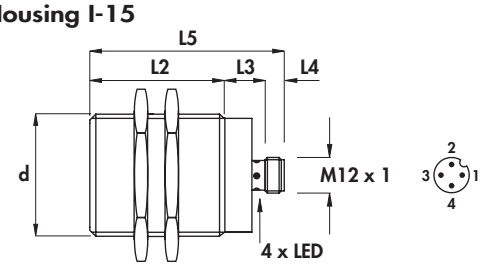
Housing I-12

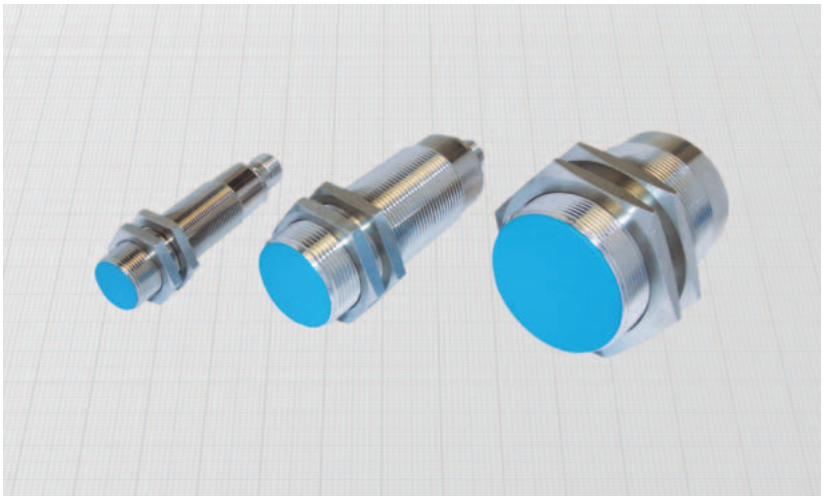


Housing I-2



Housing I-15





Diameter		M18 x 1	M30 x 1,5	M45 x 1,5
Nut	Size	SW24	SW36	SW55
	Thickness mm	4	5	5
Max tightening torque Nm		35	80	70

Materials:

- Housing: nickel plated brass
- Sensing face: plastic

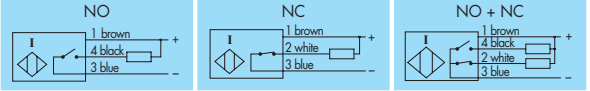
Technical data:

- Supply voltage (U_B): diameter 18 mm 5 ÷ 60 Vdc; diameters 30 and 45 mm 7 ÷ 60 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 2,2 V
- Temperature range: - 25° ÷ + 75°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting	Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	NC	NO + NC
			mm	mm	mm	mm	mm	n°	mm	KHz	mA	mm			
I-12	•		-	50	19	8	77	6-8B-10	M18 x 1	1	400	5	**DCA18/4309KS**	**DCA18/43C9KS**	**DCA18/4329KS**
I-12		•	10	50	19	8	87	6-8B-10	M18 x 1	1	400	8	**DCA18/5309KS**	**DCA18/53C9KS**	**DCA18/5329KS**
I-2	•		-	65	17	8	90	6-8B-10	M30 x 1,5	0,8	400	10	**DCA30/4309KS**	**DCA30/43C9KS**	**DCA30/4329KS**
I-2		•	15	50	17	8	90	6-8B-10	M30 x 1,5	0,4	400	15	**DCA30/5309KS**	**DCA30/53C9KS**	**DCA30/5329KS**
I-15	•		-	50	19	8	77	6-8B-10	M45 x 1,5	0,15	400	20	**DCA45/4309KS**	**DCA45/43C9KS**	**DCA45/4329KS**

NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie DCA18/4308KS)



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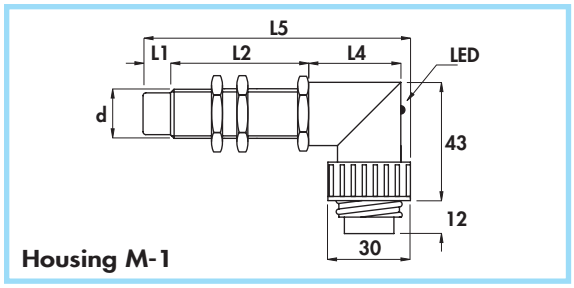
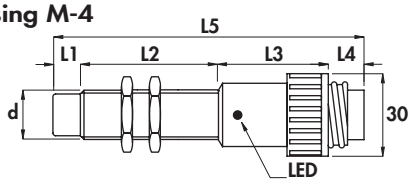
Diameter 18 mm •
Amplified in d.c. •
Connector output C1 - C2 •

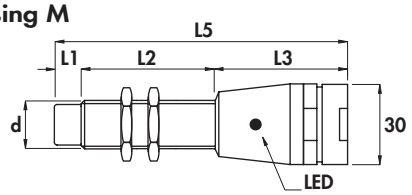


Housing M-1

Housing M-4



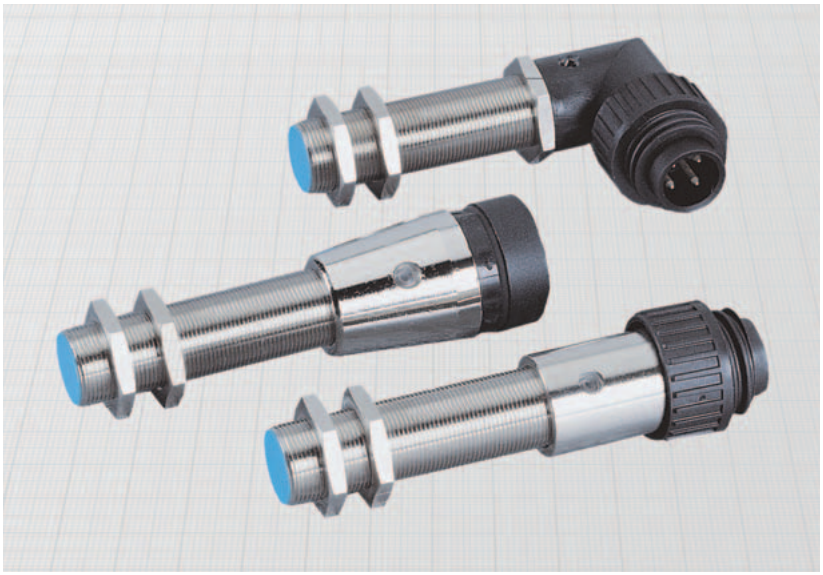
Housing M



Diameter		M18 x 1
Nut	Size	SW24
	Thickness mm	4
Max tightening torque Nm		35

Materials:

- Housing: nickel plated brass
- Sensing face and socket connerctor: plastic



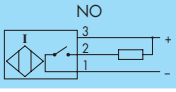
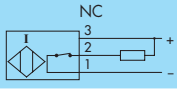
Technical data:

- Supply voltage (U_B): 5 ÷ 60 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 2,2 V
- Temperature range: - 25° ÷ + 75°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP65
- Switch status indicator: yellow LED
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ±10%	ORDERING REFERENCES PNP (positive switching) NO	PNP (positive switching) NC
		mm	mm	mm	mm	mm	n°	mm	KHz	mA	mm		
M - 1	•	-	60	-	33	96	1	M18 x 1	1	400	5	**DCA18/4209KS**	**DCA18/4219KS**
M - 4	•	-	60	40	13	113	1	M18 x 1	1	400	5	**DCA18/4409KS**	**DCA18/4419KS**
M - 1	•	10	50	-	33	96	1	M18 x 1	1	400	8	**DCA18/5209KS**	**DCA18/5219KS**
M - 4	•	10	50	40	13	113	1	M18 x 1	1	400	8	**DCA18/5409KS**	**DCA18/5419KS**

NPN (negative switching)

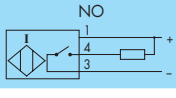
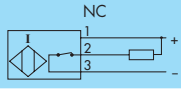
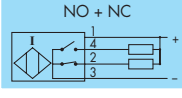
Use the above mentioned part number changing the last number 9 with 8 (ie DCA18/4208KS)

NO	NC
	

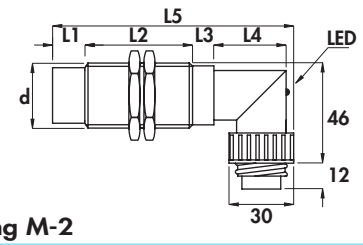
												PNP (positive switching) NO	NC	NO + NC
		mm	mm	mm	mm	mm	n°	mm	KHz	mA	mm			
M	•	-	60	50	-	110	2	M18 x 1	1	400	5	**DCA18/4E09KS**	**DCA18/4E19KS**	**DCA18/4E29KS**
M	•	10	50	50	-	110	2	M18 x 1	1	400	8	**DCA18/5E09KS**	**DCA18/5E19KS**	**DCA18/5E29KS**

NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie DCA18/4E08KS)

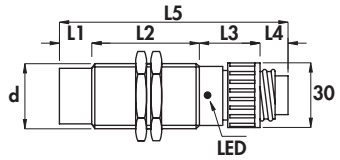
NO	NC	NO + NC
		

- **Diameter 30 mm**
- **Amplified in d.c.**
- Connector output C1 - C2

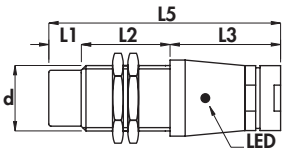


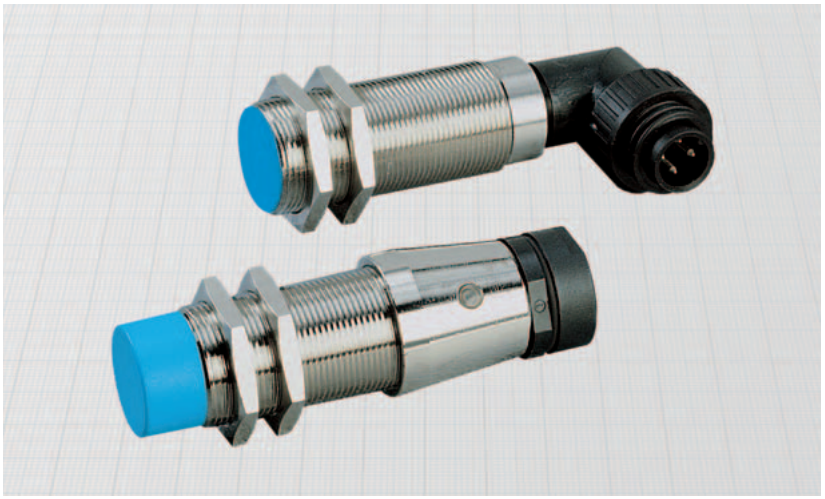
Housing M-2

Housing M-5



Housing M-6





Diameter		M30 x 1,5
Nut	Size	SW36
	Thickness mm	5
Max tightening torque Nm		80

Materials:

- Housing: nickel plated brass
- Sensing face and socket connerctor: plastic

Technical data:

- Supply voltage (U_B): 7 ÷ 60 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 2,2 V
- Temperature range: - 25° ÷ + 75°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP65
- Switch status indicator: yellow LED
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Max switching frequency (f)	No-load supply current (I_e)	Nominal sensing distance (S_n) ±10%	ORDERING REFERENCES PNP (positive switching) NO	ORDERING REFERENCES PNP (positive switching) NC
		mm	mm	mm	mm	mm	n°	mm	KHz	mA	mm		
M-2	•	-	65	10	40	115	1	M30 x 1,5	0,8	400	10	**DCA30/4209KS**	**DCA30/4219KS**
M-5	•	-	65	28	13	106	1	M30 x 1,5	0,8	400	10	**DCA30/4409KS**	**DCA30/4419KS**
M-2	•	15	50	10	40	115	1	M30 x 1,5	0,4	400	15	**DCA30/5209KS**	**DCA30/5219KS**
M-5	•	15	50	28	13	106	1	M30 x 1,5	0,4	400	15	**DCA30/5409KS**	**DCA30/5419KS**

NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie DCA30/4208KS)

NO NC

		mm	mm	mm	mm	mm	n°	mm	KHz	mA	mm	PNP (positive switching) NO	PNP (positive switching) NC	PNP (positive switching) NO + NC
M-6	•	-	56	51	-	107	2	M30 x 1,5	0,8	400	10	**DCA30/4E09KS**	**DCA30/4E19KS**	**DCA30/4E29KS**
M-6	•	15	41	51	-	107	2	M30 x 1,5	0,4	400	15	**DCA30/5E09KS**	**DCA30/5E19KS**	**DCA30/5E29KS**

NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie. DCA30/4E08KS)

NO NC NO + NC

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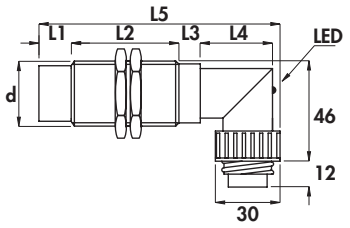
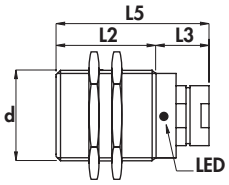
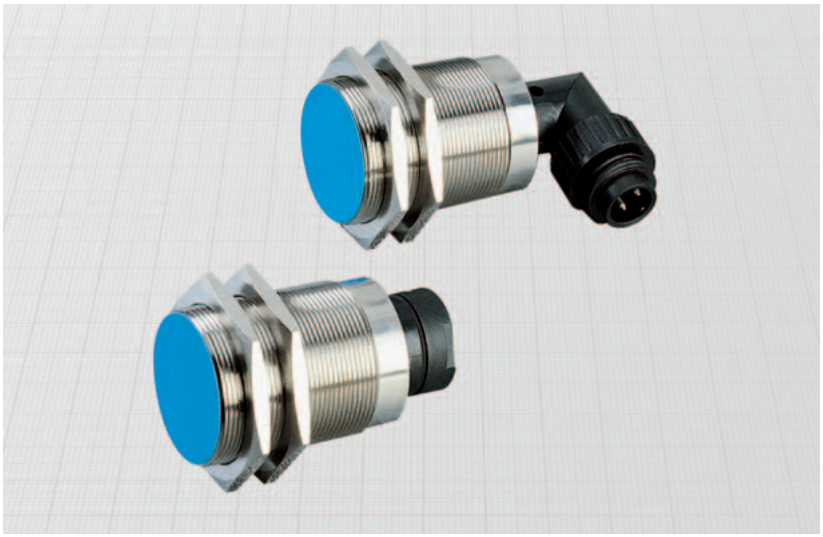
Diameter 45 mm •
Amplified in d.c. •
Connector output C1 - C2 •



Housing M-2

Housing M-3





Diameter		M45 x 1,5
Nut	Size	SW55
	Thickness mm	5
Max tightening torque Nm		70

Materials:
- Housing: nickel plated brass
- Sensing face and socket connerctor: plastic

Technical data:
- Supply voltage (U_B): 7 ÷ 60 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 2,2 V
- Temperature range: - 25° ÷ + 75°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP65
- Switch status indicator: yellow LED
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ±10%	ORDERING REFERENCES PNP (positive switching) NO	PNP (positive switching) NC
		mm	mm	mm	mm	mm	n°	mm	KHz	mA	mm		
M - 2	•	-	50	10	42	102	1	M45 x 1,5	0,15	400	20	**DCA45/4209KS**	**DCA45/4219KS**

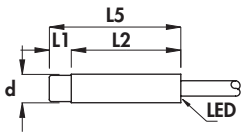
NPN (negative switching)
Use the above mentioned part number changing the last number 9 with 8 (ie DCA45/4208KS)

												PNP (positive switching) NO	PNP (positive switching) NC	PNP (positive switching) NO + NC
		mm	mm	mm	mm	mm	n°	mm	KHz	mA	mm			
M - 3	•	-	50	28	-	78	2	M45 x 1,5	0,15	400	20	**DCA45/4E09KS**	**DCA45/4E19KS**	**DCA45/4E29KS**

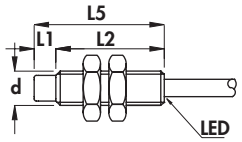
NPN (negative switching)
Use the above mentioned part number changing the last number 9 with 8 (ie DCA45/4E08KS)

- **SHORT SERIES**
- **Amplified in d.c. 3 wires**
- Cable output

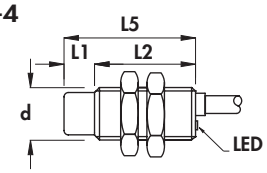
Housing A



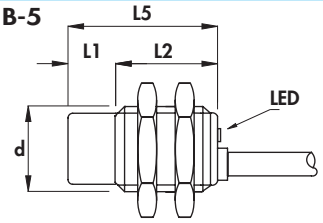
Housing B

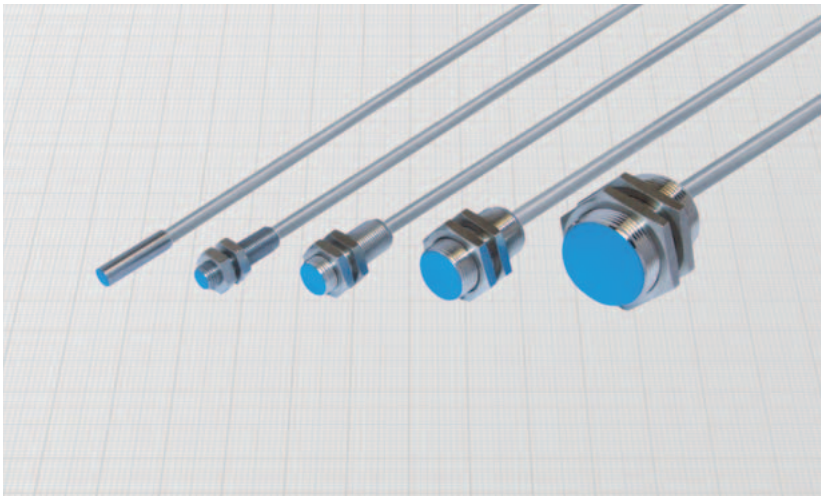


Housing B-4



Housing B-5





Diameter		M8 x 1	M12 x 1	M18 x 1	M30 x 1,5
Nut	Size	SW13	SW17	SW24	SW36
	Thickness mm	4	4	4	5
Max tightening torque Nm		10	15	35	80

Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing 6,5 and 8 mm: stainless steel
- Housing 12 ÷ 30 mm: nickel plated brass
- Sensing face: plastic

Technical data:

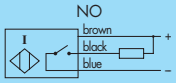
- Supply voltage (U_B): see ordering references
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 1,5 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,22 mm² on 6,5 and 8 mm
  0,35 mm² on 12 mm
  0,50 mm² on 18 and 30 mm
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting	Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Supply voltage (U_B)	Max switching frequency (f)	No-load supply current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	ORDERING REFERENCES PNP (positive switching) NC
			mm	mm	mm	mm	mm	mm	mm	V (min - max)	KHz	mA	mm		
A	•		-	30	-	-	30	3,5	6,5	7 ÷ 30	4	200	1,5	**DSA6,5/4609LKS**	**DSA6,5/4619LKS**
A		•	5	25	-	-	30	3,5	6,5	7 ÷ 30	3	200	2,5	**DSA6,5/5609LKS**	**DSA6,5/5619LKS**
B	•		-	30	-	-	30	3,5	M8 x 1	7 ÷ 30	4	200	1,5	**DSA8/4609KS**	**DSA8/4619KS**
B		•	5	25	-	-	30	3,5	M8 x 1	7 ÷ 30	3	200	2,5	**DSA8/5609KS**	**DSA8/5619KS**
B - 4	•		-	30	-	-	30	4	M12 x 1	7 ÷ 40	2	200	2	**DSA12/4609KS**	**DSA12/4619KS**
B - 4		•	7	23	-	-	30	4	M12 x 1	7 ÷ 40	1,5	200	4	**DSA12/5609KS**	**DSA12/5619KS**
B - 5	•		-	30	-	-	30	5	M18 x 1	5 ÷ 40	0,8	200	5	**DSA18/4609KS**	**DSA18/4619KS**
B - 5		•	10	20	-	-	30	5	M18 x 1	5 ÷ 40	0,6	200	8	**DSA18/5609KS**	**DSA18/5619KS**
B - 5	•		-	35	-	-	35	6	M30 x 1,5	7 ÷ 40	0,8	200	10	**DSA30/4609KS**	**DSA30/4619KS**
B - 5		•	15	20	-	-	35	6	M30 x 1,5	7 ÷ 40	0,4	200	15	**DSA30/5609KS**	**DSA30/5619KS**

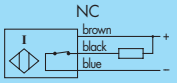
NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie. DSA6,5/4608LKS)

NO



NC



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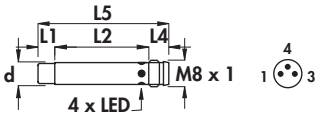
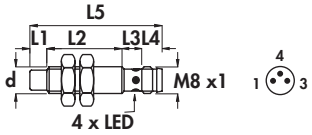
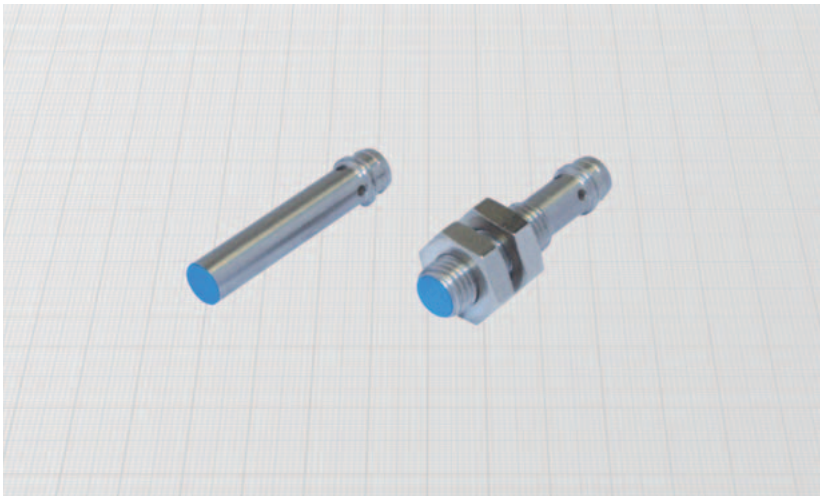
SHORT SERIES - diameters 6,5 - 8 mm •
Amplified in d.c. •
Connector output M8 x 1 •

Housing I-8



Housing I-6





Diameter		M8 x 1
Nut	Size	SW13
	Thickness mm	4
Max tightening torque Nm		10

Materials:

- Housing: stainless steel
- Sensing face: plastic

Technical data:

- Supply voltage (U_B): 7 ÷ 30 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 1,5 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

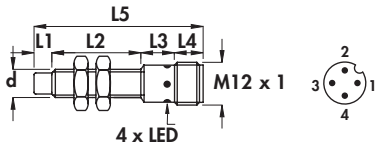
Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	ORDERING REFERENCES PNP (positive switching) NC
		mm	mm	mm	mm	mm	n°	mm	KHz	mA	mm		
I-8	•	-	29,5	-	5,5	35	11 - 12	6,5	4	200	1,5	**DSA6,5/4909LKS**	**DSA6,5/4919LKS**
I-8	•	5	24,5	-	5,5	35	11 - 12	6,5	3	200	2,5	**DSA6,5/5909LKS**	**DSA6,5/5919LKS**
I-6	•	-	21	8,5	5,5	35	11 - 12	M8 x 1	4	200	1,5	**DSA8/4909KS**	**DSA8/4919KS**
I-6	•	5	16	8,5	5,5	35	11 - 12	M8 x 1	3	200	2,5	**DSA8/5909KS**	**DSA8/5919KS**

NPN (negative switching)

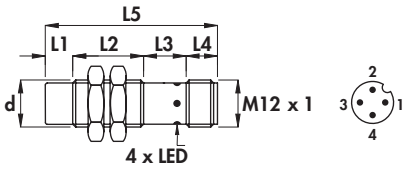
Use the above mentioned part number changing the last number 9 with 8 (ie. DCA45/4E08KS)

• SHORT SERIES - diameters 8 - 12 - 18 - 30 mm
• Amplified in d.c.
• Connector output M12 x 1

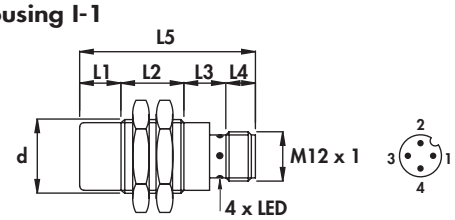
Housing I

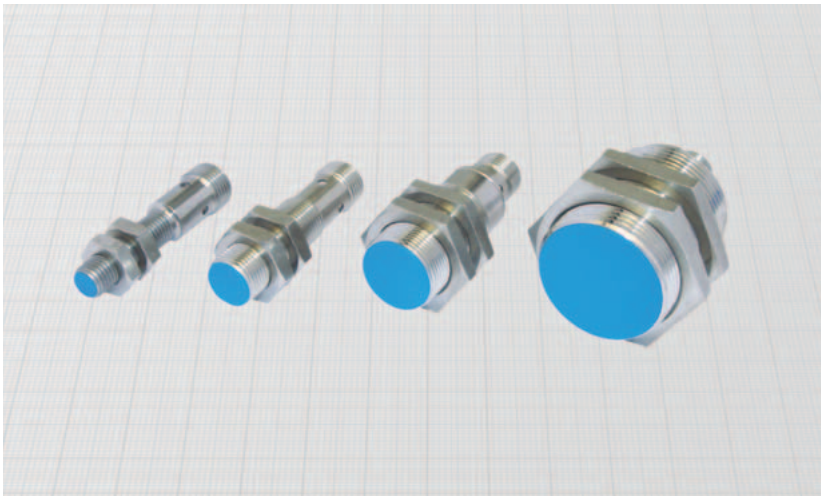


Housing I-9



Housing I-1





Diameter		M8 x 1	M12 x 1	M18 x 1	M30 x 1,5
Nut	Size	SW13	SW17	SW24	SW36
	Thickness mm	4	4	4	5
Max tightening torque Nm		10	15	35	80

Materials:

- Housing 8 mm: stainless steel
- Housing 12 ÷ 30 mm: nickel plated brass
- Sensing face: plastic

Technical data:

- Supply voltage (U_B): see ordering references
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 1,5 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting	Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Supply voltage (U_B)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	ORDERING REFERENCES PNP (positive switching) NC
			mm	mm	mm	mm	mm	n°	mm	V (min - max)	KHz	mA	mm		
I	•		-	26	13	8	47	6 - 8B -10	M8 x 1	7 ÷ 30	4	200	1,5	**DSA8/4309KS**	**DSA8/43C9KS**
I		•	5	21	13	8	47	6 - 8B -10	M8 x 1	7 ÷ 30	3	200	2,5	**DSA8/5309KS**	**DSA8/53C9KS**
I-9	•		-	30	10	8	48	6 - 8B -10	M12 x 1	7 ÷ 40	2	200	2	**DSA12/4309KS**	**DSA12/43C9KS**
I-9		•	7	23	10	8	48	6 - 8B -10	M12 x 1	7 ÷ 40	1	200	4	**DSA12/5309KS**	**DSA12/53C9KS**
I-1	•		-	25	16	8	49	6 - 8B -10	M18 x 1	5 ÷ 40	0,8	200	5	**DSA18/4309KS**	**DSA18/43C9KS**
I-1		•	10	15	16	8	49	6 - 8B -10	M18 x 1	5 ÷ 40	0,6	200	8	**DSA18/5309KS**	**DSA18/53C9KS**
I-1	•		-	25	17	8	50	6 - 8B -10	M30 x 1,5	7 ÷ 40	0,8	200	10	**DSA30/4309KS**	**DSA30/43C9KS**
I-1		•	15	25	17	8	65	6 - 8B -10	M30 x 1,5	7 ÷ 40	0,4	200	15	**DSA30/5309KS**	**DSA30/53C9KS**

NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie. DSA8/4308KS)

NO: 1 brown, 4 black, 3 blue

NC: 1 brown, 2 white, 3 blue

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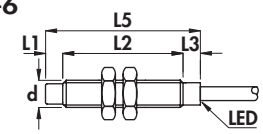
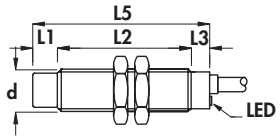
Extended sensing distance - diameters 8 - 12 mm •
Amplified in d.c. 3 wires •
Cable output •

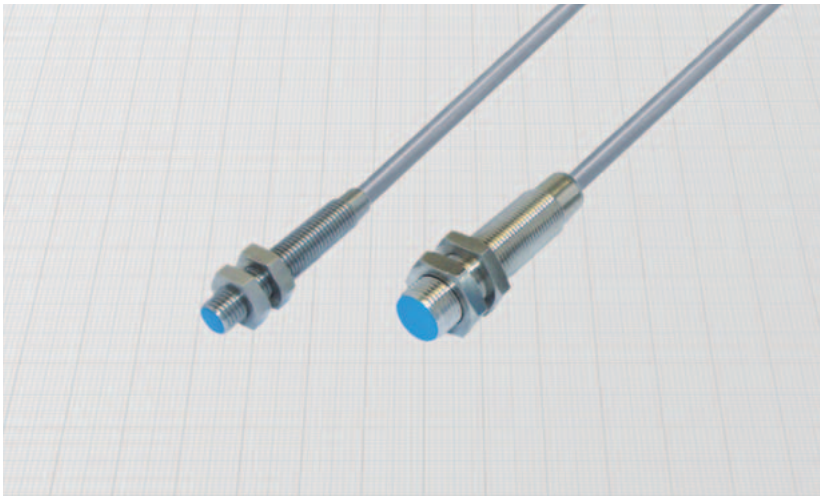
Housing B-6



Housing B-3



Diameter		M8 x 1	M12 x 1
Nut	Size	SW13	SW17
	Thkns mm	4	4
Max tightening torque Nm		10	15



Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing 8 mm: stainless steel
- Housing 12 mm: nickel plated brass
- Sensing face: plastic

Technical data:

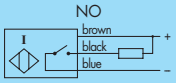
- Supply voltage (U_B): see ordering references
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 1,5 V
- Temperature range: - 20° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 4%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,22 mm² on 8 mm
  0,35 mm² on 12 mm

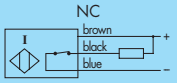
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting (*) / Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Supply voltage (U_B)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	ORDERING REFERENCES PNP (positive switching) NC
		mm	mm	mm	mm	mm	mm	mm	V (min - max)	Hz	mA	mm		
B - 6	•	-	40	5	-	45	3,5	M8 x 1	7÷30	800	200	2	**DCAE8/4609KS**	**DCAE8/4619KS**
B - 6	•	-	40	5	-	45	3,5	M8 x 1	7÷30	800	200	2,5	**DCE8/4609KS**	**DCE8/4619KS**
B - 6	•	5	35	5	-	45	3,5	M8 x 1	7÷30	400	200	3	**DCAE8/5609KS**	**DCAE8/5619KS**
B - 6	•	5	35	5	-	45	3,5	M8 x 1	7÷30	400	200	3,5	**DCE8/5609KS**	**DCE8/5619KS**
B - 3	•	-	43	7	-	50	4	M12 x 1	7÷40	800	200	3	**DCAE12/4609KS**	**DCAE12/4619KS**
B - 3	•	-	43	7	-	50	4	M12 x 1	7÷40	800	200	4	**DCE12/4609KS**	**DCE12/4619KS**
B - 3	•	7	36	7	-	50	4	M12 x 1	7÷40	600	200	5	**DCAE12/5609KS**	**DCAE12/5619KS**
B - 3	•	7	36	7	-	50	4	M12 x 1	7÷40	600	200	6	**DCE12/5609KS**	**DCE12/5619KS**

(*) Note: See mounting precautions (pag. 22)

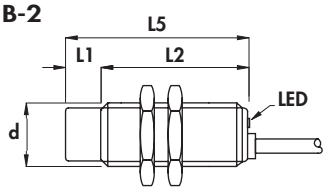
NPN (negative switching)
Use the above mentioned part number changing the last number 9 with 8 (ie. DCE8/4608KS)



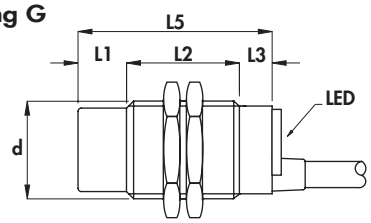


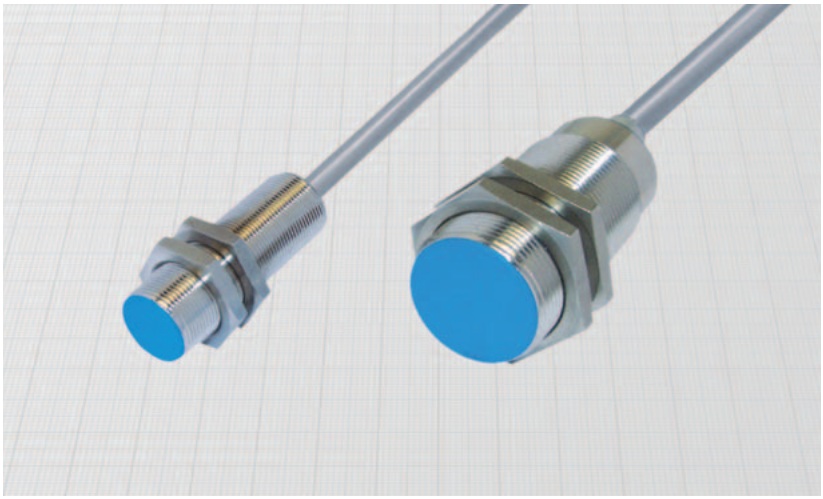
• Extended sensing distance - diameters 18 - 30 mm
• Amplified in d.c. 3 wires
• Cable output

Housing B-2



Housing G





Diameter		M18 x 1	M30 x 1,5
Nut	Size	SW24	SW36
	Thkns mm	4	5
Max tightening torque Nm		35	80

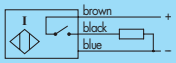
Materials:

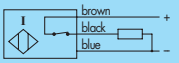
- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: nickel plated brass
- Sensing face: plastic

Technical data:

- Supply voltage (U_B): see ordering references
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 1,5 V
- Temperature range: - 20° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 4%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,50 mm²
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting (*) Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Supply voltage (U_B)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	ORDERING REFERENCES PNP (positive switching) NC
		mm	mm	mm	mm	mm	mm	mm	V (min - max)	Hz	mA	mm		
B - 2	•	-	50	-	-	50	5	M18 x 1	7÷40	300	200	8	**DCAE18/4A09KS**	**DCAE18/4A19KS**
B - 2	•	-	50	-	-	50	5	M18 x 1	7÷40	300	200	10	**DCE18/4A09KS**	**DCE18/4A19KS**
B - 2	•	10	40	-	-	50	5	M18 x 1	7÷40	200	200	12	**DCAE18/5A09KS**	**DCAE18/5A19KS**
B - 2	•	10	40	-	-	50	5	M18 x 1	7÷40	200	200	14	**DCE18/5A09KS**	**DCE18/5A19KS**
G	•	-	50	10	-	60	6	M30 x 1,5	7÷40	100	200	15	**DCAE30/4609KS**	**DCAE30/4619KS**
G	•	-	50	10	-	60	6	M30 x 1,5	7÷40	100	200	20	**DCE30/4609KS**	**DCE30/4619KS**
G	•	15	35	10	-	60	6	M30 x 1,5	7÷40	100	200	20	**DCAE30/5609KS**	**DCAE30/5619KS**
G	•	15	35	10	-	60	6	M30 x 1,5	7÷40	100	200	28	**DCE30/5609KS**	**DCE30/5619KS**

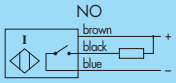


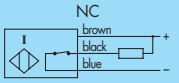


(*) Note: See mounting precautions (pag. 22)

NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie. DCE8/4608KS)





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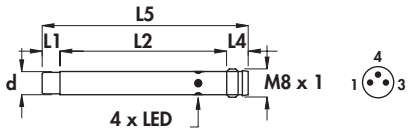
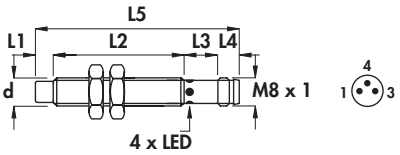
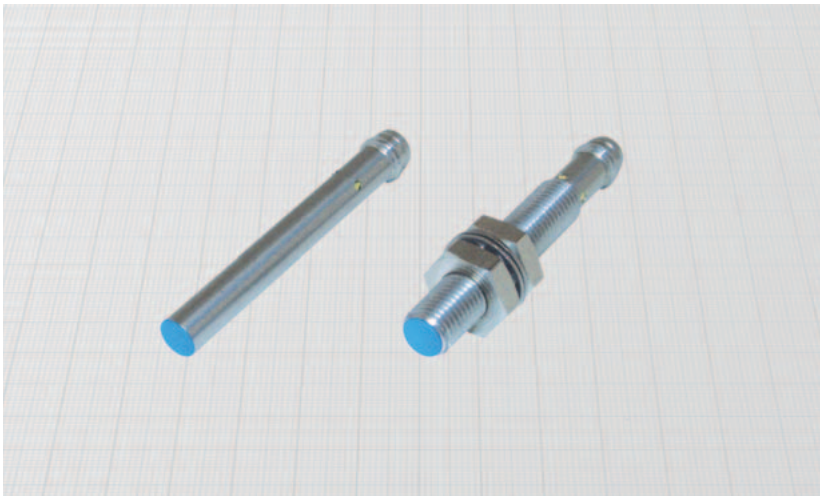
Extended sensing distance •
Amplified in d.c. •
Connector output M8 x 1 •

Housing I-5



Housing I-10





Diameter		M8 x 1
Nut	Size	SW13
	Thickness mm	4
Max tightening torque Nm		10

Materials:

- Housing: stainless steel
- Sensing face: plastic

Technical data:

- Supply voltage (U_B): 7 ÷ 30 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 1,5 V
- Temperature range: - 20° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 4%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting (*) Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	NC
		mm	mm	mm	mm	mm	n°	mm	Hz	mA	mm		
I-5	•	-	48,5	-	5,5	54	11 - 12	6,5	800	200	2	**DCAE6,5/4909LKS**	**DCAE6,5/4919LKS**
I-5	•	-	48,5	-	5,5	54	11 - 12	6,5	800	200	2,5	**DCE6,5/4909LKS**	**DCE6,5/4919LKS**
I-5	•	5	43,5	-	5,5	54	11 - 12	6,5	400	200	3	**DCAE6,5/5909LKS**	**DCAE6,5/5919LKS**
I-5	•	5	43,5	-	5,5	54	11 - 12	6,5	400	200	3,5	**DCE6,5/5909LKS**	**DCE6,5/5919LKS**
I-10	•	-	40	8,5	5,5	54	11 - 12	M8 x 1	800	200	2	**DCAE8/4909KS**	**DCAE8/4919KS**
I-10	•	-	40	8,5	5,5	54	11 - 12	M8 x 1	800	200	2,5	**DCE8/4909KS**	**DCE8/4919KS**
I-10	•	5	35	8,5	5,5	54	11 - 12	M8 x 1	400	200	3	**DCAE8/5909KS**	**DCAE8/5919KS**
I-10	•	5	35	8,5	5,5	54	11 - 12	M8 x 1	400	200	3,5	**DCE8/5909KS**	**DCE8/5919KS**

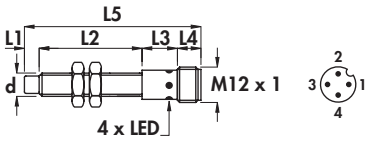
(*) Note: See mounting precautions (pag. 22)

NPN (negative switching)

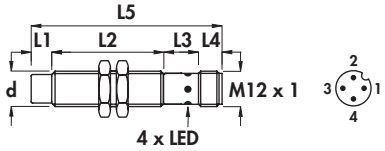
Use the above mentioned part number changing the last number 9 with 8 (ie. DCAE6,5/4908LKS)

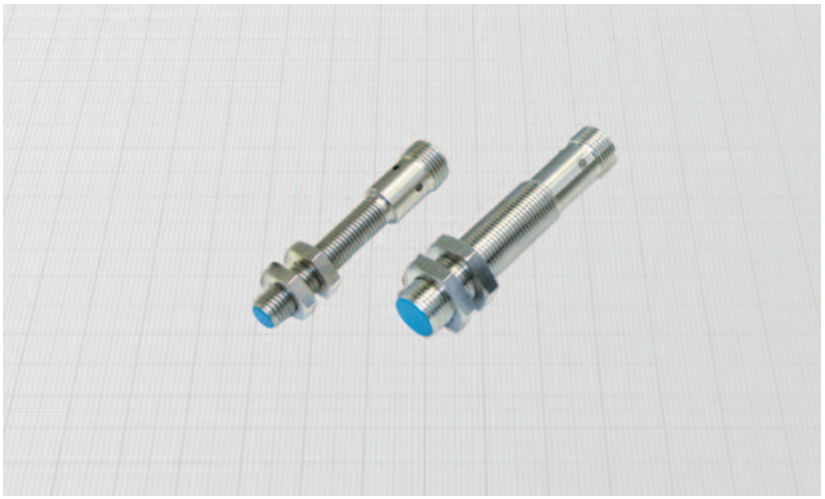
• Extended sensing distance - diameter 8 - 12 mm
• Amplified in d.c.
• Connector output M12 x 1

Housing I-11



Housing I-7





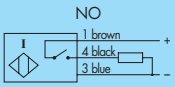
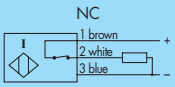
Diameter		M8 x 1	M12 x 1
Nut	Size	SW13	SW17
	Thkns mm	4	4
Max tightening torque Nm		10	15

Materials:

- Housing 8 mm: stainless steel
- Housing 12 mm: nickel plated brass
- Sensing face: plastic

Technical data:

- Supply voltage (U_B): see ordering references
- Max ripple: 10%
- Rated operational current (I_e): 200 mA
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 1,5 V
- Temperature range: - 20° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 4%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

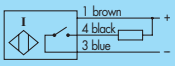
Housing	Flush mounting (*) Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Supplu voltage (U_B)	Max switching frequency (f)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	ORDERING REFERENCES PNP (positive switching) NC
		mm	mm	mm	mm	mm	n°	mm	V (min - max)	Hz	mm		
I-11	•	-	40	12	8	60	6-8B-10	M8 x 1	7 ÷ 30	800	2	**DCAE8/4309KS**	**DCAE8/43C9KS**
I-11	•	-	40	12	8	60	6-8B-10	M8 x 1	7 ÷ 30	800	2,5	**DCE8/4309KS**	**DCE8/43C9KS**
I-11		5	35	12	8	60	6-8B-10	M8 x 1	7 ÷ 30	400	3	**DCAE8/5309KS**	**DCAE8/53C9KS**
I-11		5	35	12	8	60	6-8B-10	M8 x 1	7 ÷ 30	400	3,5	**DCE8/5309KS**	**DCE8/53C9KS**
I-7	•	–	43	15	8	66	6-8B-10	M12 x 1	7 ÷ 40	800	3	**DCAE12/4309KS**	**DCAE12/43C9KS**
I-7	•		43	15	8	66	6-8B-10	M12 x 1	7 ÷ 40	800	4	**DCE12/4309KS**	**DCE12/43C9KS**
I-7		7	36	15	8	66	6-8B-10	M12 x 1	7 ÷ 40	600	5	**DCAE12/5309KS**	**DCAE12/53C9KS**
I-7		7	36	15	8	66	6-8B-10	M12 x 1	7 ÷ 40	600	6	**DCE12/5309KS**	**DCE12/53C9KS**

(*) Note: See mounting precautions (pag. 22)

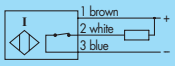
NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie. DCE8/4308KS)

NO



NC



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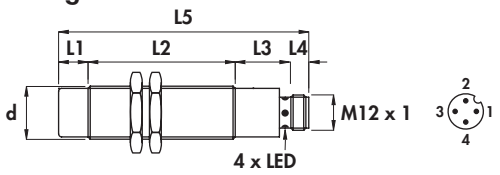
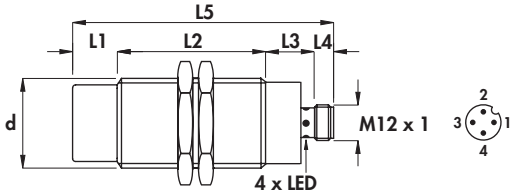
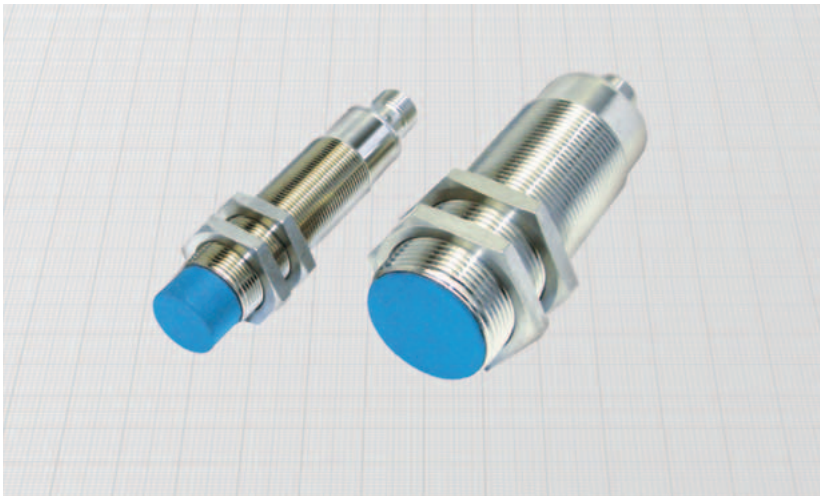
Extended sensing distance - diameters 18 - 30 mm •
Amplified in d.c. •
Connector output M12 x 1 •

Housing I-12



Housing I-2





Diameter		M18 x 1	M30 x 1,5
Nut	Size	SW24	SW36
	Thkns mm	4	5
Max tightening torque Nm		35	80

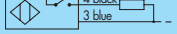
Materials:

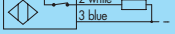
- Housing: nickel plated brass
- Sensing face: plastic

Technical data:

- Supply voltage (U_B): see ordering references
- Max ripple: 10%
- Rated operational current (I_e): 200 mA
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 1,5 V
- Temperature range: - 20° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 4%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting (*) Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Supply voltage (U_B)	Max switching frequency (f)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	NC
		mm	mm	mm	mm	mm	n°	mm	V (min - max)	Hz	mm		
I - 12	•	-	50	19	8	77	6 - 8B -10	M18 x 1	7 ÷ 40	300	10	**DCAE18/4309KS**	**DCAE18/43C9KS**
I - 12	•	-	50	19	8	77	6 - 8B -10	M18 x 1	7 ÷ 40	300	10	**DCE18/4309KS**	**DCE18/43C9KS**
I - 12	•	10	50	19	8	87	6 - 8B -10	M18 x 1	7 ÷ 40	200	14	**DCAE18/5309KS**	**DCAE18/53C9KS**
I - 12	•	10	50	19	8	87	6 - 8B -10	M18 x 1	7 ÷ 40	200	14	**DCE18/5309KS**	**DCE18/53C9KS**
I - 2	•	-	65	17	8	90	6 - 8B -10	M30 x 1,5	7 ÷ 40	100	20	**DCAE30/4309KS**	**DCAE30/43C9KS**
I - 2	•	-	65	17	8	90	6 - 8B -10	M30 x 1,5	7 ÷ 40	100	20	**DCE30/4309KS**	**DCE30/43C9KS**
I - 2	•	15	50	17	8	90	6 - 8B -10	M30 x 1,5	7 ÷ 40	100	28	**DCAE30/5309KS**	**DCAE30/53C9KS**
I - 2	•	15	50	17	8	90	6 - 8B -10	M30 x 1,5	7 ÷ 40	100	28	**DCE30/5309KS**	**DCE30/53C9KS**

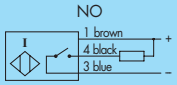


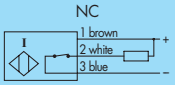


(*) Note: See mounting precautions (pag. 22)

NPN (negative switching)

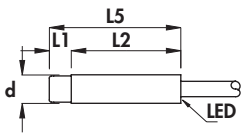
Use the above mentioned part number changing the last number 9 with 8 (ie. DCE8/4308KS)



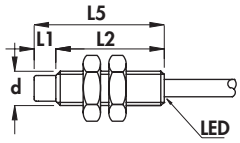


• SHORT SERIES - Extended sensing distance
• Amplified in d.c. 3 wires
• Cable output

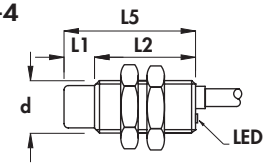
Housing A



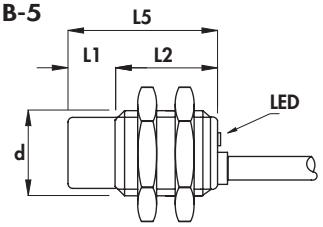
Housing B



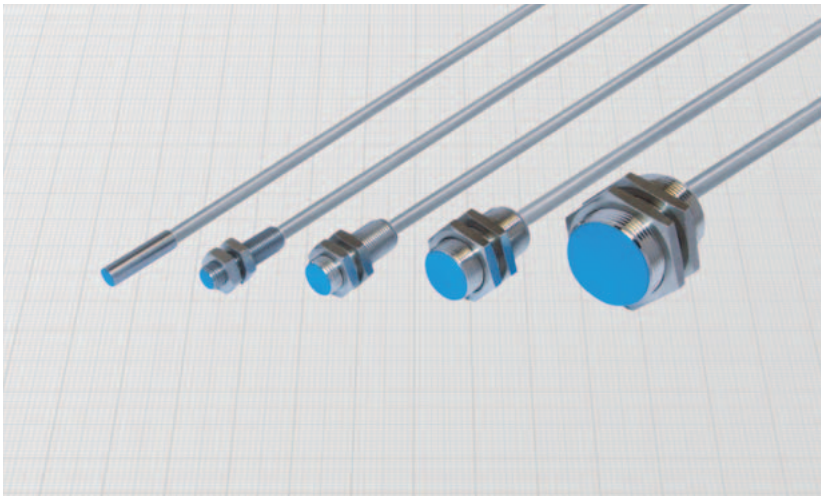
Housing B-4



Housing B-5



Diameter		M8 x 1	M12 x 1	M18 x 1	M30 x 1,5
Nut	Size	SW13	SW17	SW24	SW36
	Thickness mm	4	4	4	5
Max tightening torque Nm		10	15	35	80



Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing 6,5 and 8 mm: stainless steel
- Housing 12 ÷ 30 mm: nickel plated brass
- Sensing face: plastic

Technical data:

- Supply voltage (U_B): see ordering references
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 1,5 V
- Temperature range: - 20° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 4%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,22 mm² on 6,5 and 8 mm
  0,35 mm² on 12 mm
  0,50 mm² on 18 and 30 mm
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting (*)	Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Supply voltage (U_B)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	ORDERING REFERENCES PNP (positive switching) NC
			mm	mm	mm	mm	mm	mm	mm	V (min - max)	Hz	mA	mm		
A	•		-	30	-	-	30	3,5	6,5	7 ÷ 30	800	200	2,5	**DSE6,5/4609LKS**	**DSE6,5/4619LKS**
B	•		-	30	-	-	30	3,5	M8 x 1	7 ÷ 30	800	200	2,5	**DSE8/4609KS**	**DSE8/4619KS**
B - 4	•		-	30	-	-	30	4	M12 x 1	7 ÷ 30	800	200	4	**DSE12/4609KS**	**DSE12/4619KS**
B - 4		•	7	23	-	-	30	4	M12 x 1	7 ÷ 30	600	200	6	**DSE12/5609KS**	**DSE12/5619KS**
B - 5	•		-	35	-	-	35	5	M18 x 1	7 ÷ 40	300	200	10	**DSE18/4609KS**	**DSE18/4619KS**
B - 5		•	10	25	-	-	35	5	M18 x 1	7 ÷ 40	200	200	14	**DSE18/5609KS**	**DSE18/5619KS**
B - 5	•		-	35	-	-	35	6	M30 x 1,5	7 ÷ 40	100	200	20	**DSE30/4609KS**	**DSE30/4619KS**
B - 5		•	15	20	-	-	35	6	M30 x 1,5	7 ÷ 40	100	200	28	**DSE30/5609KS**	**DSE30/5619KS**

(*) Note: See mounting precautions (pag. 22)

NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie. DSE6,5/4608LKS)

NO: brown, black, blue

NC: brown, black, blue

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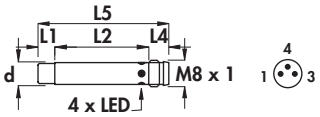
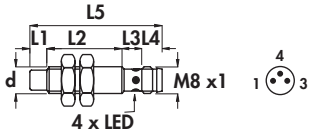
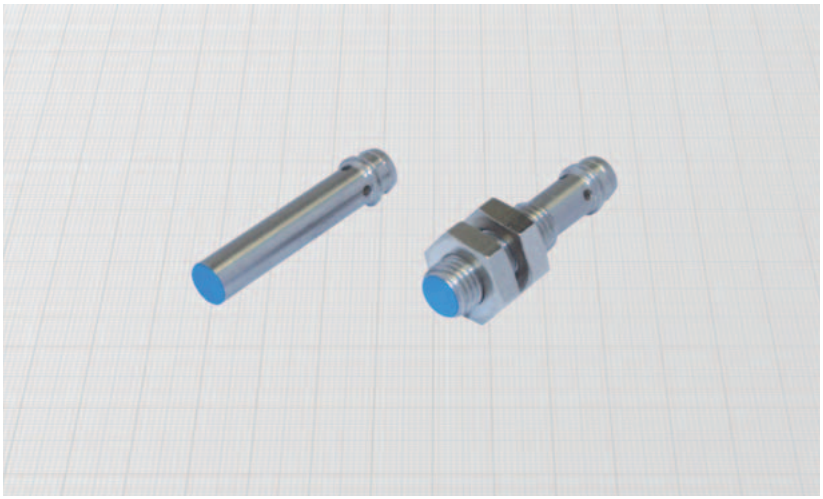
SHORT SERIES - Extended sensing distance • Amplified in d.c. • Connector output M8 x 1 •

Housing I-8



Housing I-6





Diameter		M8 x 1
Nut	Size	SW13
	Thickness mm	4
Max tightening torque Nm		10

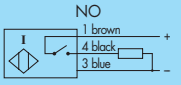
Materials:

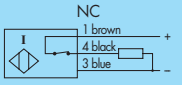
- Housing: stainless steel
- Sensing face: plastic

Technical data:

- Supply voltage (U_B): 7 ÷ 30 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 1,5 V
- Temperature range: - 20° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 4%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting (*) Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	ORDERING REFERENCES PNP (positive switching) NC
		mm	mm	mm	mm	mm	n°	mm	Hz	mA	mm		
I-8	•	-	29,5	-	5,5	35	11 - 12	6,5	800	200	2,5	**DSE6,5/4909LKS**	**DSE6,5/4919LKS**
I-6	•	-	21	8,5	5,5	35	11 - 12	M8 x 1	800	200	2,5	**DSE8/4909KS**	**DSE8/4919KS**

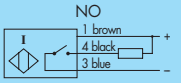


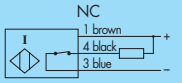


(*) Note: See mounting precautions (pag. 22)

NPN (negative switching)

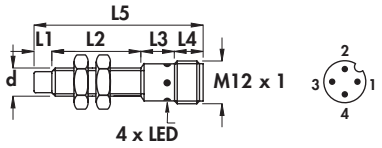
Use the above mentioned part number changing the last number 9 with 8 (ie. DSE6,5/4908LKS)



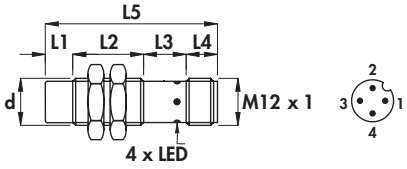


• SHORT SERIES - Extended sensing distance
• Amplified in d.c.
• Connector output M12 x 1

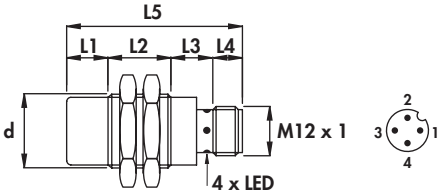
Housing I

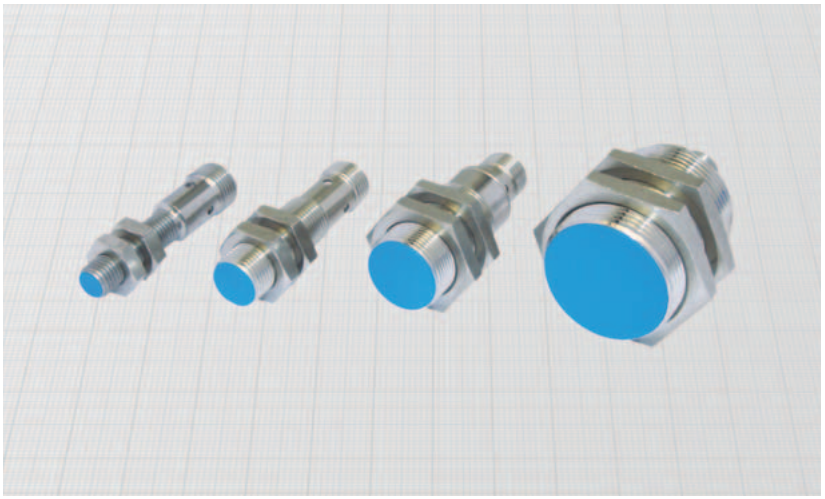


Housing I-9



Housing I-1





Diameter		M8 x 1	M12 x 1	M18 x 1	M30 x 1,5
Nut	Size	SW13	SW17	SW24	SW36
	Thickness mm	4	4	4	5
Max tightening torque Nm		10	15	35	80

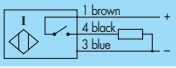
Materials:

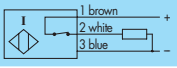
- Housing 8 mm: stainless steel
- Housing 12 ÷ 30 mm: nickel plated brass
- Sensing face: plastic

Technical data:

- Supply voltage (U_B): see ordering references
- Max ripple: 10%
- Rated operational current (I_e): 200 mA
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 1,5 V
- Temperature range: - 20° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 4%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting (*) Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Supply voltage (U_B)	Max switching frequency (f)	Nominal sensing distance (S_n) ±10%	ORDERING REFERENCES PNP (positive switching) NO	NC
		mm	mm	mm	mm	mm	n°	mm	V (min - max)	Hz	mm		
I	•	-	26	13	8	47	6 - 8B -10	M8 x 1	7 ÷ 30	800	2,5	**DSE8/4309KS**	**DSE8/43C9KS**
I-9	•	-	30	10	8	48	6 - 8B -10	M12 x 1	7 ÷ 30	800	4	**DSE12/4309KS**	**DSE12/43C9KS**
I-9	•	7	23	10	8	48	6 - 8B -10	M12 x 1	7 ÷ 30	600	6	**DSE12/5309KS**	**DSE12/53C9KS**
I-1	•	-	30	19	8	57	6 - 8B -10	M18 x 1	7 ÷ 40	300	10	**DSE18/4309KS**	**DSE18/43C9KS**
I-1	•	10	25	15	8	58	6 - 8B -10	M18 x 1	7 ÷ 40	200	14	**DSE18/5309KS**	**DSE18/53C9KS**
I-1	•	-	25	17	8	50	6 - 8B -10	M30 x 1,5	7 ÷ 40	100	20	**DSE30/4309KS**	**DSE30/43C9KS**
I-1	•	15	25	17	8	65	6 - 8B -10	M30 x 1,5	7 ÷ 40	100	28	**DSE30/5309KS**	**DSE30/53C9KS**

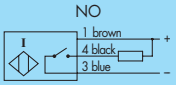


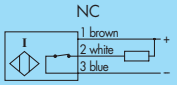


(*) Note: See mounting precautions (pag. 22)

NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie. DSE8/4308KS)





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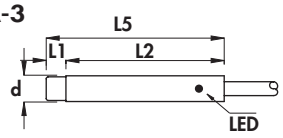
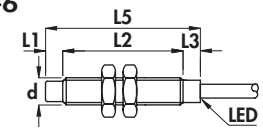
With extended temperature range (- 40° ÷ + 85°C) • Amplified in d.c. 3 and 4 wires • Cable output •

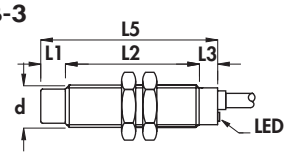
Housing A-3



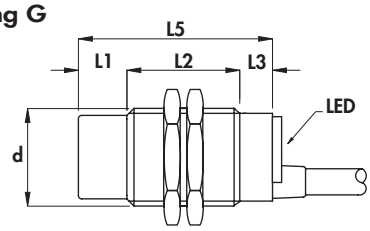
Housing B-6



Housing B-3



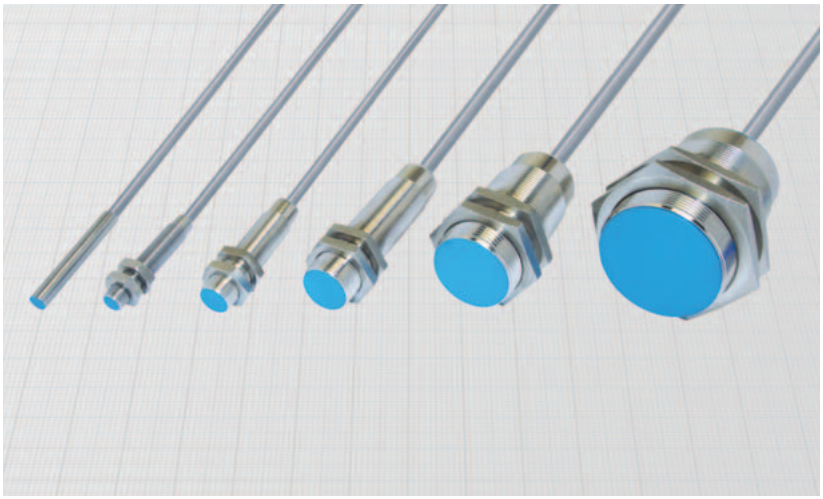
Housing G



Diameter		M8 x 1	M12 x 1	M18 x 1	M30 x 1,5	M45 x 1,5
Nut	Size	SW13	SW17	SW24	SW36	SW55
	Thkns mm	4	4	4	5	5
Max tightening torque Nm		10	15	35	80	70

Materials:

- Cable: 2 m thermoplastic 140°C; 300 V; O.R.
- Housing 6,5 and 8 mm: stainless steel
- Housing 12 ÷ 45 mm: nickel plated brass
- Sensing face: plastic



Technical data:

- Supply voltage (U_B): 10 ÷ 30 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): see ordering references
- Temperature range: - 40° ÷ + 85°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,35 mm² on 6,5 - 8 - 12 mm
  0,50 mm² on 18, 30 and 45 mm
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting Non flush mounting	L2	L3	L5	Cable diameter	Body diameter (d)	Voltage drop (U_d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ±10%	ORDERING REFERENCES PNP (positive switching) NO	NC	NO + NC
		mm	mm	mm	mm	mm	V	KHz	mA	mm			
A - 3	•	45	-	45	4	6,5	1,5	4	150	1,5	**DCA6,5/4609LKST**	**DCA6,5/4619LKST**	-
B - 6	•	40	5	45	4	M8 x 1	1,5	4	150	1,5	**DCA8/4609KST**	**DCA8/4619KST**	-
B - 3	•	43	7	50	4	M12 x 1	1,5	2	150	2	**DCA12/4609KST**	**DCA12/4619KST**	-
B - 3	•	58	12	70	5	M18 x 1	2,2	1	250	5	**DCA18/4609KST**	**DCA18/4619KST**	**DCA18/4629KST**
G	•	50	10	60	6	M30 x 1,5	2,2	0,8	250	10	**DCA30/4609KST**	**DCA30/4619KST**	**DCA30/4629KST**
G	•	50	10	60	6	M45 x 1,5	2,2	0,15	250	20	**DCA45/4609KST**	**DCA45/4619KST**	**DCA45/4629KST**

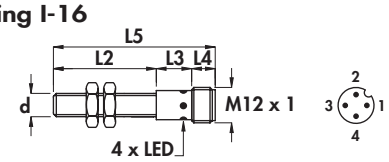
NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie. DCA6,5/4608LKST)

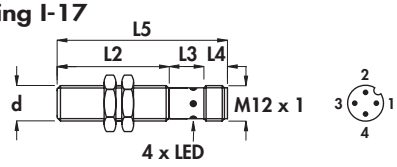
NO: brown, black, blue — NC: brown, black, blue — NO + NC: brown, black, white, blue

- **With extended temperature range (-40° ÷ + 85°C)**
- **Amplified in d.c. 3 and 4 wires**
- Connector output M12 x 1

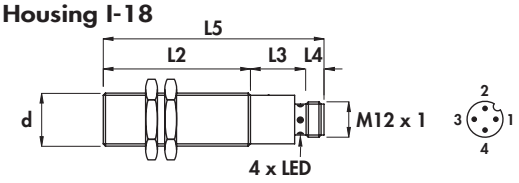
Housing I-16



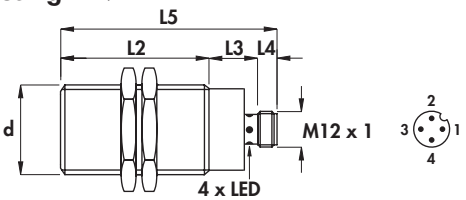
Housing I-17



Housing I-18



Housing I-19



Diameter		M8 x 1	M12 x 1	M18 x 1	M30 x 1,5	M45 x 1,5
Nut	Size	SW13	SW17	SW24	SW36	SW55
	Thkns mm	4	4	4	5	5
Max tightening torque Nm		10	15	35	80	70

Materials:

- Housing 8 mm: stainless steel
- Housing 12 ÷ 45 mm: nickel plated brass
- Sensing face: plastic

Technical data:

- Supply voltage (U_B): 10 ÷ 30 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): see ordering references
- Temperature range: - 40° ÷ + 85°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting Non flush mounting	L2	L3	L4	L5	Female connector (see pag. H - 1)	Body diameter (d)	Voltage drop (U_d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing dist. (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	NC	NO + NC
		mm	mm	mm	mm	n°	mm	V	KHz	mA	mm			
I - 16	•	40	12	8	60	8B -10...T	M8 x 1	1,5	4	150	1,5	**DCA8/4309KST**	**DCA8/43C9KST**	-
I - 17	•	43	15	8	66	8B -10...T	M12 x 1	1,5	2	150	2	**DCA12/4309KST**	**DCA12/43C9KST**	**DCA12/4329KST**
I - 18	•	50	19	8	77	8B -10...T	M18 x 1	2,2	1	250	5	**DCA18/4309KST**	**DCA18/43C9KST**	**DCA18/4329KST**
I - 19	•	65	17	8	90	8B -10...T	M30 x 1,5	2,2	0,8	250	10	**DCA30/4309KST**	**DCA30/43C9KST**	**DCA30/4329KST**
I - 19	•	50	19	8	77	8B -10...T	M45 x 1,5	2,2	0,15	250	20	**DCA45/4309KST**	**DCA45/43C9KST**	**DCA45/4329KST**

NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie. DCA8/4308KST)

NO: 1 brown, 4 black, 3 blue — NC: 1 brown, 2 white, 3 blue — NO + NC: 1 brown, 4 black, 2 white, 3 blue

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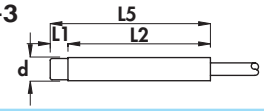
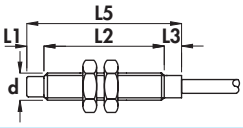
For high temperatures (-25° ÷ +125°C) • Amplified in d.c. 3 and 4 wires • Cable output •

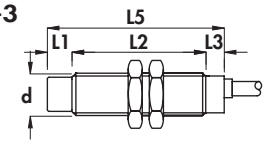
Housing A-3



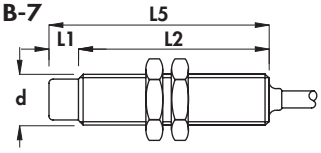
Housing B-6



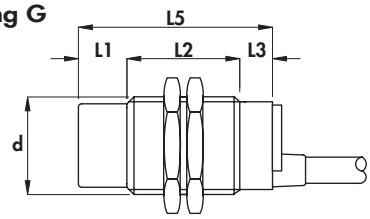
Housing B-3



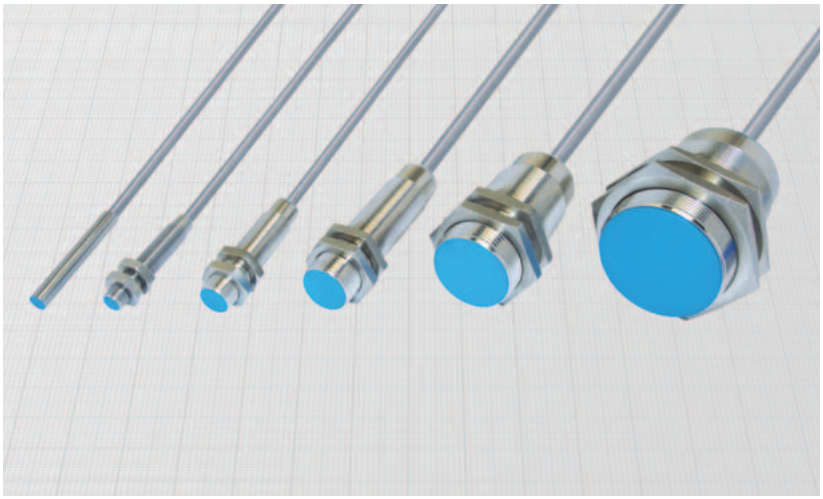
Housing B-7



Housing G



Diameter		M8 x 1	M12 x 1	M18 x 1	M30 x 1,5	M45 x 1,5
Nut	Size	SW13	SW17	SW24	SW36	SW55
	Thickness mm	4	4	4	5	5
Max tightening torque Nm		10	15	35	80	70



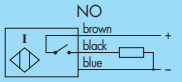
Technical data:

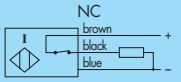
- Supply voltage (U_B): 10 ÷ 30 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): see ordering references
- Temperature range: - 25° ÷ +125°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Cable conductor cross section: 0,35 mm² on 6,5 - 8 - 12 mm
  0,50 mm² on 18 - 30 - 45 mm
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

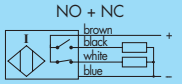
Materials:

- Cable: 2 m thermoplastic 140°C; 300 V; O.R.
- Housing 6,5 and 8 mm: stainless steel
- Housing 12 ÷ 45 mm: nickel plated brass
- Sensing face: plastic

Housing	Flush mounting / Non flush mounting	L2	L3	L5	Cable diameter	Body diameter (d)	Voltage drop (U_d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ±10%	ORDERING REFERENCES PNP (positive switching) NO	NC	NO + NC
		mm	mm	mm	mm	mm	V	KHz	mA	mm			
A - 3	•	45	-	45	4	6,5	1,5	4	150	1,5	**DCA6,5/4609LKT**	**DCA6,5/4619LKT**	-
B - 6	•	40	5	45	4	M8 x 1	1,5	4	150	1,5	**DCA8/4609KT**	**DCA8/4619KT**	-
B - 3	•	43	7	50	4	M12 x 1	1,5	2	150	2	**DCA12/4609KT**	**DCA12/4619KT**	-
B - 7	•	65	-	65	5	M18 x 1	2,2	1	250	5	**DCA18/4609KT**	**DCA18/4619KT**	**DCA18/4629KT**
G	•	50	10	60	6	M30 x 1,5	2,2	0,8	250	10	**DCA30/4609KT**	**DCA30/4619KT**	**DCA30/4629KT**
G	•	50	10	60	6	M45 x 1,5	2,2	0,15	250	20	**DCA45/4609KT**	**DCA45/4619KT**	**DCA45/4629KT**

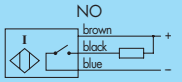


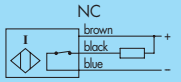


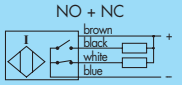


NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie. DCA6,5/4608LKT)

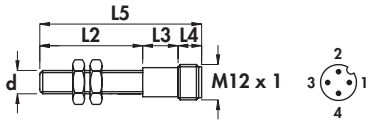




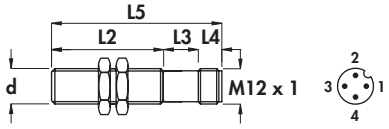


- **For high temperatures (-25° ÷ + 120°C)**
- **Amplified in d.c. 3 and 4 wires**
- Connector output M12 x 1

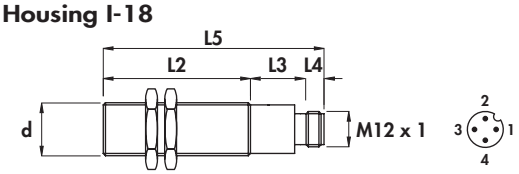
Housing I-16



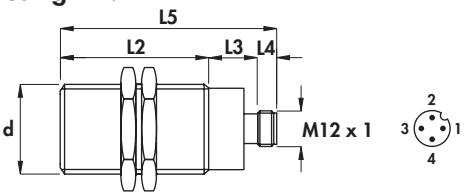
Housing I-17



Housing I-18



Housing I-19



Diameter		M8 x 1	M12 x 1	M18 x 1	M30 x 1,5
Nut	Size	SW13	SW17	SW24	SW36
	Thickness mm	4	4	4	5
Max tightening torque Nm		10	15	35	80

Materials:

- Housing 8 mm: stainless steel
- Housing 12 ÷ 30 mm: nickel plated brass
- Sensing face: plastic

Technical data:

- Supply voltage (U_B): 10 ÷ 30 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): see ordering references
- Temperature range: - 25° ÷ +120° C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting Non flush mounting	L2	L3	L4	L5	Female connector (see pag. H - 1)	Body diameter (d)	Voltage drop (U_d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing dist. (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	NC	NO + NC
		mm	mm	mm	mm	n°	mm	V	KHz	mA	mm			
I - 11	•	40	12	8	60	8B -10...T	M8 x 1	1,5	4	150	1,5	**DCA8/4309KT**	**DCA8/43C9KT**	-
I - 7	•	43	15	8	66	8B -10...T	M12 x 1	1,5	2	150	2	**DCA12/4309KT**	**DCA12/43C9KT**	**DCA12/4329KT**
I - 12	•	50	19	8	77	8B -10...T	M18 x 1	2,2	1	250	5	**DCA18/4309KT**	**DCA18/43C9KT**	**DCA18/4329KT**
I - 2	•	65	17	8	90	8B -10...T	M30 x 1,5	2,2	0,8	250	10	**DCA30/4309KT**	**DCA30/43C9KT**	**DCA30/4329KT**
I - 2	•	50	19	8	77	8B -10...T	M45 x 1,5	2,2	0,15	250	20	**DCA45/4309KT**	**DCA45/43C9KT**	**DCA45/4329KT**

NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie. DCA8/4308KT)

NO: 1 brown, 4 black, 3 blue — NC: 1 brown, 2 white, 3 blue — NO + NC: 1 brown, 4 black, 2 white, 3 blue

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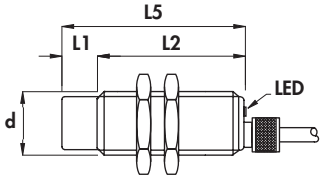
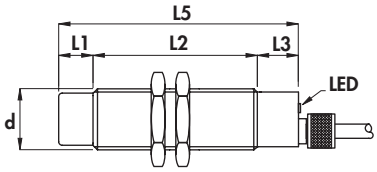
Degree of protection IP68 •
Amplified in d.c. 3 and 4 wires •
Cable and connector output M12 x 1 •

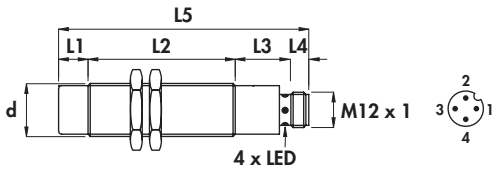
Housing J-1



Housing J-2

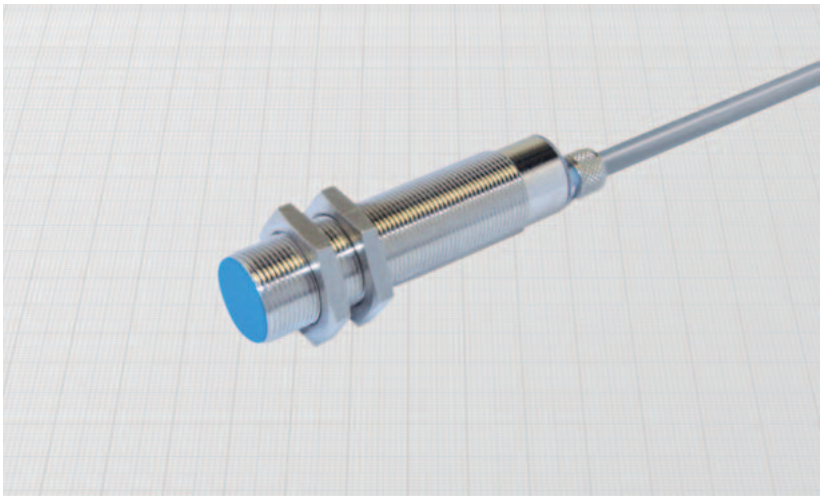


Housing I-12



Diameter		M18 x 1
Nut	Size	SW24
	Thickness mm	4
Max tightening torque Nm		35

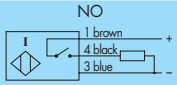
Materials:
- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing and gland: nickel plated brass
- Sensing face: plastic

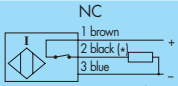


General Features:
This new series solves definitively the problem of the ingress of liquids to the inner parts of the sensors. Thanks to the inner hermetic sealing they can be submitted to no-stop jets of liquids under pressure even in presence of temperature changes.
They find application in automatic washing machinery, in machines subject to water jets and in continuous immersion applications.

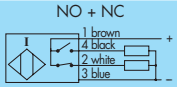
Technical data:
- Supply voltage (U_B): 7 ÷ 60 Vdc
- Max ripple: 10%
- Rated operational current (I_e): 400 mA
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 2,2 V
- Temperature range: - 25° ÷ + 75°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP68
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,50 mm²
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting	Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Female connector	Body diameter (d)	Max switching frequency (f)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	NC	NO + NC
			mm	mm	mm	mm	mm	mm	n°	mm	KHz	mm			
J-1	•		-	50	-	-	50	5	-	M18 x 1	1	5	**DCA18/4A09KSJ**	**DCA18/4A19KSJ**	-
J-1		•	10	40	-	-	50	5	-	M18 x 1	1	8	**DCA18/5A09KSJ**	**DCA18/5A19KSJ**	-
J-2	•		-	58	12	-	70	5	-	M18 x 1	1	5	**DCA18/4609KSJ**	**DCA18/4619KSJ**	**DCA18/4629KSJ**
J-2		•	10	48	12	-	70	5	-	M18 x 1	1	8	**DCA18/5609KSJ**	**DCA18/5619KSJ**	**DCA18/5629KSJ**
I-12	•		-	50	19	8	77	-	6 - 8B -10	M18 x 1	1	5	**DCA18/4309KSJ**	**DCA18/43C9KSJ**	**DCA18/4329KSJ**
I-12		•	10	50	19	8	87	-	6 - 8B -10	M18 x 1	1	8	**DCA18/5309KSJ**	**DCA18/53C9KSJ**	**DCA18/5329KSJ**

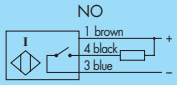


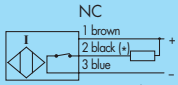


(•) Note: In versions with connector use the white wire.

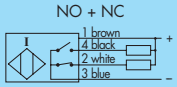


NPN (negative switching)
Use the above mentioned part number changing the last number 9 with 8 (ie. DCA18/4A08KSJ)



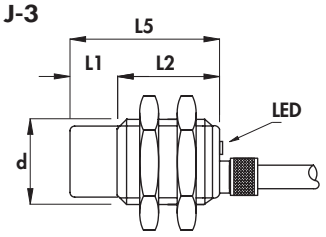


(•) Note: In versions with connector use the white wire.

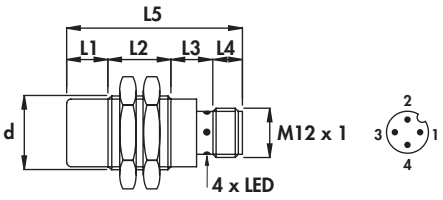


• SHORT SERIES - degree of protection IP68
• Amplified in d.c. 3 wires
• Cable and connector output M12 x 1

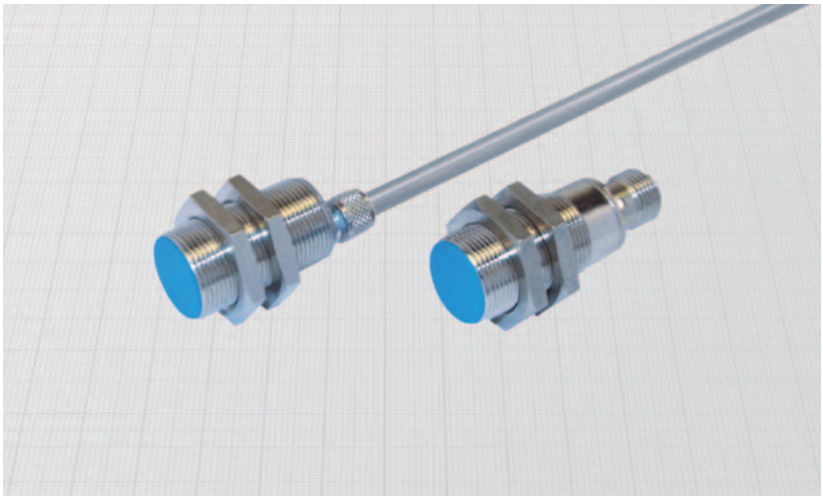
Housing J-3



Housing I-1



Diameter		M18 x 1
Nut	Size	SW24
	Thickness mm	4
Max tightening torque Nm		35



Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing and gland: nickel plated brass
- Sensing face: plastic

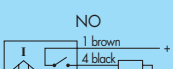
General Features:

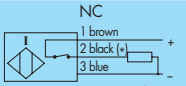
This new series solves definitively the problem of the ingress of liquids to the inner parts of the sensors. Thanks to the inner hermetic sealing they can be submitted to no-stop jets of liquids under pressure even in presence of temperature changes.
They find application in automatic washing machinery, in machines subject to water jets and in continuous immersion applications.

Technical data:

- Supply voltage (U_B): 5 ÷ 40 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 1,5 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP68
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,50 mm²
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting	Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Female connector	Body diameter (d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	ORDERING REFERENCES PNP (positive switching) NC
			mm	mm	mm	mm	mm	mm	n°	mm	KHz	mA	mm		
J-3	•		-	30	-	-	30	5	-	M18 x 1	0,8	200	5	**DSA18/4609KSJ**	**DSA18/4619KSJ**
J-3		•	10	20	-	-	30	5	-	M18 x 1	0,6	200	8	**DSA18/5609KSJ**	**DSA18/5619KSJ**
I-1	•		-	25	15	8	48	-	6 - 8B -10	M18 x 1	0,8	200	5	**DSA18/4309KSJ**	**DSA18/43C9KSJ**
I-1		•	10	15	15	8	48	-	6 - 8B -10	M18 x 1	0,6	200	8	**DSA18/5309KSJ**	**DSA18/53C9KSJ**

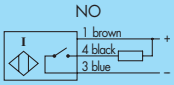


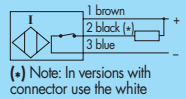


(•) Note: In versions with connector use the white wire.

NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie. DSA18/4608KSJ)





(•) Note: In versions with connector use the white wire.

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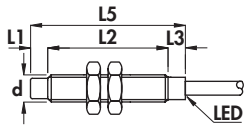
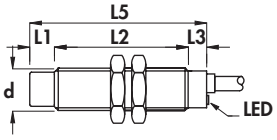
Non polarized •
Amplified in d.c. 2 wires •
Cable output •

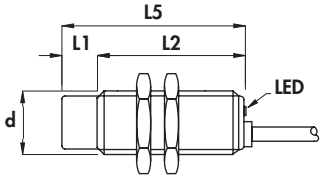
Housing B-6



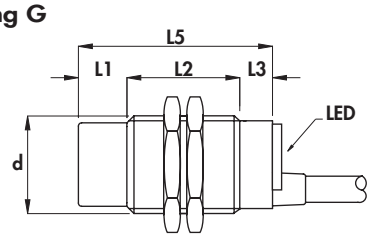
Housing B-3



Housing B-2



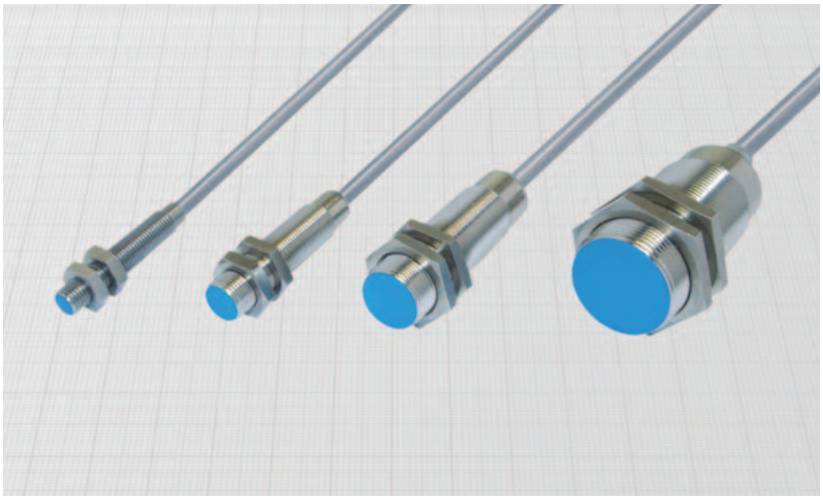
Housing G



Diameter		M8 x 1	M12 x 1	M18 x 1	M30 x 1,5
Nut	Size	SW13	SW17	SW24	SW36
	Thickness mm	4	4	4	5
Max tightening torque Nm		10	15	35	80

Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing 8 mm: stainless steel
- Housing 12-18-30 mm: nickel plated brass
- Sensing face: plastic PBT



General Features:

These sensors are not polarized and the load can be connected on both positive and negative lead (function PNP or NPN).
So they can replace traditional mechanical microswitches in many applications.

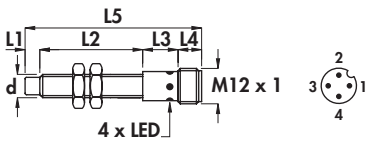
Technical data:

- Supply voltage (U_B): 10 ÷ 55 Vdc
- Max ripple: 10%
- Off-state current (I_r): ≤ 1 mA
- Minimum operational current (I_m): 5 mA
- Voltage drop (U_d) with I_e = 10 mA: ≤ 5 V
- Voltage drop (U_d) with I_e = 100 mA: ≤ 6 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,34 mm² on 8 and 12 mm
  0,50 mm² on 18 mm
  0,75 mm² on 30 mm
- Protected against short-circuit and overload (versions with letter K)
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

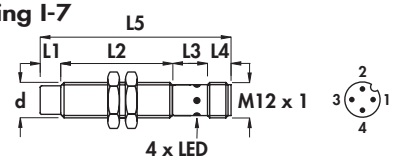
Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Nominal sensing distance (S_n) ±10%	Max switching frequency (f)	Rated operational current (I_e)	ORDERING REFERENCES NO	ORDERING REFERENCES NC
		mm	mm	mm	mm	mm	mm	mm	mm	Hz	mA		
B-6	•	-	40	5	-	45	4	M8 x 1	1,5	1200	100	**DCM8/4600S**	**DCM8/4610S**
B-6	•	5	35	5	-	45	4	M8 x 1	2,5	1000	100	**DCM8/5600S**	**DCM8/5610S**
B-3	•	-	43	7	-	50	4	M12 x 1	2	1200	200	**DCM12/4600KS**	**DCM12/4610KS**
B-3	•	7	36	7	-	50	4	M12 x 1	4	1000	200	**DCM12/5600KS**	**DCM12/5610KS**
B-2	•	-	50	-	-	50	5	M18 x 1	5	1100	250	**DCM18/4A00KS**	**DCM18/4A10KS**
B-2	•	10	40	-	-	50	5	M18 x 1	8	700	250	**DCM18/5A00KS**	**DCM18/5A10KS**
G	•	-	50	10	-	60	6	M30 x 1,5	10	800	250	**DCM30/4600KS**	**DCM30/4610KS**
G	•	15	35	10	-	60	6	M30 x 1,5	15	400	250	**DCM30/5600KS**	**DCM30/5610KS**

- **Non polarized**
- **Amplified in d.c. 2 wires**
- Connector output

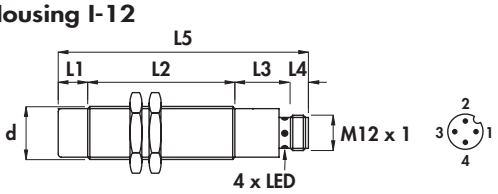
Housing I-11



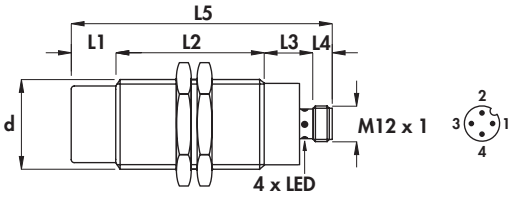
Housing I-7



Housing I-12



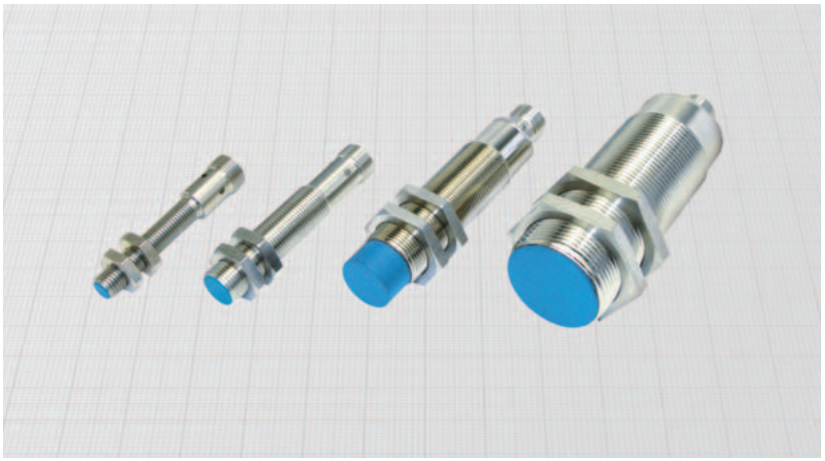
Housing I-2



Diameter		M8 x 1	M12 x 1	M18 x 1	M30 x 1,5
Nut	Size	SW13	SW17	SW24	SW36
	Thickness mm	4	4	4	5
Max tightening torque Nm		10	15	35	80

Materials:

- Housing 8 mm: stainless steel
- Housing 12- 18 - 30 mm: nickel plated brass
- Sensing face: plastic PBT



General Features:

These sensors are not polarized and the load can be connected on both positive and negative sectors (function PNP or NPN).
So they can replace traditional mechanical microswitches in many applications. Utilization of connectors without LED is recommended.

Technical data:

- Supply voltage (U_B): 10 ÷ 55 Vdc
- Max ripple: 10%
- Off-state current (I_r): ≤ 1 mA
- Minimum operational current (I_m): 5 mA
- Voltage drop (U_d) with I_e = 10 mA: ≤ 5 V
- Voltage drop (U_d) with I_e = 100 mA: ≤ 6 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Protected against short-circuit and overload (versions with letter K)
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting	Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Nominal sensing distance (S_n) ±10%	Max switching frequency (f) in d.c.	Rated operational current (I_e)	ORDERING REFERENCES NO (connectors 3 or 4 wires)	ORDERING REFERENCES NC (connectors 4 wires)
			mm	mm	mm	mm	mm	n°	mm	mm	Hz	mA		
I-11	•		-	40	12	8	60	6-8B-10	M8 x 1	1,5	1200	100	**DCM8/4300S**	**DCM8/4310S**
I-11		•	5	35	12	8	60	6-8B-10	M8 x 1	2,5	1000	100	**DCM8/5300S**	**DCM8/5310S**
I-7	•		-	43	15	8	66	6-8B-10	M12 x 1	2	1200	200	**DCM12/4300KS**	**DCM12/4310KS**
I-7		•	7	36	15	8	66	6-8B-10	M12 x 1	4	1000	200	**DCM12/5300KS**	**DCM12/5310KS**
I-12	•		-	50	19	8	77	6-8B-10	M18 x 1	5	1100	250	**DCM18/4300KS**	**DCM18/4310KS**
I-12		•	10	50	19	8	87	6-8B-10	M18 x 1	8	700	250	**DCM18/5300KS**	**DCM18/5310KS**
I-2	•		-	65	17	8	90	6-8B-10	M30 x 1,5	10	800	250	**DCM30/4300KS**	**DCM30/4310KS**
I-2		•	15	50	17	8	90	6-8B-10	M30 x 1,5	15	400	250	**DCM30/5300KS**	**DCM30/5310KS**

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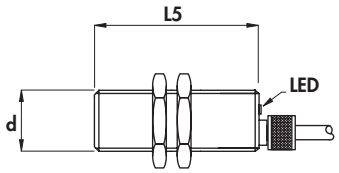
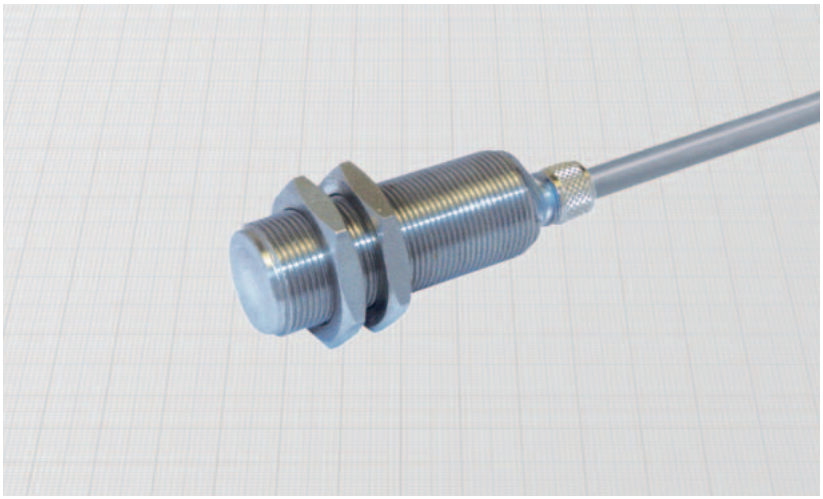
Stainless steel sensing face •
Amplified in d.c. 3 wires •
Cable output •

Housing B-8



Diameter		M18 x 1
Nut	Size	SW24
	Thickness mm	4
Max tightening torque Nm		35



Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: stainless steel
- Sensing face: stainless steel

General Features:

This particular type of sensor has increased mechanical and chemical resistance:

- **fluid ingress resistant**
- **pressure resistant**
- **corrosion resistant**
- **impact resistant**
- **vibration resistant**
- **abrasion and incandescent objects resistant**

These particulars characteristics are mainly dependent by the building of the body, which is made from a single solid piece of stainless steel. The absence of junctions doesn't allow the fluid ingress through the sensing face. A very special sealing system on the back side makes of this sensor the ideal solution for the most critical applications.

Technical data:

- Supply voltage (U_B): 7 ÷ 40 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 1,5 V
- Temperature range: - 25° ÷ + 75°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP68
- Max pressure on the front side: 50 bar
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,50 mm²
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

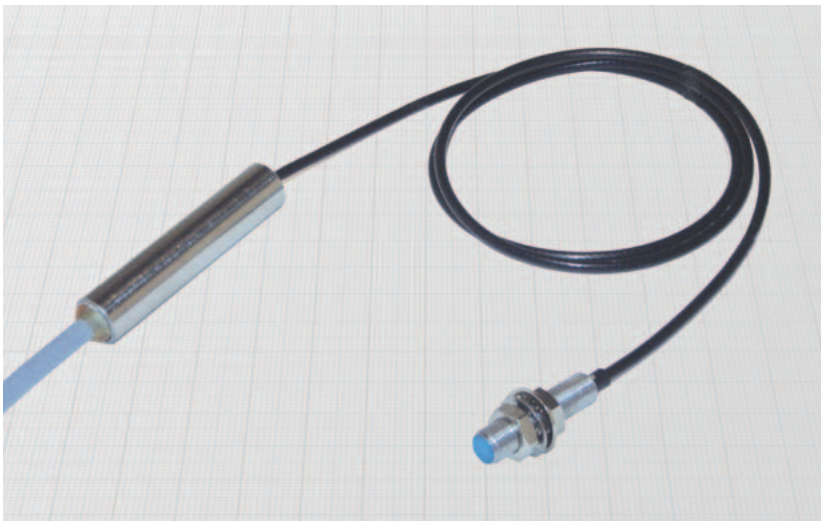
Housing	Flush mounting (*) Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	ORDERING REFERENCES PNP (positive switching) NC
		mm	mm	mm	mm	mm	mm	mm	Hz	mA	mm		
B - 8	•	-	-	-	-	45	5	M18 x 1	50	200	5	**DCA18/4609MKSJ**	**DCA18/4619MKSJ**

(*) Note: See mounting precautions (pag. 22)

NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie. DCA18/4608MKSJ)

- **Amplified in d.c. 3 wires**
- **High precision**
- **Switching hysteresis < 1 µm**
- Cable output



General Features:

This unique sensor enables the detection of metallic targets with extremely high precision without contact. By using an implemented software algorithm and a laser working process it has a very stable and precise switching point with a hysteresis lower than 1 µm.

Applications:

- Semiconductors industry
- Quality control instruments
- High precision mechanical devices
- Calibration equipments

Technical data:

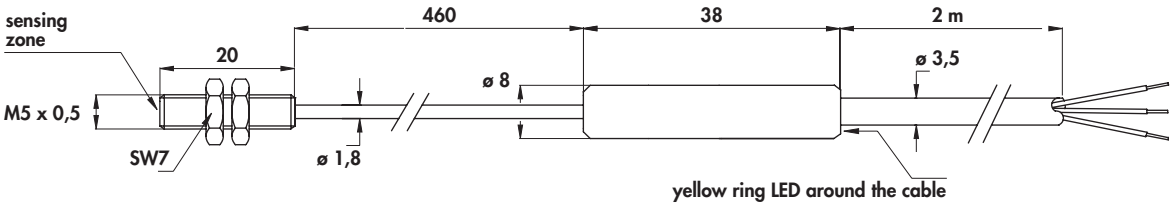
- Supply voltage (U_B): 5 ÷ 13 Vdc
- Consumption: ≤ 10 mA
- Voltage drop (I_o =10 mA): ≤ 0.5 V
- Voltage drop (I_o =100 mA): ≤ 1 V
- Output polarity: NPN open collector
- Output logic: normally open
- Repeat accuracy (R): < ± 2 µm
- Switch hysteresis (H): < 1 µm
- Temperature range: 10 ÷ 40°C
- Degree of protection: IP67
- Cable conductor cross section: 0,22 mm²
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Diameter		M5 x 0,5
Nut	Size	SW7
	Thickness mm	2,5
Max tightening torque Nm		2

Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C
- Housing sensor and amplifier: stainless steel

Sensor **Amplifier (smooth body)**



Flush mounting Non flush mounting	Cable diameter	Sensor diameter	Amplifier diameter	Rated operational current (I_e)	Max switching frequency (f)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES NPN (negative switching) NO
	mm	mm	mm	mA	Hz	mm	
•	3,5	M5 x 0,5	8	100	100	0,9	**IPS05/4608KS**

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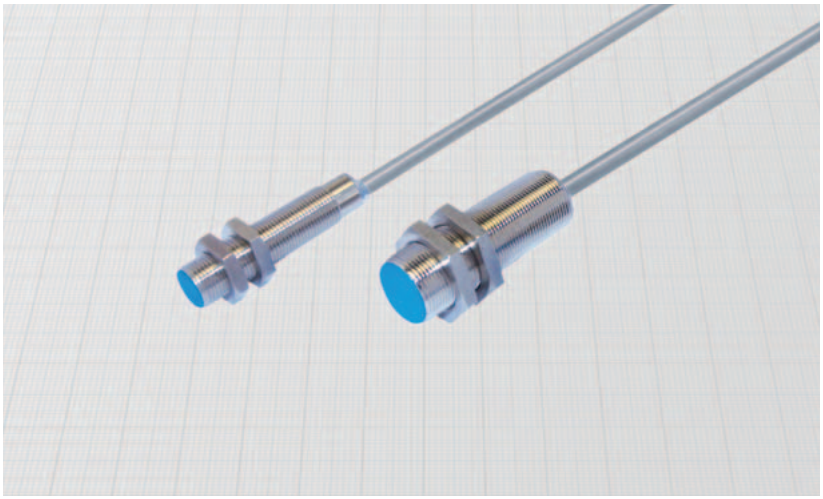
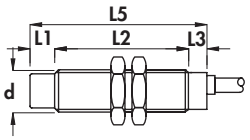
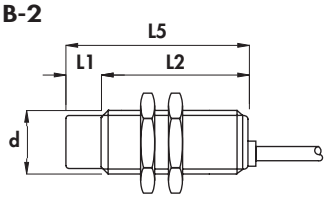
Diameters 12 - 18 mm •
Analog with linear current output •
Cable output •



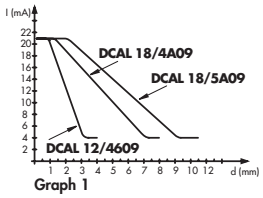
Housing B-3



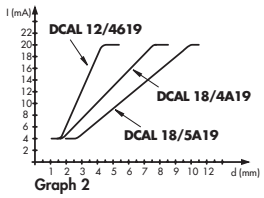
Housing B-2



Typical curves

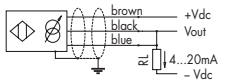


Graph 1



Graph 2

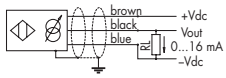
2 wires connection



Vout (V)	RL (ohm)	Vdc (min)
0,4 ... 2	100	12
2 ... 10	500	20
4 ... 20	1000	30

RL (max) = $\frac{(Vdc-10)}{20}$ KΩ

3 wires connection



Vout (V)	RL (ohm)	Vdc (min)
0 ... 1	62,5	11
0 ... 10	625	15
0 ... 16	1000	21
0 ... 20	1250	25
0 ... 30	1875	35

RL (max) = $\frac{(Vdc-5)}{16}$ KΩ

Diameter		M12 x 1	M18 x 1
Nut	Size	SW17	SW24
	Thickness mm	4	4
Max tightening torque Nm		15	35

Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R. shielded
- Housing: nickel plated brass
- Sensing face: plastic

General Features:

These inductive proximity sensors provide an output current directly or reversely proportional to the distance between the sensing face and the metal target. The output current is also dependent by the material of the target, so they can be used not only to detect distances, displacements, vibrations and wavings but also to recognize the composition of metals and alloys. In the two wires configuration, they are reversal polarity and short circuit protected devices compliant to the 4-20 mA industrial standard.

Use of the sensor:

The output current flows through the external load RL generating a voltage (V_o) used to drive the input stage of the measuring instrument. The correct value of RL can be chosed accordingly to the values of power supply Vdc and the wanted Vout range as reported on the tables.

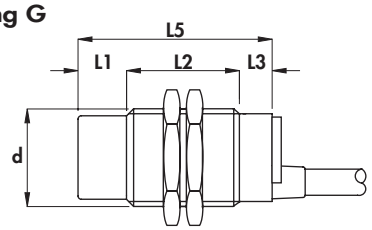
Technical data:

- Supply voltage: 10 ÷ 40 Vdc
- Max ripple: 20%
- Output current range: 0 ÷ 16 mA or 4 ÷ 20 mA
- Temperature range: - 10° ÷ + 70°C
- Max thermal drift: < 10%
- Degree of protection: IP67
- Cable conductor cross section: 0,22 mm² + shield on 12 mm
  0,35 mm² + shield on 18 mm
- Electromagnetic compatibility (EMC) according to EN61000-6-2/-4 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

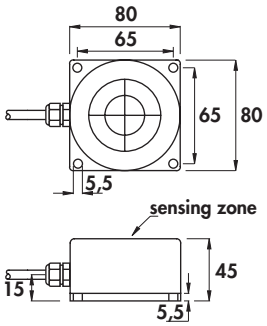
Housing	Flush mounting / Non flush mounting	L1	L2	L3	L5	Cable diameter	Body diameter (d)	Linearity error max	No-load supply current	Max switching frequency (f)	Repeat accuracy (R)	Measure range	ORDERING REFERENCES	
													INVERSELY PROPORTIONAL Graph 1	DIRECTLY PROPORTIONAL Graph 2
		mm	mm	mm	mm	mm	mm	%	mA	Hz	%	mm		
B - 3	•	-	43	7	50	4	M12 x 1	5	4	250	0,5	1 ÷ 4	**DCAL12/4609**	**DCAL12/4619**
D - 1	•	-	50	-	50	5	M18 x 1	3	4	250	0,5	2 ÷ 7	**DCAL18/4A09**	**DCAL18/4A19**
D - 1	•	10	40	-	50	5	M18 x 1	3	4	250	0,5	3 ÷ 9	**DCAL18/5A09**	**DCAL18/5A19**

- **Diameters 30 - 80 mm**
- **Analog with linear current output**
- Cable output

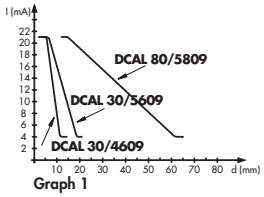
Housing G



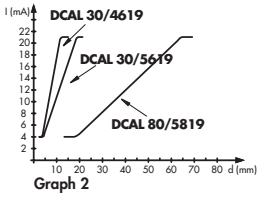
Housing P



Typical curves

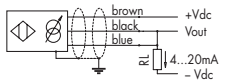


Graph 1



Graph 2

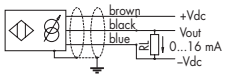
2 wires connection



Vout (V)	RL (ohm)	Vdc (min)
0,4 ... 2	100	15
2 ... 10	500	20
4 ... 20	1000	30

RL (max) = $\frac{(Vdc-10)}{20}$ KΩ

3 wires connection



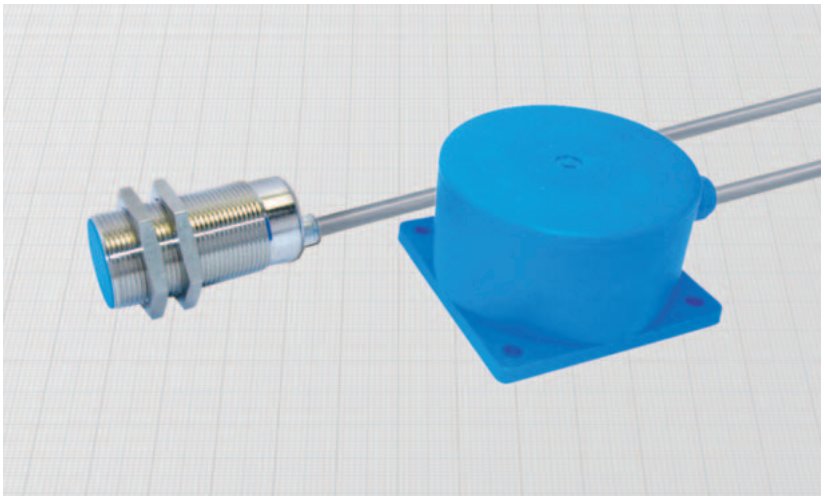
Vout (V)	RL (ohm)	Vdc (min)
0 ... 1	62,5	11
0 ... 10	625	15
0 ... 16	1000	21
0 ... 20	1250	25
0 ... 30	1875	35

RL (max) = $\frac{(Vdc-5)}{16}$ KΩ

Diameter		M30 x 1,5
Nut	Size	SW36
	Thickness mm	5
Max tightening torque Nm		80

Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R. shielded
- Housing 30 mm: nickel plated brass
- Housing 80 mm: plastic
- Sensing face: plastic



General Features:

These inductive proximity sensors provide an output current directly or reversely proportional to the distance between the sensing face and the metal target. The output current is also dependent by the material of the target, so they can be used not only to detect distances, displacements, vibrations and wavings but also to recognize the composition of metals and alloys. In the two wires configuration, they are reversal polarity and short circuit protected devices compliant to the 4-20 mA industrial standard.

Use of the sensor:

The output current flows through the external load RL generating a voltage (V_o) used to drive the input stage of the measuring instrument. The correct value of RL can be chosed accordingly to the values of power supply Vdc and the wanted Vout range as reported on the tables.

Technical data:

- Supply voltage: 10 ÷ 40 Vdc
- Max ripple: 20%
- Output current range: 0 ÷ 16 mA or 4 ÷ 20 mA
- Temperature range: - 10° ÷ + 70°C
- Max thermal drift: < 10%
- Degree of protection: IP67
- Electromagnetic compatibility (EMC) according to EN61000-6-2/-4 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Max switching frequency (f)	Repeat accuracy (R)	Maximum linearity error	No-load supply current	Measure range	ORDERING REFERENCES	
														INVERSELY PROPORTIONAL Graph 1	DIRECTLY PROPORTIONAL Graph 2
		mm	mm	mm	mm	mm	mm	mm	Hz	%	%	mA	mm		
G	•	-	50	10	-	60	5	M30 x 1,5	250	0,5	5	4	4 ÷ 12	**DCAL30/4609**	**DCAL30/4619**
G	•	15	35	10	-	60	5	M30 x 1,5	250	0,5	5	4	5 ÷ 18	**DCAL30/5609**	**DCAL30/5619**
P	•	-	-	-	-	-	5	80	250	0,5	5	4	20 ÷ 60	**DCAL80/5809**	**DCAL80/5819**

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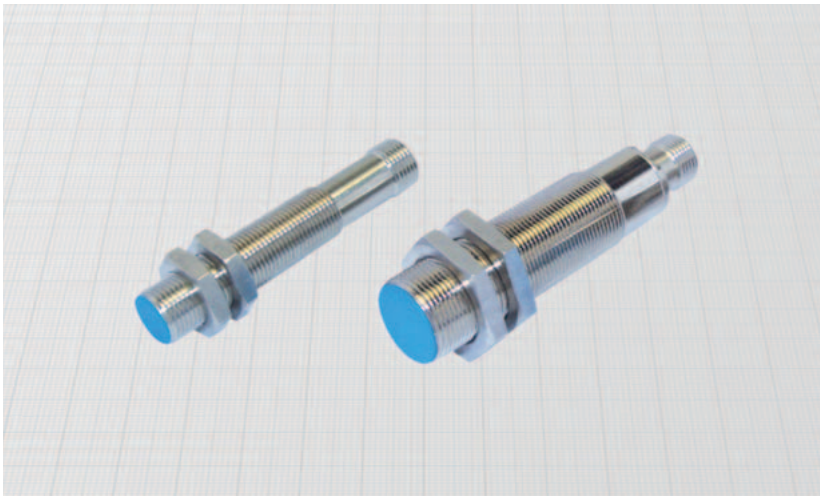
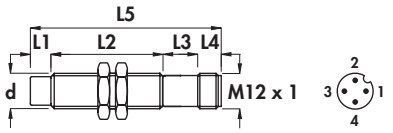
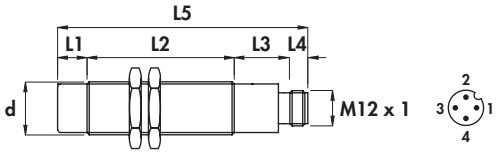
Diameters 12 - 18 mm •
Analog with linear current output •
Connector output M12 x 1 •



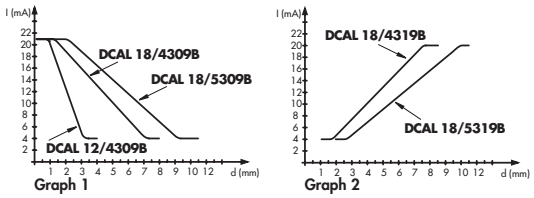
Housing A-7



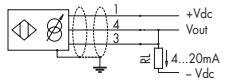
Housing I-12



Typical curves



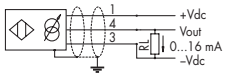
2 wires connection



Vout (V)	RL (ohm)	Vdc (min)
0,4 ... 2	100	15
2 ... 10	500	20
4 ... 20	1000	30

RL (max) = $\frac{(Vdc-10)}{20}$ KΩ

3 wires connection



Vout (V)	RL (ohm)	Vdc (min)
0 ... 1	62,5	11
0 ... 10	625	15
0 ... 16	1000	21
0 ... 20	1250	25
0 ... 30	1875	35

RL (max) = $\frac{(Vdc-5)}{16}$ KΩ

Diameter		M12 x 1	M18 x 1
Nut	Size	SW17	SW24
	Thickness mm	4	4
Max tightening torque Nm		15	35

Materials:

- Housing: nickel plated brass
- Sensing face: plastic

General Features:

These inductive proximity sensors provide an output current directly or reversely proportional to the distance between the sensing face and the metal target. The output current is also dependent by the material of the target, so they can be used not only to detect distances, displacements, vibrations and wavings but also to recognize the composition of metals and alloys. In the two wires configuration, they are reversal polarity and short circuit protected devices compliant to the 4-20 mA industrial standard.
It is recommended the use of connectors without LED.
For applications subjected to high levels of electromagnetic interferences, it is recommended the use of the straight connector with shielded cable type C10/00...VS which offers a 360° shielding.

Use of the sensor:

The output current flows through the external load RL generating a voltage (V_o) used to drive the input stage of the measuring instrument. The correct value of RL can be chosed accordingly to the values of power supply Vdc and the wanted Vout range as reported on the tables.

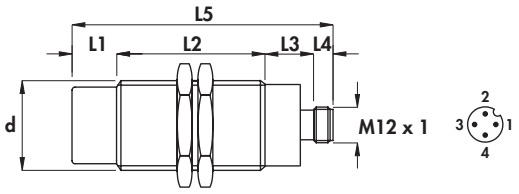
Technical data:

- Supply voltage: 10 ÷ 40 Vdc
- Max ripple: 20%
- Output current range: 0 ÷16 mA or 4 ÷ 20 mA
- Temperature range: - 10° ÷ + 70°C
- Max thermal drift: < 10%
- Degree of protection: IP67
- Electromagnetic compatibility (EMC) according to EN61000-6-2/-4 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

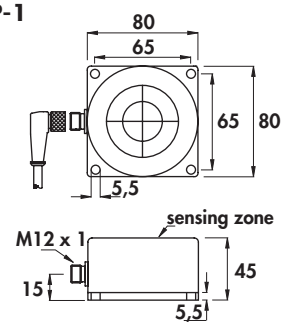
Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Max switching frequency (f)	Repeat accuracy	Maximum linearity error	No-load supply current	Measure range	ORDERING REFERENCES	
		mm	mm	mm	mm	mm	n°	mm	Hz	%	%	mA	mm	INVERSELY PROPORTIONAL Graph 1	DIRECTLY PROPORTIONAL Graph 2
A - 7	•	-	43	15	8	66	6 - 8B - 10	M12 x 1	250	0,5	5	4	1 ÷ 4	**DCAL12/4309B**	-
I - 12	•	-	50	14	10	74	6 - 8B - 10	M18 x 1	250	0,5	3	4	2 ÷ 7	**DCAL18/4309B**	**DCAL18/4319B**
I - 12	•	10	50	14	10	84	6 - 8B - 10	M18 x 1	250	0,5	3	4	3 ÷ 9	**DCAL18/5309B**	**DCAL18/5319B**

- **Diameters 30 - 80 mm**
- **Analog with linear current output**
- Connector output M12 x 1

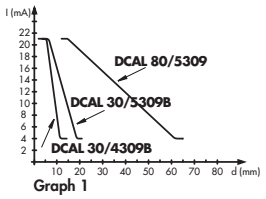
Housing A-2



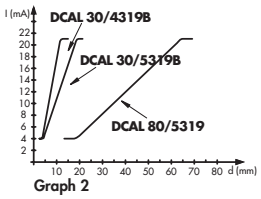
Housing P-1



Typical curves

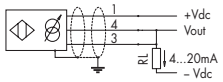


Graph 1



Graph 2

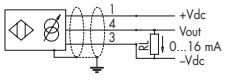
2 wires connection



Vout (V)	RL (ohm)	Vdc (min)
0,4 ... 2	100	15
2 ... 10	500	20
4 ... 20	1000	30

RL (max) = $\frac{(Vdc-10)}{20}$ KΩ

3 wires connection



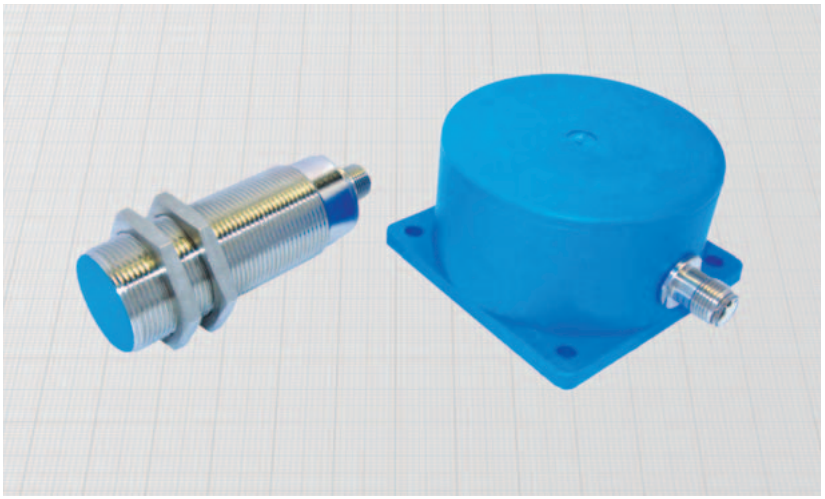
Vout (V)	RL (ohm)	Vdc (min)
0 ... 1	62,5	11
0 ... 10	625	15
0 ... 16	1000	21
0 ... 20	1250	25
0 ... 30	1875	35

RL (max) = $\frac{(Vdc-5)}{16}$ KΩ

Diameter		M30 x 1,5
Nut	Size	SW36
	Thickness mm	5
Max tightening torque Nm		80

Materials:

- Housing 30 mm: nickel plated brass
- Housing 80 mm: plastic
- Sensing face: plastic



General Features:

These inductive proximity sensors provide an output current directly or reversely proportional to the distance between the sensing face and the metal target. The output current is also dependent by the material of the target, so they can be used not only to detect distances, displacements, vibrations and wavings but also to recognize the composition of metals and alloys. In the two wires configuration, they are reversal polarity and short circuit protected devices compliant to the 4-20 mA industrial standard.
It is recommended the use of connectors without LED.
For applications subjected to high levels of electromagnetic interferences, it is recommended the use of the straight connector with shielded cable type C10/00...VS which offers a 360° shielding.

Use of the sensor:

The output current flows through the external load RL generating a voltage (V_o) used to drive the input stage of the measuring instrument. The correct value of RL can be chosed accordingly to the values of power supply Vdc and the wanted Vout range as reported on the tables.

Technical data:

- Supply voltage: 10 ÷ 40 Vdc
- Max ripple: 20%
- Output current range: 0 ÷16 mA or 4 ÷ 20 mA
- Temperature range: - 10° ÷ + 70°C
- Max thermal drift: < 10%
- Degree of protection: IP67
- Electromagnetic compatibility (EMC) according to EN61000-6-2/-4 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Max switching frequency (f)	Repeat accuracy	Maximum linearity error	No-load supply current	Measure range	ORDERING REFERENCES	
														INVERSELY PROPORTIONAL Graph 1	DIRECTLY PROPORTIONAL Graph 2
		mm	mm	mm	mm	mm	n°	mm	Hz	%	%	mA	mm		
A - 2	•	-	65	15	8	88	6 - 8B - 10	M30 x 1,5	250	0,5	5	4	4 ÷ 12	**DCAL30/4309B**	**DCAL30/4319B**
A - 2	•	15	50	15	8	88	6 - 8B - 10	M30 x 1,5	250	0,5	5	4	5 ÷ 18	**DCAL30/5309B**	**DCAL30/5319B**
P - 1	•	-	-	-	-	-	6 - 8B - 10	80	250	0,5	5	4	20 ÷ 60	**DCAL80/5309**	**DCAL80/5319**

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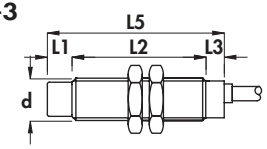
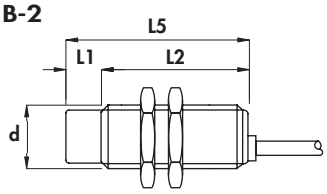
Analog with linear voltage output •

Cable output •

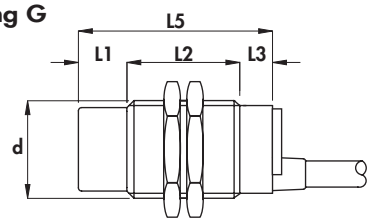
Housing B-3



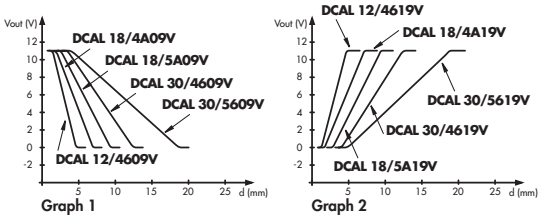
Housing B-2



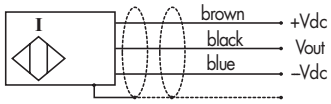
Housing G



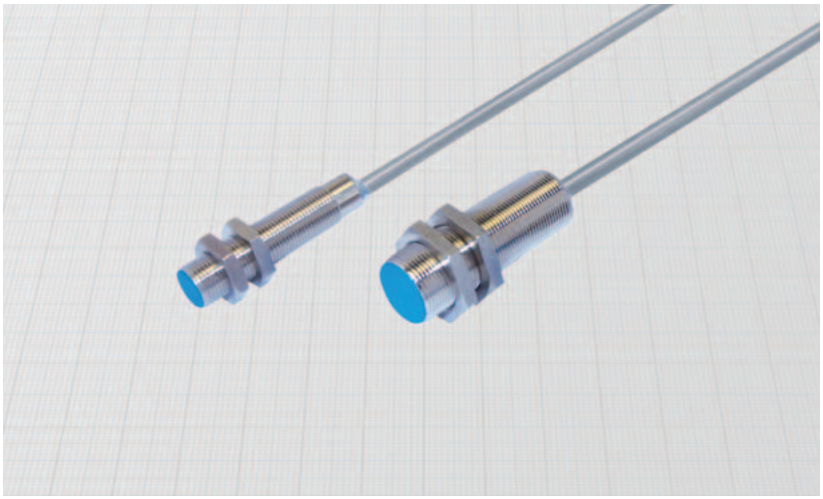
Typical curves



Connections



Diameter		M12 x 1	M18 x 1	M30 x 1,5
Nut	Size	SW17	SW24	SW36
	Thickness mm	4	4	5
Max tightening torque Nm		15	35	80



General Features:

These inductive proximity sensors provide an output voltage 0÷10V directly or reversely proportional to the distance between the sensing face and the metal target. The output voltage is also dependent by the material of the target, so they can be used not only to detect distances, displacements, vibrations and wavings but also to recognize the composition of metals and alloys.

Technical data:

- Supply voltage: 15 ÷ 40 Vdc
- Max ripple: 20%
- Voltage drop output: 0 ÷ 10 V
- Temperature range: - 10° ÷ + 70°C
- Max thermal drift: < 10%
- Degree of protection: IP67
- Cable conductor cross section: 0,22 mm² + shield on 12 mm
  0,35 mm² + shield on 18 - 30 mm

Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R. shielded
- Housing: nickel plated brass
- Sensing face: plastic

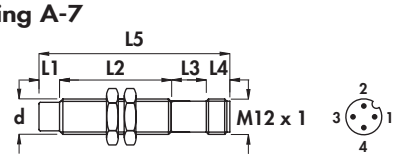
- Electromagnetic compatibility (EMC) according to EN61000-6-2/-4 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting / Non flush mounting	L1	L2	L3	L5	Cable diameter	Body diameter (d)	Max switching frequency (f)	Repeat accuracy	Maximum linearity error	No- load supply current	Measure range	ORDERING REFERENCES	
													INVERSELY PROPORTIONAL Graph 1	DIRECTLY PROPORTIONAL Graph 2
		mm	mm	mm	mm	mm	mm	Hz	%	%	mA	mm		
B - 3	•	-	43	7	50	4	M12 x 1	250	0,5	3	4	1 ÷ 4	**DCAL12/4609V**	**DCAL12/4619V**
B - 2	•	-	50	-	50	5	M18 x 1	250	0,5	3	4	2 ÷ 7	**DCAL18/4A09V**	**DCAL18/4A19V**
B - 2	•	10	40	-	50	5	M18 x 1	250	0,5	3	4	3 ÷ 9	**DCAL18/5A09V**	**DCAL18/5A19V**
G	•	-	50	10	60	5	M30 x 1,5	250	0,5	5	4	4 ÷ 12	**DCAL30/4609V**	**DCAL30/4619V**
G	•	15	35	10	60	5	M30 x 1,5	250	0,5	5	4	5 ÷ 18	**DCAL30/5609V**	**DCAL30/5619V**

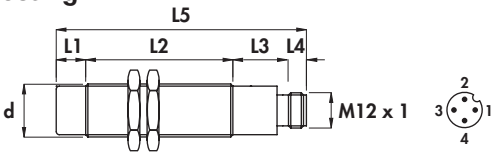
• Analog with linear voltage output

• Connector output M12 x 1

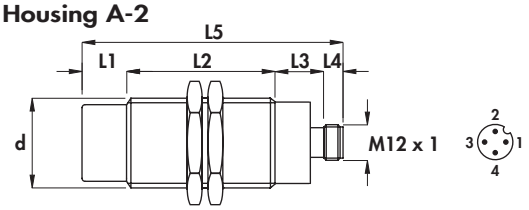
Housing A-7



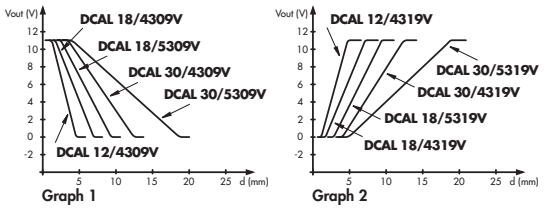
Housing I-12



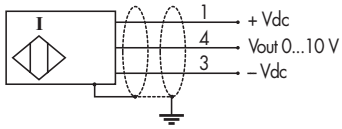
Housing A-2



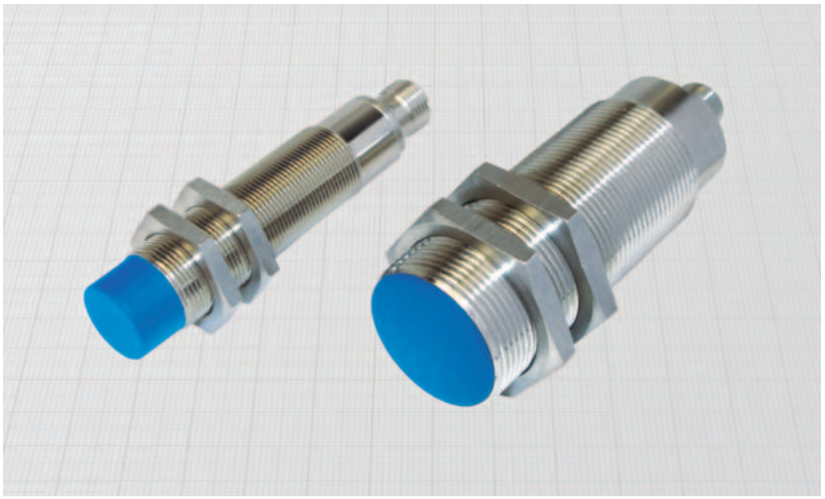
Typical curves



Connections



Diameter		M12 x 1	M18 x 1	M30 x 1,5
Nut	Size	SW17	SW24	SW36
	Thickness mm	4	4	5
Max tightening torque Nm		15	35	80



General Features:

These inductive proximity sensors provide an output voltage 0÷10V directly or reversely proportional to the distance between the sensing face and the metal target. The output voltage is also dependent by the material of the target, so they can be used not only to detect distances, displacements, vibrations and wavings but also to recognize the composition of metals and alloys.
It is recommended the use of connectors without LED.
For applications subjected to high levels of electromagnetic interferences, it is recommended the use of the straight connector with shielded cable type C10/00…VS which offers a 360° shielding.

Technical data:

- Supply voltage: 15 ÷ 40 Vdc
- Max ripple: 20%
- Output current range: 0 ÷ 10 V
- Temperature range: - 10° ÷ + 70°C
- Max thermal drift: < 10%
- Degree of protection: IP67
- Electromagnetic compatibility (EMC) according to EN61000-6-2/-4 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Materials:

- Housing: nickel plated brass
- Sensing face: plastic

Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Max switching frequency (f)	Repeat accuracy	Maximum linearity error	No-load supply current	Measure range	ORDERING REFERENCES	
														INVERSELY PROPORTIONAL Graph 1	DIRECTLY PROPORTIONAL Graph 2
		mm	mm	mm	mm	mm	n°	mm	Hz	%	%	mA	mm		
A - 7	•	-	43	15	8	66	6 - 8B - 10	M12 x 1	250	0,5	5	4	1 ÷ 4	**DCAL12/4309V**	**DCAL12/4319V**
I - 12	•	-	50	14	10	74	6 - 8B - 10	M18 x 1	250	0,5	3	4	2 ÷ 7	**DCAL18/4309V**	**DCAL18/4319V**
I - 12	•	10	50	14	10	84	6 - 8B - 10	M18 x 1	250	0,5	3	4	3 ÷ 9	**DCAL18/5309V**	**DCAL18/5319V**
A - 2	•	-	65	15	8	88	6 - 8B - 10	M30 x 1,5	250	0,5	5	4	4 ÷ 12	**DCAL30/4309V**	**DCAL30/4319V**
A - 2	•	15	50	15	8	88	6 - 8B - 10	M30 x 1,5	250	0,5	5	4	5 ÷ 18	**DCAL30/5309V**	**DCAL30/5319V**

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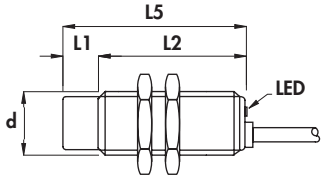
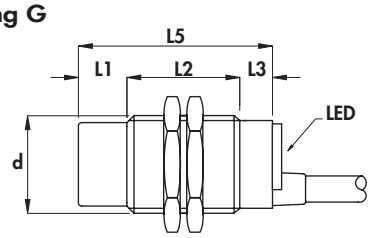
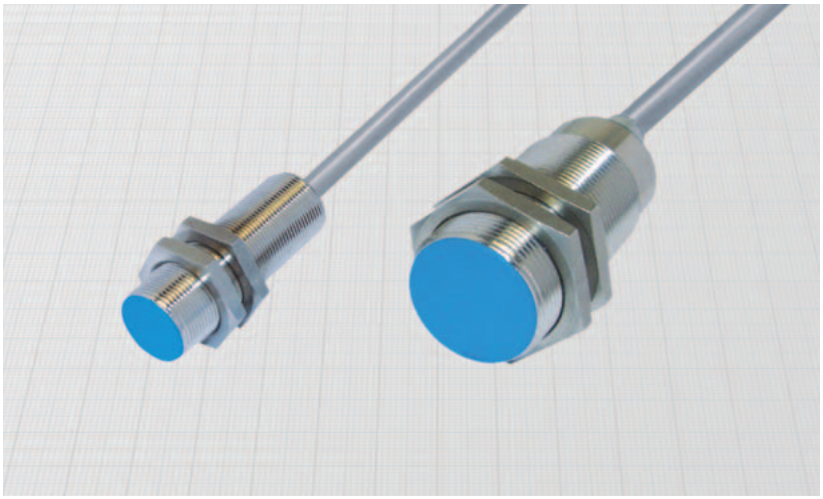
5 output functions •
Amplified in d.c. + a.c. 2 wires •
Cable output •

Housing B-2



Housing G





Diameter		M18 x 1	M30 x 1,5
Nut	Size	SW24	SW36
	Thickness mm	4	5
Max tightening torque Nm		35	80

Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: nickel plated brass
- Sensing face: plastic

General Features:

When used in a.c. they work as normally open. When used in d.c. they can work as normally open or normally closed simply by reversing the connection wires.
The load can be connected indifferently on the positive or on the negative pole. These sensors put together the four functions of traditional 3 wires amplified sensors: PNP - NO; PNP - NC; NPN - NO; NPN - NC. Besides the a.c. working in many applications they can replace directly electromechanical microswitches.

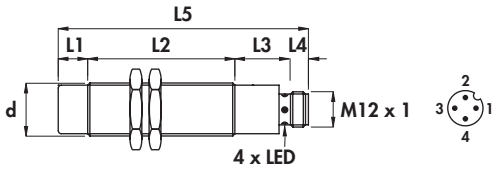
Technical data:

- Supply voltage (U_B): 10 ÷ 60 Vdc/Vac
- Electrical system frequency: 40 ÷ 60 Hz
- Max ripple: 10%
- Off-state current (I_r): ≤ 0,6 mA
- Minimum operational current (I_m): 5 mA
- Rated operational current (I_e): 400 mA
- Voltage drop (U_d): ≤ 4 V
- Temperature range: - 20° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- LED indication: yellow = output state; blinking red = output short circuit
- Cable conductor cross section: 0,75 mm²
- Protected against short-circuit and overload
- Suppression of initial false impulse
- Class 2 equipment according to IEC 536
- Shock and vibration according to EN60068-2-27 EN60068-2-6
- Electromagnetic compatibility (EMC) according to EN61000-6-2/- 4

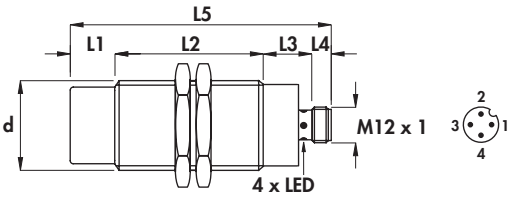
Housing	Flush mounting	Non flush mounting	L1	L2	L3	L5	Cable diameter	Body diameter (d)	Max switching frequency (f)	Nominal sensing distance (S_n) ±10%	ORDERING REFERENCES
											PNP: NO / NC; NPN: NO / NC; A.C.: NO
			mm	mm	mm	mm	mm	mm	Hz	mm	
B-2	•		-	50	-	50	5	M18 x 1	800	5	**DX18/4A5XKS**
B-2		•	10	40	-	50	5	M18 x 1	400	8	**DX18/5A5XKS**
G	•		-	50	10	60	5	M30 x 1,5	600	10	**DX30/465XKS**
G		•	15	35	10	60	5	M30 x 1,5	300	15	**DX30/565XKS**

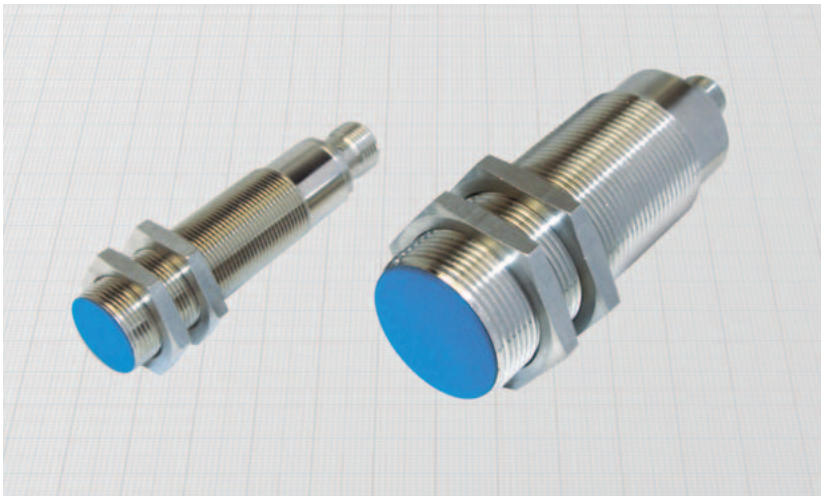
- **5 output functions**
- **Amplified in d.c. + a.c. 2 wires**
- Connector output M12 x 1

Housing I-12



Housing I-2





Diameter		M18 x 1	M30 x 1,5
Nut	Size	SW24	SW36
	Thickness mm	4	5
Max tightening torque Nm		35	80

Materials:

- Housing: nickel plated brass
- Sensing face: plastic

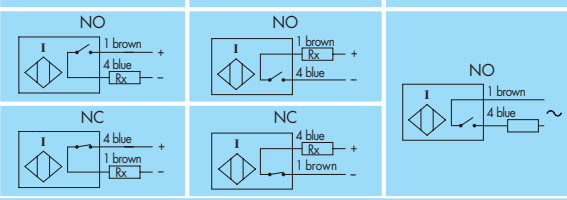
General Features:

When used in a.c. they work as normally open. When used in d.c. they can work as normally open or normally closed simply by reversing the connection wires.
The load can be connected indifferently on the positive or on the negative pole. These sensors put together the four functions of traditional 3 wires amplified sensors besides the a.c. working. In many applications they can replace directly electromechanical microswitches.

Technical data:

- Supply voltage (U_B): 10 ÷ 60 Vdc/Vac
- Electrical system frequency: 40 ÷ 60 Hz
- Max ripple: 10%
- Off-state current (I_r): ≤ 0,6 mA
- Minimum operational current (I_m): 5 mA
- Voltage drop (U_d): ≤ 4 V
- Temperature range: - 20° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Protected against short-circuit and overload
- Suppression of initial false impulse
- Class 2 equipment according to IEC 536
- Shock and vibration according to EN60068-2-27 EN60068-2-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE

Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP	NPN	A.C.
		mm	mm	mm	mm	mm	n°	mm	Hz	mA	mm			
I-12	•	-	50	19	8	77	6 - 8B -10	M18 x 1	800	400	5			
I-12	•	10	50	19	8	87	6 - 8B -10	M18 x 1	400	400	8			
I - 2	•	-	65	17	8	90	6 - 8B -10	M30 x 1,5	600	400	10			
I - 2	•	15	50	17	8	90	6 - 8B -10	M30 x 1,5	300	400	15			



DX18/435XKS
DX18/535XKS
DX30/435XKS
DX30/535XKS

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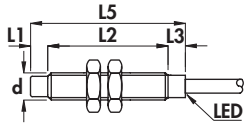
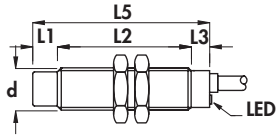
Voltage 10 ÷ 50 V≂ •
Amplified in d.c. + a.c. 2 wires •
Cable output •

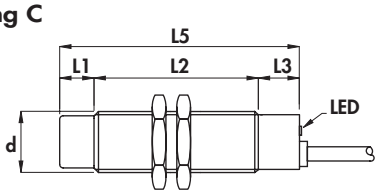
Housing B-6



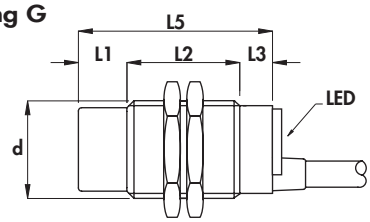
Housing B-3



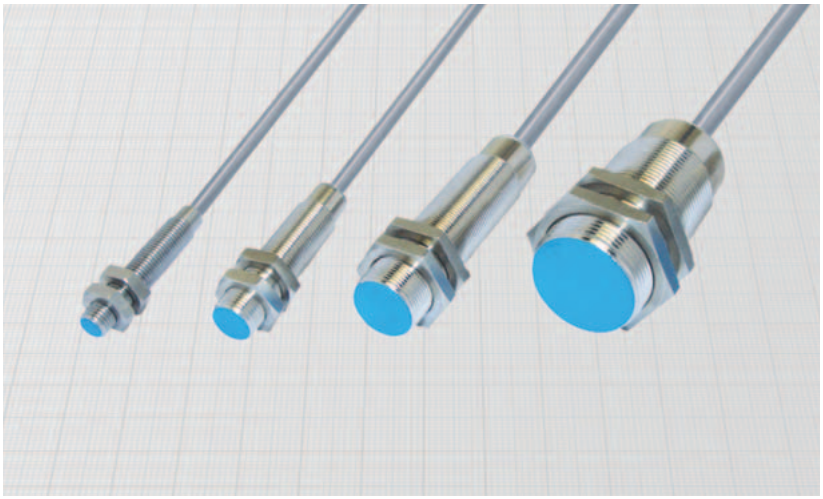
Housing C



Housing G



Diameter		M8 x 1	M12 x 1	M18 x 1	M30 x 1,5
Nut	Size	SW13	SW17	SW24	SW36
	Thickness mm	4	4	4	5
Max tightening torque Nm		10	15	35	80



Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing 8 mm: stainless steel
- Housing 12 - 18 - 30 mm: nickel plated brass
- Sensing face: plastic

General Features:

These sensors are able to work with either direct or alternate current. Voltage drop and residual current are very low. They are not polarized and the load can be connected on both the leads. In many applications they can used to replace mechanical microswitches.

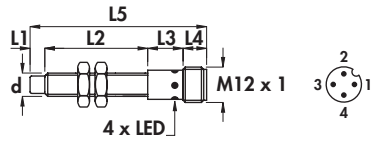
Technical data:

- Supply voltage (U_B): 10 ÷ 50 Vdc/Vac
- Electrical system frequency: 40 ÷ 60 Hz
- Off-state current (I_r): ≤ 1 mA
- Minimum operational current (I_m): 5 mA
- Voltage drop (U_d): ≤ 5 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,35 mm² on 8 and 12 mm
  0,50 mm² on 18 mm
  0,75 mm² on 30 mm
- Protected against short-circuit and overload (versions with letter K)
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

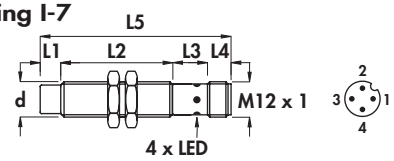
Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Max switching frequency (f) in d.c.	Max switching frequency (f) in a.c.	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES NO	ORDERING REFERENCES NC
		mm	mm	mm	mm	mm	mm	mm	Hz	Hz	mA	mm		
B-6	•	-	40	5	-	45	4	M8 x 1	1000	25	100	1,5	**AXM8/4600S**	**AXM8/4610S**
B-6	•	5	35	5	-	45	4	M8 x 1	800	25	100	2,5	**AXM8/5600S**	**AXM8/5610S**
B-3	•	-	43	7	-	50	4	M12 x 1	800	25	100	2	**AXM12/4600KS**	**AXM12/4610KS**
B-3	•	7	36	7	-	50	4	M12 x 1	600	25	100	4	**AXM12/5600KS**	**AXM12/5610KS**
C	•	-	58	12	-	70	5	M18 x 1	800	25	200	5	**AXM18/4600KS**	**AXM18/4610KS**
C	•	10	48	12	-	70	5	M18 x 1	400	25	200	8	**AXM18/5600KS**	**AXM18/5610KS**
G	•	-	50	10	-	60	6	M30 x 1,5	400	25	200	10	**AXM30/4600KS**	**AXM30/4610KS**
G	•	15	35	10	-	60	6	M30 x 1,5	200	25	200	15	**AXM30/5600KS**	**AXM30/5610KS**

- **Supply 10 ÷ 50 V ≃**
- **Amplified in d.c. + a.c.**
- Connector output M12 x 1

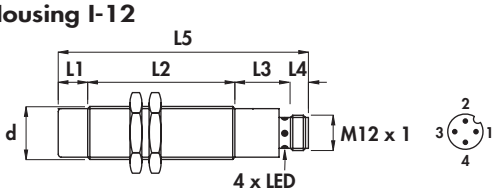
Housing I-11



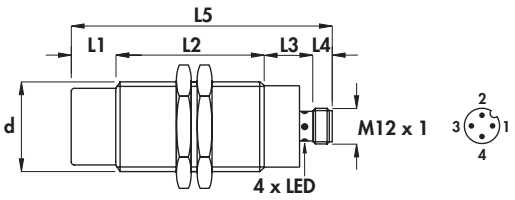
Housing I-7



Housing I-12



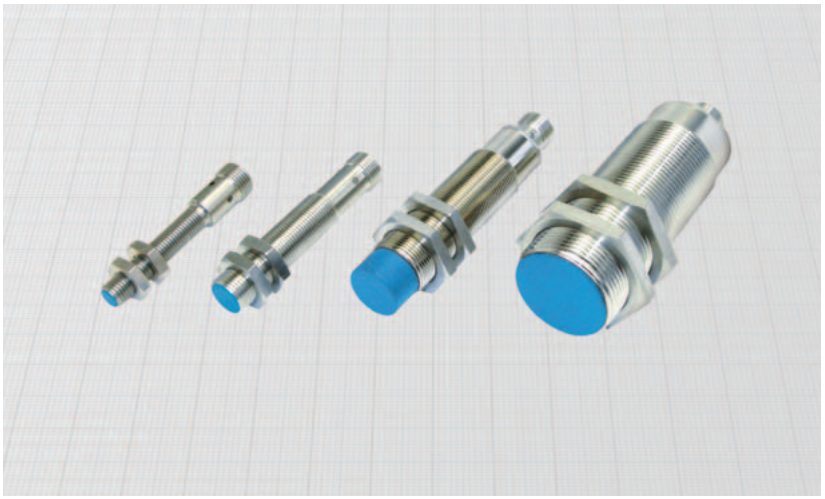
Housing I-2



Diameter		M8 x 1	M12 x 1	M18 x 1	M30 x 1,5
Nut	Size	SW13	SW17	SW24	SW36
	Thickness mm	4	4	4	5
Max tightening torque Nm		10	15	35	80

Materials:

- Housing 8 mm: stainless steel
- Housing 12 - 18 - 30 mm: nickel plated brass
- Sensing face: plastic



General Features:

These sensors are able to work with either direct or alternate current. Voltage drop and residual current are very low. They are not polarized and the load can be connected on both the leads. In many applications they can used to replace mechanical microswitches.

Technical data:

- Supply voltage (U_B): 10 ÷ 50 Vdc/Vac
- Electrical system frequency: 40 ÷ 60 Hz
- Off-state current (I_r): ≤ 1 mA
- Minimum operational current (I_m): 5 mA
- Voltage drop (U_d): ≤ 5 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Protected against short-circuit and overload (versions with letter K)
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Max switching frequency (f) in d.c.	Max switching frequency (f) in a.c.	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES NO (3 blue, 4 black)	ORDERING REFERENCES NC (1 brown, 2 white)
		mm	mm	mm	mm	mm	n°	mm	Hz	Hz	mA	mm		
I-11	•	-	40	12	8	60	6-8B-10	M8 x 1	1000	25	100	1,5	**AXM8/4300S**	**AXM8/4310S**
I-11	•	5	35	12	8	60	6-8B-10	M8 x 1	800	25	100	2,5	**AXM8/5300S**	**AXM8/5310S**
I-7	•	-	43	15	8	66	6-8B-10	M12 x 1	800	25	100	2	**AXM12/4300KS**	**AXM12/4310KS**
I-7	•	7	36	15	8	66	6-8B-10	M12 x 1	600	25	100	4	**AXM12/5300KS**	**AXM12/5310KS**
I-12	•	-	50	19	8	77	6-8B-10	M18 x 1	800	25	200	5	**AXM18/4300KS**	**AXM18/4310KS**
I-12	•	10	50	19	8	87	6-8B-10	M18 x 1	400	25	200	8	**AXM18/5300KS**	**AXM18/5310KS**
I-2	•	-	65	17	8	90	6-8B-10	M30 x 1,5	400	25	200	10	**AXM30/4300KS**	**AXM30/4310KS**
I-2	•	15	50	17	8	90	6-8B-10	M30 x 1,5	200	25	200	15	**AXM30/5300KS**	**AXM30/5310KS**

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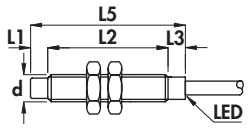
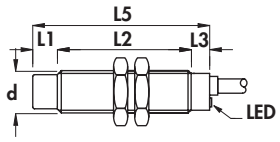
Voltage 20 ÷ 240 V~ •
Amplified in d.c. + a.c. 2 wires •
Cable output •

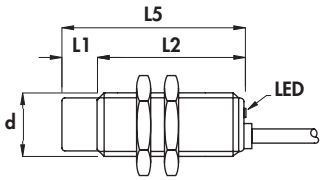
Housing B-6



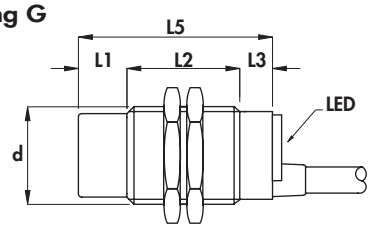
Housing B-3



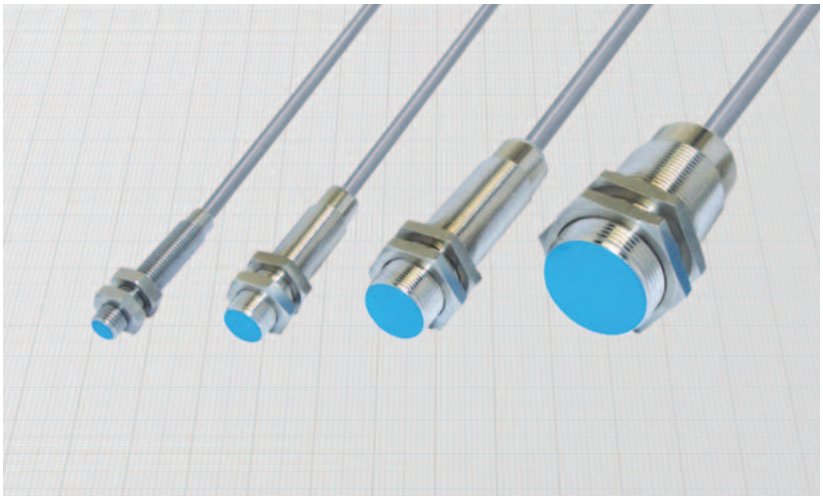
Housing B-2



Housing G



Diameter		M8 x 1	M12 x 1	M18 x 1	M30 x 1,5
Nut	Size	SW13	SW17	SW24	SW36
	Thickness mm	4	4	4	5
Max tightening torque Nm		10	15	35	80



General Features:

These sensors are able to work with either direct or alternate current. Voltage drop and residual current are very low. They are not polarized and the load can be connected on both the leads. In many applications they can used to replace mechanical microswitches.

Technical data:

- Supply voltage (U_B): 20 ÷ 240 Vdc/Vac
- Electrical system frequency: 40 ÷ 60 Hz
- Off-state current (I_r) at 24 V: ≤ 1 mA
- Off-state current (I_r) at 220 V: ≤ 1,5 mA
- Minimum operational current (I_m): 5 mA
- Voltage drop (U_d): ≤ 5 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,35 mm² on 8 and 12 mm
  0,50 mm² on 18 mm
  0,75 mm² on 30 mm
- Protected against short-circuit and overload (versions with letter K)
- Suppression of initial false impulse
- Class 2 equipment according to IEC 536
- Shock and vibration according to EN60068-2-27 EN60068-2-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE

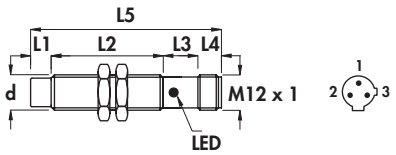
Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing 8 mm: stainless steel
- Housing 12 -18 - 30 mm: nickel plated brass
- Sensing face: plastic

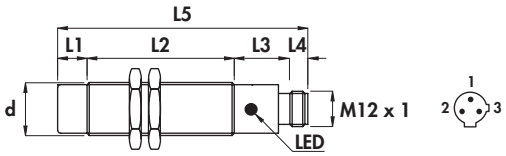
Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Max switching frequency (f) in d.c.	Max switching frequency (f) in a.c.	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES NO	ORDERING REFERENCES NC
		mm	mm	mm	mm	mm	mm	mm	Hz	Hz	mA	mm		
B - 6	•	-	40	5	-	45	3,5	M8 x 1	1000	25	100	1,5	**AX8/4609S**	**AX8/4619S**
B - 6	•	5	35	5	-	45	3,5	M8 x 1	800	25	100	2,5	**AX8/5609S**	**AX8/5619S**
B - 3	•	-	43	7	-	50	4	M12 x 1	800	25	100	2	**AX12/4609KS**	**AX12/4619KS**
B - 3	•	7	36	7	-	50	4	M12 x 1	600	25	100	4	**AX12/5609KS**	**AX12/5619KS**
B - 2	•	-	50	-	-	50	5	M18 x 1	800	25	200	5	**AX18/4A09KS**	**AX18/4A19KS**
B - 2	•	10	40	-	-	50	5	M18 x 1	400	25	200	8	**AX18/5A09KS**	**AX18/5A19KS**
G	•	-	50	10	-	60	6	M30 x 1,5	400	25	200	10	**AX30/4609KS**	**AX30/4619KS**
G	•	15	35	10	-	60	6	M30 x 1,5	200	25	200	15	**AX30/5609KS**	**AX30/5619KS**

- **Voltage 20 ÷ 240 V ≂**
- **Amplified in d.c. + a.c.**
- Connector output M12 x 1

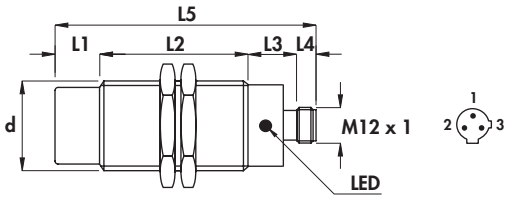
Housing A-7



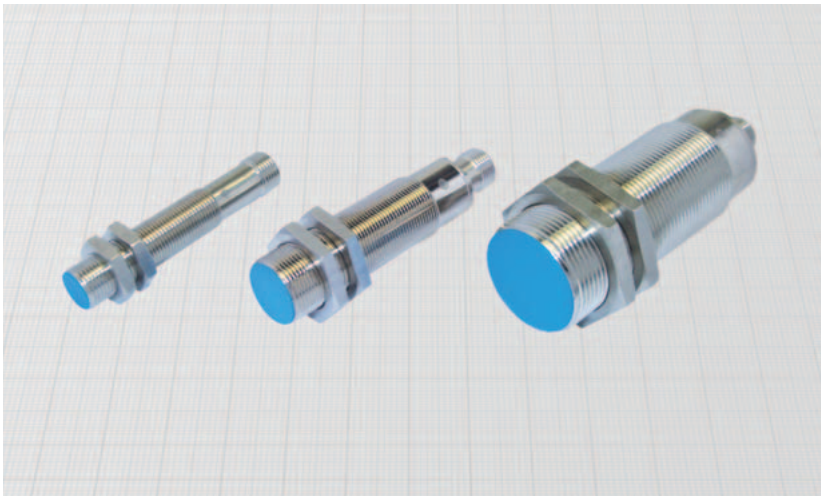
Housing A-1



Housing A-2



Diameter		M12x 1	M18 x 1	M30 x 1,5
Nut	Size	SW17	SW24	SW36
	Thickness mm	4	4	5
Max tightening torque Nm		15	35	80



Materials:

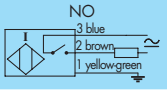
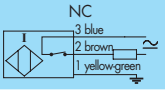
- Housing: nickel plated brass
- Sensing face: plastic

General Features:

These sensors are able to work with either direct or alternate current. Voltage drop and residual current are very low. They are not polarized and the load can be connected on both the leads. In many applications they can used to replace mechanical microswitches.

Technical data:

- Supply voltage (U_B): 20 ÷ 240 Vdc/Vac
- Electrical system frequency: 40 ÷ 60 Hz
- Off-state current (I_r) at 24 V: ≤ 1 mA
- Off-state current (I_r) at 220 V: ≤ 1,5 mA
- Minimum operational current (I_m): 5 mA
- Voltage drop (U_d): ≤ 5 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Protected against short-circuit and overload
- Suppression of initial false impulse
- Class 2 equipment according to IEC 536 ⧈
- Shock and vibration according to EN60068-2-27 EN60068-2-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE

Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Max switching frequency (f) in d.c.	Max switching frequency (f) in a.c.	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES	
													NO 	NC 
		mm	mm	mm	mm	mm	n°	mm	Hz	Hz	mA	mm		
A-7	•	-	43	15	8	66	17-18	M12 x 1	800	25	100	2	**AX12/4009KS**	**AX12/4019KS**
A-7	•	7	36	15	8	66	17-18	M12 x 1	600	25	100	4	**AX12/5009KS**	**AX12/5019KS**
A-1	•	-	50	19	8	77	17-18	M18 x 1	800	25	200	5	**AX18/4009KS**	**AX18/4019KS**
A-1	•	10	50	19	8	87	17-18	M18 x 1	400	25	200	8	**AX18/5009KS**	**AX18/5019KS**
A-2	•	-	65	17	8	90	17-18	M30 x 1,5	400	25	200	10	**AX30/4009KS**	**AX30/4019KS**
A-2	•	15	50	17	8	90	17-18	M30 x 1,5	200	25	200	15	**AX30/5009KS**	**AX30/5019KS**

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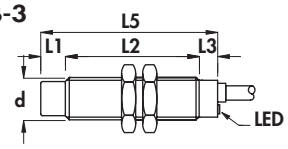
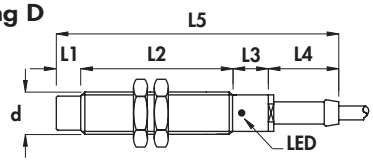
Diameters 12 - 18 mm •
Amplified in a.c. 2 wires •
Cable output •

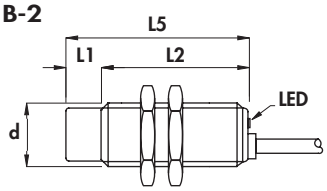
Housing B-3



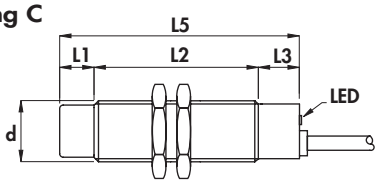
Housing D



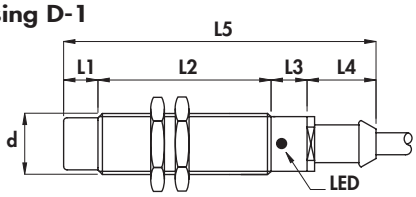
Housing B-2



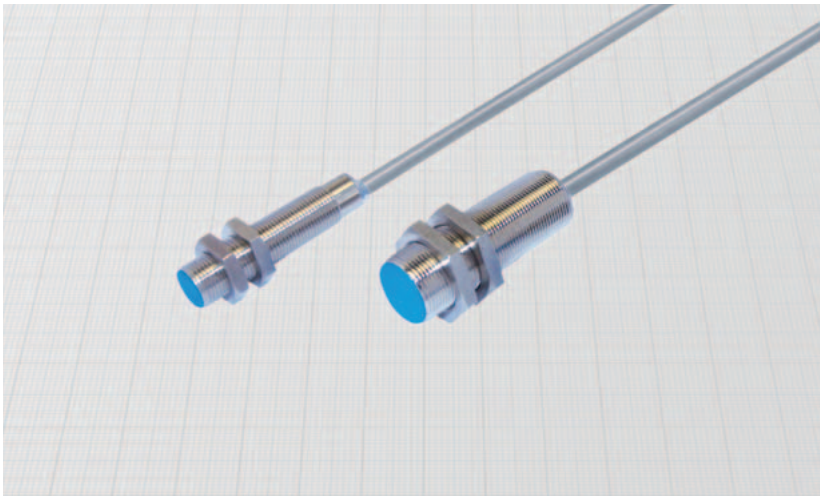
Housing C



Housing D-1



Diameter		M12 x 1	M18 x 1
Nut	Size	SW17	SW24
	Thickness mm	4	4
Max tightening torque Nm		15	35



Technical data:

- Supply voltage (U_B): 20 ÷ 240 Vac
- Electrical system frequency: 40 ÷ 60 Hz
- Off-state current (I_r): ≤1,5 mA at 110 Vac
- Minimum operational current (I_m): 5 mA
- Voltage drop (U_d): ≤ 5 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,35 mm² on 12 mm
  0,50 mm² on 18 mm (Housing C)
  0,75 mm² on 18 mm (Housing D - 1)
- Suppression of initial false impulse
- Class 2 equipment according to IEC 536
- Shock and vibration according to EN60068-2-27 EN60068-2-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE

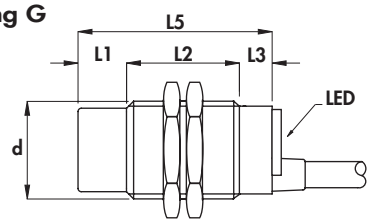
Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: nickel plated brass
- Sensing face: plastic

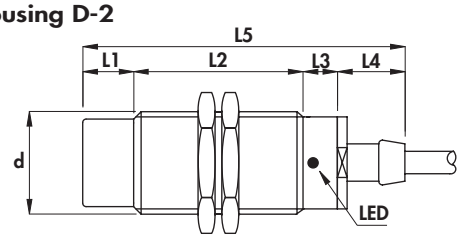
Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES NO	ORDERING REFERENCES NC
		mm	mm	mm	mm	mm	mm	mm	Hz	mA	mm		
B-3	•	-	43	7	-	50	4	M12 x 1	25	500	2	**AC12/4609S**	**AC12/4619S**
D	•	-	50	10	20	80	4	M12 x 1	25	500	2	**AC12/4709S**	**AC12/4719S**
B-3	•	7	36	7	-	50	4	M12 x 1	25	500	4	**AC12/5609S**	**AC12/5619S**
D	•	7	43	10	20	80	4	M12 x 1	25	500	4	**AC12/5709S**	**AC12/5719S**
C	•	-	60	10	-	70	5	M18 x 1	25	500	5	**AC18/4609S**	**AC18/4619S**
B-2	•	-	50	-	-	50	5	M18 x 1	25	500	5	**AC18/4A09S**	**AC18/4A19S**
D-1	•	-	60	12	20	92	6	M18 x 1	25	500	5	**AC18/4709S**	**AC18/4719S**
B-2	•	10	40	-	-	50	5	M18 x 1	25	500	8	**AC18/5A09S**	**AC18/5A19S**
D-1	•	10	50	12	20	92	6	M18 x 1	25	500	8	**AC18/5709S**	**AC18/5719S**
C	•	10	50	10	-	70	5	M18 x 1	25	500	8	**AC18/5609S**	**AC18/5619S**

- **Diameters 30 - 45 mm**
- **Amplified in a.c. 2 wires**
- Cable output

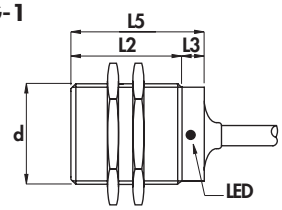
Housing G

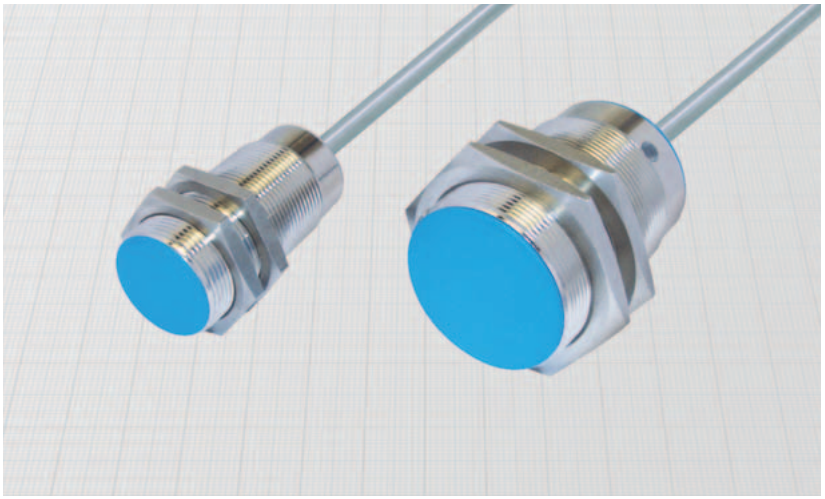


Housing D-2



Housing G-1





Diameter		M30 x 1,5	M45 x 1,5
Nut	Size	SW17	SW36
	Thickness mm	5	5
Max tightening torque Nm		80	70

Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: nickel plated brass
- Sensing face: plastic

Technical data:

- Supply voltage (U_B): 20 ÷ 240 Vac
- Electrical system frequency: 40 ÷ 60 Hz
- Off-state current (I_r): ≤1,5 mA at 110 Vac
- Minimum operational current (I_m): 5 mA
- Voltage drop (U_d): ≤ 5 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,75 mm²
- Suppression of initial false impulse
- Class 2 equipment according to IEC 536
- Shock and vibration according to EN60068-2-27 EN60068-2-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE

Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES NO	ORDERING REFERENCES NC
		mm	mm	mm	mm	mm	mm	mm	Hz	mA	mm		
G	•	-	50	10	-	60	6	M30 x 1,5	20	500	10	**AC30/4609S**	**AC30/4619S**
D - 2	•	-	65	10	20	95	6	M30 x 1,5	20	500	10	**AC30/4709S**	**AC30/4719S**
G	•	15	35	10	-	60	6	M30 x 1,5	20	500	15	**AC30/5609S**	**AC30/5619S**
D - 2	•	15	50	10	20	95	6	M30 x 1,5	20	500	15	**AC30/5709S**	**AC30/5719S**
G - 1	•	-	50	10	-	60	6	M45 x 1,5	20	500	20	**AC45/4609S**	**AC45/4619S**

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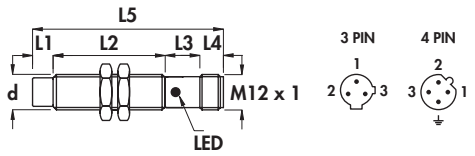
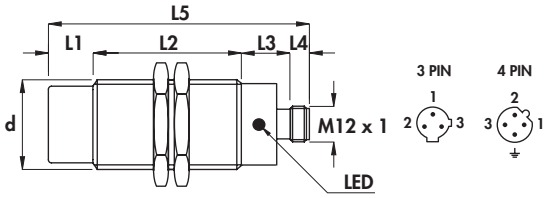
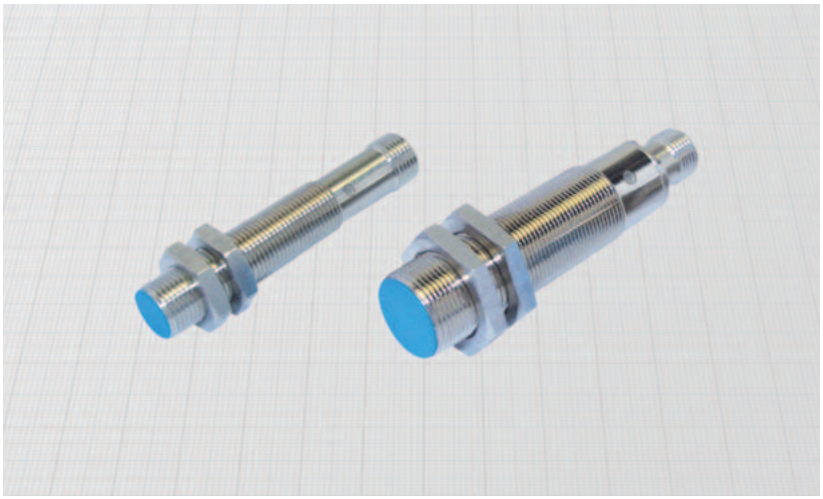
Diameters 12 - 18 mm •
Amplified in a.c. •
Connector output M12 x 1 •

Housing A-7



Housing A-1





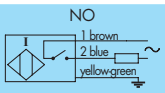
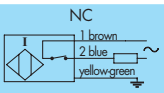
Diameter		M12 x 1	M18 x 1
Nut	Size	SW17	SW24
	Thickness mm	4	4
Max tightening torque Nm		15	35

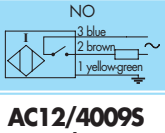
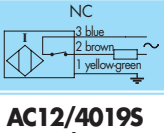
Materials:

- Housing: nickel plated brass
- Sensing face: plastic

Technical data:

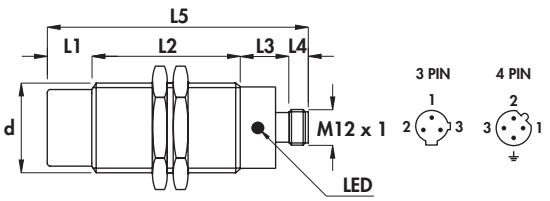
- Supply voltage (U_B): 20 ÷ 240 Vac
- Electrical system frequency: 40 ÷ 60 Hz
- Off-state current (I_r): ≤1,5 mA at 110 Vac
- Minimum operational current (I_m): 5 mA
- Voltage drop (U_d): ≤ 5 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Suppression of initial false impulse
- Shock and vibration according to EN60068-2-27 EN60068-2-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE

Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES 4 PIN connector NO	ORDERING REFERENCES 4 PIN connector NC
		mm	mm	mm	mm	mm	n°	mm	Hz	mA	mm		
A-7	•	-	43	15	8	66	15 - 16	M12 x 1	25	500	2	**AC12/4109S**	**AC12/4119S**
A-7	•	7	36	15	8	66	15 - 16	M12 x 1	25	500	4	**AC12/5109S**	**AC12/5119S**
A-1	•	-	50	19	8	77	15 - 16	M18 x 1	25	500	5	**AC18/4109S**	**AC18/4119S**
A-1	•	10	50	19	8	87	15 - 16	M18 x 1	25	500	8	**AC18/5109S**	**AC18/5119S**

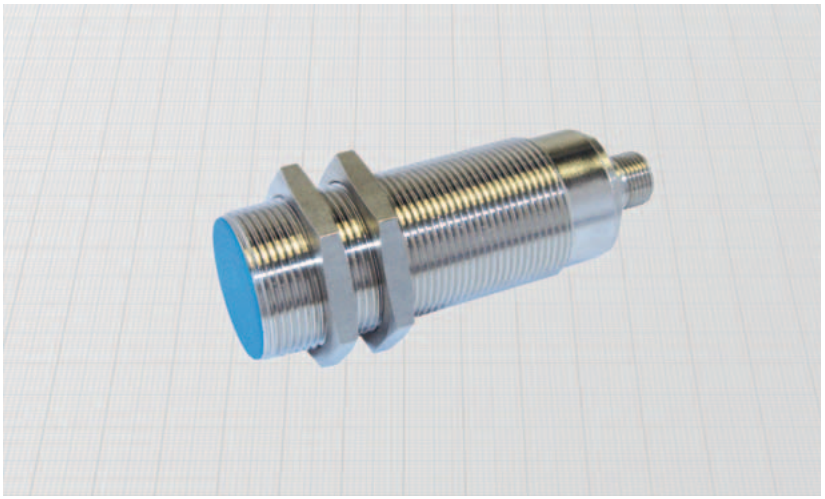
												3 PIN connector according to EN60947-5-2 NO	3 PIN connector according to EN60947-5-2 NC
		mm	mm	mm	mm	mm	n°	mm	Hz	mA	mm		
A-7	•	-	43	15	8	66	17 - 18	M12 x 1	25	500	2	**AC12/4009S**	**AC12/4019S**
A-7	•	7	36	15	8	66	17 - 18	M12 x 1	25	500	4	**AC12/5009S**	**AC12/5019S**
A-1	•	-	50	19	8	77	17 - 18	M18 x 1	25	500	5	**AC18/4009S**	**AC18/4019S**
A-1	•	10	50	19	8	87	17 - 18	M18 x 1	25	500	8	**AC18/5009S**	**AC18/5019S**

- **Diameter 30 mm**
- **Amplified in a.c.**
- Connector output M12 x 1

Housing A-2



Diameter		M30 x 1,5
Nut	Size	SW36
	Thickness mm	5
Max tightening torque Nm		80



Materials:
- Housing: nickel plated brass
- Sensing face: plastic

Technical data:
- Supply voltage (U_B): 20 ÷ 240 Vac
- Electrical system frequency: 40 ÷ 60 Hz
- Off-state current (I_r): ≤1,5 mA a 110 Vac
- Minimum operational current (I_m): 5 mA
- Voltage drop (U_d): ≤ 5 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES 4 PIN connector NO	ORDERING REFERENCES 4 PIN connector NC
		mm	mm	mm	mm	mm	n°	mm	Hz	mA	mm		
A - 2	•	-	65	17	8	90	15 - 16	M30 x 1,5	20	500	10	**AC30/4109S**	**AC30/4119S**
A - 2	•	15	50	17	8	90	15 - 16	M30 x 1,5	20	500	15	**AC30/5109S**	**AC30/5119S**

												3 PIN connector according to EN60947-5-2 NO	3 PIN connector according to EN60947-5-2 NC
		mm	mm	mm	mm	mm	n°	mm	Hz	mA	mm		
A - 2	•	-	65	17	8	90	17 - 18	M30 x 1,5	20	500	10	**AC30/4009S**	**AC30/4019S**
A - 2	•	15	50	17	8	90	17 - 18	M30 x 1,5	20	500	15	**AC30/5009S**	**AC30/5019S**

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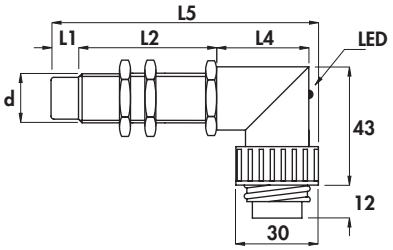
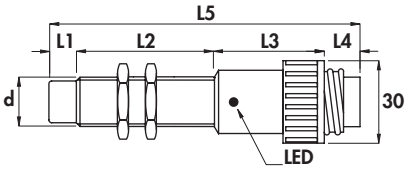
Diameter 18 mm •
Amplified in a.c. •
Connector output C1 - C2 •

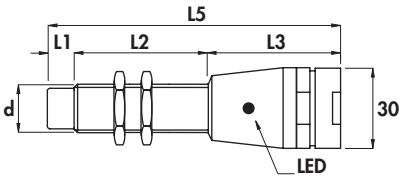
Housing M-1

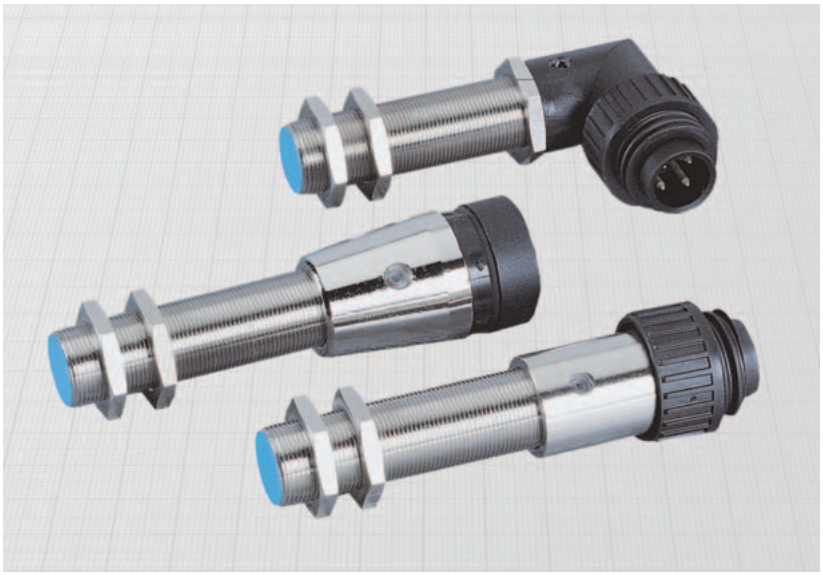


Housing M-4



Housing M





Diameter		M18 x 1
Nut	Size	SW24
	Thickness mm	4
Max tightening torque Nm		35

Materials:

- Housing: nickel plated brass
- Sensing face and connector: plastic

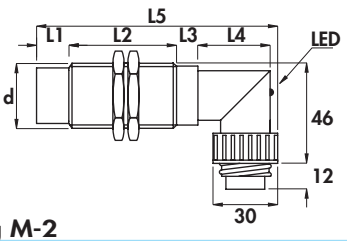
Technical data:

- Supply voltage (U_B): 20 ÷ 240 Vac
- Electrical system frequency: 40 ÷ 60 Hz
- Off-state current (I_r): ≤1,5 mA at 110 Vac
- Minimum operational current (I_m): 5 mA
- Voltage drop (U_d): ≤ 5 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP65
- Switch status indicator: yellow LED
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES NO	ORDERING REFERENCES NC
		mm	mm	mm	mm	mm	n°	mm	Hz	mA	mm		
M-1	•	-	60	-	33	96	1	M18 x 1	25	500	5	**AC18/4209S**	**AC18/4219S**
M-4	•	-	60	40	13	113	1	M18 x 1	25	500	5	**AC18/4409S**	**AC18/4419S**
M-1	•	10	50	-	33	96	1	M18 x 1	25	500	8	**AC18/5209S**	**AC18/5219S**
M-4	•	10	50	40	13	113	1	M18 x 1	25	500	8	**AC18/5409S**	**AC18/5419S**

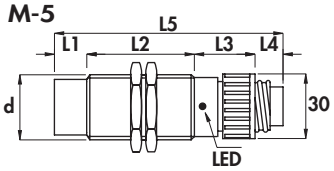
												NO	NC
		mm	mm	mm	mm	mm	n°	mm	Hz	mA	mm		
M	•	-	60	50	-	110	2	M18 x 1	25	500	5	**AC18/4E09S**	**AC18/4E19S**
M	•	10	50	50	-	110	2	M18 x 1	25	500	8	**AC18/5E09S**	**AC18/5E19S**

- **Diameters 30 - 45 mm**
- **Amplified in a.c.**
- Connector output C1 - C2

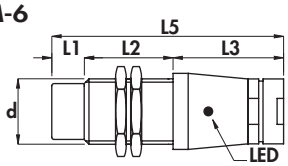


Housing M-2

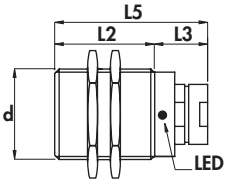
Housing M-5



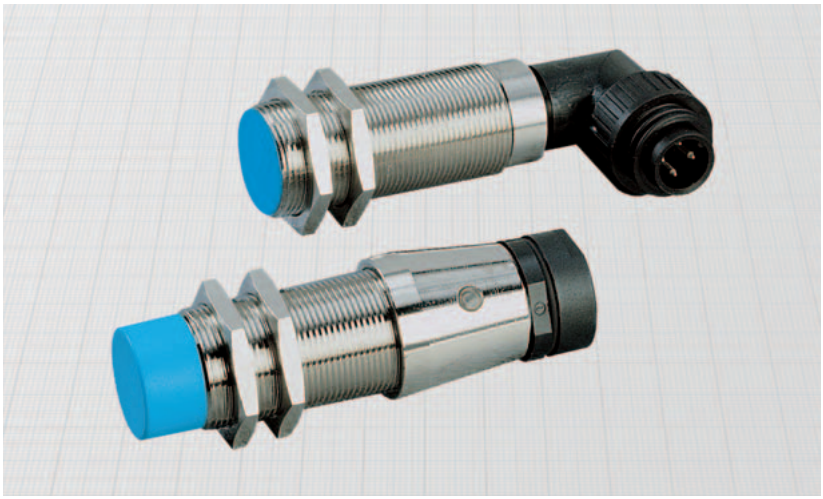
Housing M-6



Housing M-3



Diameter		M30 x 1,5	M45 x 1,5
Nut	Size	SW36	SW55
	Thickness mm	5	5
Max tightening torque Nm		80	70



Technical data:

- Supply voltage (U_B): 20 ÷ 240 Vac
- Electrical system frequency: 40 ÷ 60 Hz
- Off-state current (I_r): ≤1,5 mA a 110 Vac
- Minimum operational current (I_m): 5 mA
- Voltage drop (U_d): ≤ 5 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP65
- Switch status indicator: yellow LED
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Materials:

- Housing: nickel plated brass
- Sensing face and connector: plastic

Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Female connector	Body diameter (d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing dist. (S_n) ± 10%	ORDERING REFERENCES NO	ORDERING REFERENCES NC
		mm	mm	mm	mm	mm	n°	mm	Hz	mA	mm		
M-2	•	-	65	10	40	115	1	M30 x 1,5	20	500	10	**AC30/4209S**	**AC30/4219S**
M-5	•	-	65	28	13	106	1	M30 x 1,5	20	500	10	**AC30/4409S**	**AC30/4419S**
M-2	•	15	50	10	40	115	1	M30 x 1,5	20	500	15	**AC30/5209S**	**AC30/5219S**
M-5	•	15	50	28	13	106	1	M30 x 1,5	20	500	15	**AC30/5409S**	**AC30/5419S**
M-2	•	-	50	10	42	102	1	M45 x 1,5	20	500	20	**AC45/4209S**	**AC45/4219S**

												NO	NC
		mm	mm	mm	mm	mm	n°	mm	Hz	mA	mm		
M-6	•	-	56	51	-	107	2	M30 x 1,5	20	500	10	**AC30/4E09S**	**AC30/4E19S**
M-6	•	15	41	51	-	107	2	M30 x 1,5	20	500	15	**AC30/5E09S**	**AC30/5E19S**
M-3	•	-	50	28	-	78	2	M45 x 1,5	20	500	20	**AC45/4E09S**	**AC45/4E19S**

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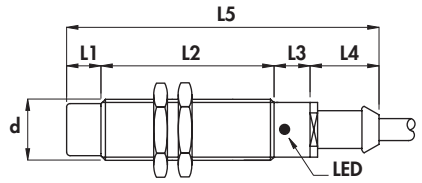
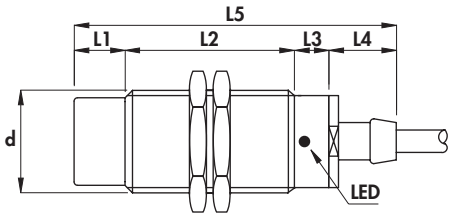
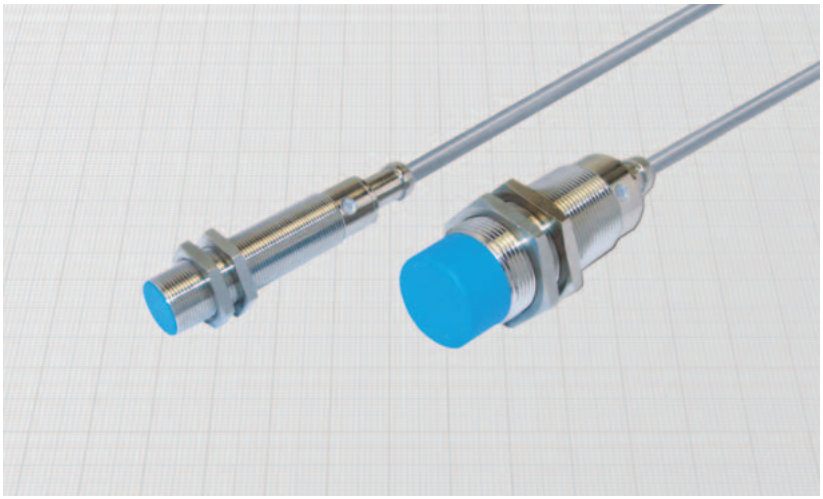
ACB SERIES •
Amplified in a.c. 3 wires + earth •
Cable output •

Housing D-1



Housing D-2





Diameter		M18 x 1	M30 x 1,5
Nut	Size	SW24	SW36
	Thickness mm	4	5
Max tightening torque Nm		35	80

Materials:

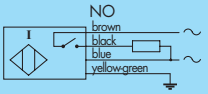
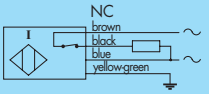
- Cable: 2 m PVC
- Housing: nickel plated brass
- Sensing face: plastic

General Features:

These sensors have two wires for power supply and one for the output. They are able to drive very low current loads such as some kind of PLC with A.C. inputs.

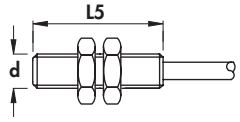
Technical data:

- Supply voltage (U_B): 20 ÷ 240 Vac
- Electrical system frequency: 40 ÷ 60 Hz
- No-load supply current (I_o): ≤ 4 mA
- Minimum operational current (I_m): 0,5 mA
- Voltage drop (U_d): ≤ 3 V
- Temperature range: - 20° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,75 mm²
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

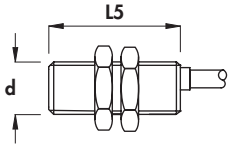
Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES NO	ORDERING REFERENCES NC
		mm	mm	mm	mm	mm	mm	mm	Hz	mA	mm		
D - 1	•	-	60	12	20	92	6	M18 x 1	20	250	5	**ACB18/4709S**	**ACB18/4719S**
D - 1		10	50	12	20	92	6	M18 x 1	20	250	8	**ACB18/5709S**	**ACB18/5719S**
D - 2	•	-	65	10	20	95	6	M30 x 1,5	20	250	10	**ACB30/4709S**	**ACB30/4719S**
D - 2	•	15	50	10	20	95	6	M30 x 1,5	20	250	15	**ACB30/5709S**	**ACB30/5719S**

- **NAMUR SERIES**
- **Non-amplified in d.c. 2 wires**
- Cable output

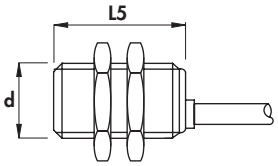
Housing B-14



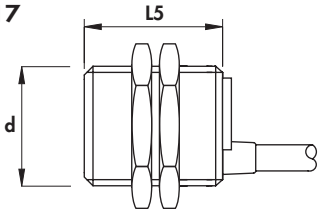
Housing B-15



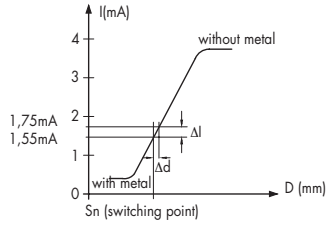
Housing B-16



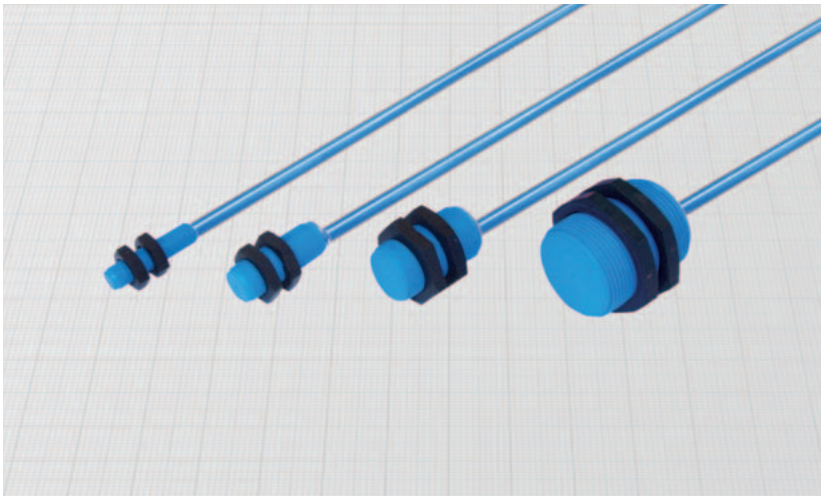
Housing B-17



Typical curve



Diameter		M8 x 1	M12 x 1	M18 x 1	M30 x 1,5
Nut	Size	SW13	SW17	SW24	SW36
	Thickness mm	4	4	4	5
Max tightening torque Nm		1	1	5	20

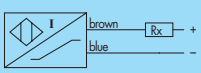


Technical data:

- Working voltage: 5 ÷ 30 Vdc
- Supply voltage according to NAMUR: 7,7 ÷ 9 Vdc
- Max ripple: 10%
- Consumption at 8,2 V con Rx = 1000 Ω
  - with metal: ≤ 1 mA
  - without metal: ≥ 3 mA
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Degree of protection: IP67
- Cable conductor cross section: 0,35 mm² on 8 and 12 mm; 0,75 mm² on 18 and 30 mm
- According to EN60947-5-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6
- For certified ATEX version see ATEX Catalogue

Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: plastic
- Sensing face: plastic

Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Max switching frequency (f)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES
		mm	mm	mm	mm	mm	mm	mm	KHz	mm	
B-14	•	-	-	-	-	30	4	M8 x 1	5	1,5	**DC8P/4600**
B-14	•	-	-	-	-	30	4	M8 x 1	3	2,5	**DC8P/5600**
B-15	•	-	-	-	-	30	4	M12 x 1	5	2	**DC12P/4600**
B-15	•	-	-	-	-	30	4	M12 x 1	1	4	**DC12P/5600**
B-16	•	-	-	-	-	30	5	M18 x 1	1	5	**DC18P/4600**
B-16	•	-	-	-	-	30	5	M18 x 1	0,5	8	**DC18P/5600**
B-17	•	-	-	-	-	35	5	M30 x 1,5	0,3	10	**DC30P/4600**
B-17	•	-	-	-	-	35	5	M30 x 1,5	0,2	15	**DC30P/5600**

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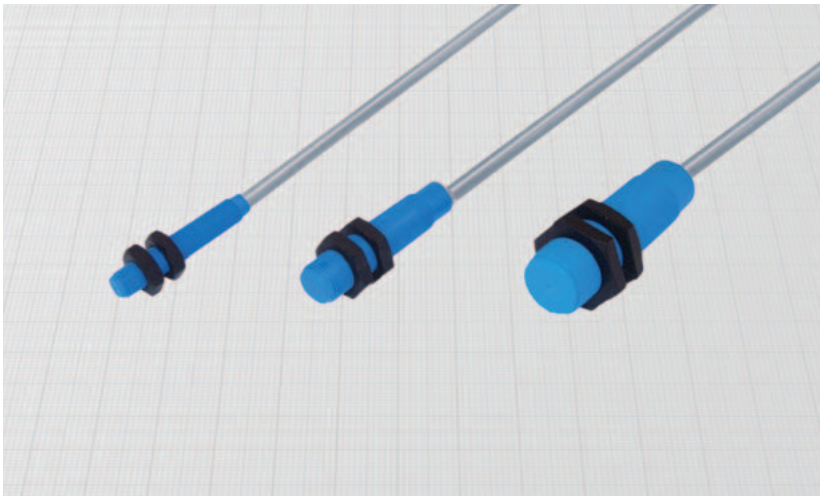
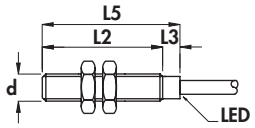
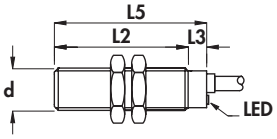
Diameters 8 - 12 - 18 mm •
Amplified in d.c. 3 and 4 wires •
Cable output •



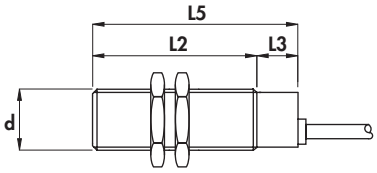
Housing B-18



Housing B-19



Housing C-1



Diameter		M8 x 1	M12 x 1	M18 x 1
Nut	Size	SW13	SW17	SW24
	Thickness mm	4	4	4
Max tightening torque Nm		1	1	5

Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: plastic
- Sensing face: plastic

Technical data:

- Supply voltage (U_B): see ordering references
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): on 8 and 12 mm ≤ 1,5 V; on 18 mm ≤ 2,2 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,22 mm² on 8 mm; 0,35 mm² on 12 mm; 0,50 mm² on 18 mm
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting / Non flush mounting	L2	L3	L5	Cable diameter	Body diameter (d)	Supply di alimentazione (U_B)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	NC	NO + NC
		mm	mm	mm	mm	mm	V (min - max)	KHz	mA	mm			
B-18	•	40	7	47	3,5	M8 x 1	7÷30	4	200	1,5	**DCA8P/4609KS**	**DCA8P/4619KS**	**DCA8P/4629KS**
B-18	•	40	7	47	3,5	M8 x 1	7÷30	3	200	2,5	**DCA8P/5609KS**	**DCA8P/5619KS**	**DCA8P/5629KS**
B-19	•	42	8	50	4	M12 x 1	5÷40	2	200	2	**DCA12P/4609KS**	**DCA12P/4619KS**	**DCA12P/4629KS**
B-19	•	42	8	50	4	M12 x 1	5÷40	1,5	200	4	**DCA12P/5609KS**	**DCA12P/5619KS**	**DCA12P/5629KS**
C-1	•	50	10	60	5	M18 x 1	5÷60	1	400	5	**DCA18P/4609KS**	**DCA18P/4619KS**	**DCA18P/4629KS**
C-1	•	50	10	60	5	M18 x 1	5÷60	1	400	8	**DCA18P/5609KS**	**DCA18P/5619KS**	**DCA18P/5629KS**

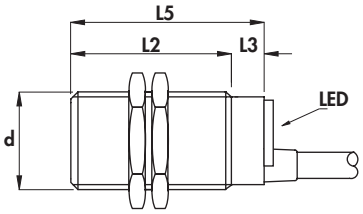
NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie. DCA8P/4608KS)

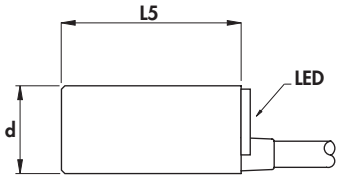
NO | NC | NO + NC

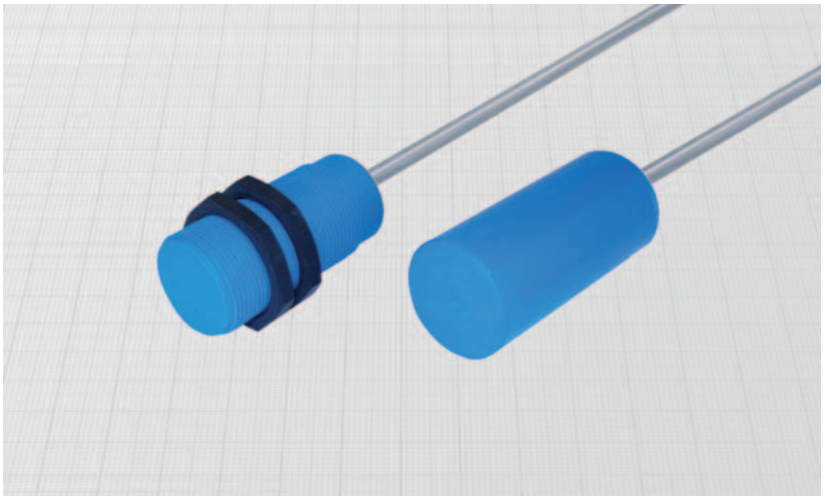
- **Amplified in d.c. 3 or 4 wires**
- **Diameters 30 - 34 mm**
- Cable output

Housing G-2



Housing A-8





Diameter		M30 x 1,5
Nut	Size	SW36
	Thickness mm	5
Max tightening torque Nm		20

Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: plastic
- Sensing face: plastic

Technical data:

- Supply voltage (U_B): 7 ÷ 60 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 2,2 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section 0,50 mm²
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting / Non flush mounting	L2	L3	L5	Cable diameter	Body diameter (d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	NC	NO + NC
		mm	mm	mm	mm	mm	KHz	mA	mm			
G-2	•	50	10	60	6	M30 x 1,5	0,8	400	10	**DCA30P/4609KS**	**DCA30P/4619KS**	**DCA30P/4629KS**
G-2	•	50	10	60	6	M30 x 1,5	0,4	400	15	**DCA30P/5609KS**	**DCA30P/5619KS**	**DCA30P/5629KS**
A-8	•	-	-	70	6	34	0,2	400	20	**DCA34P/5609LKS**	**DCA34P/5619LKS**	**DCA34P/5629LKS**

NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie. DCA30P/4608KS)

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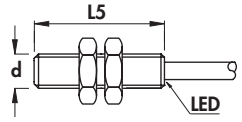
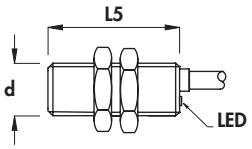
SHORT SERIES •
Amplified in d.c. 3 wires •
Cable output •

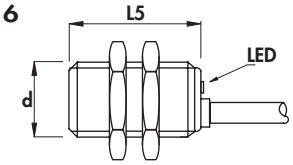
Housing B-14



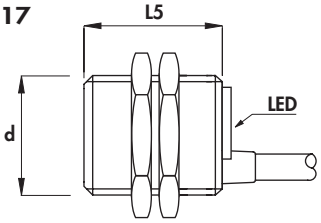
Housing B-15



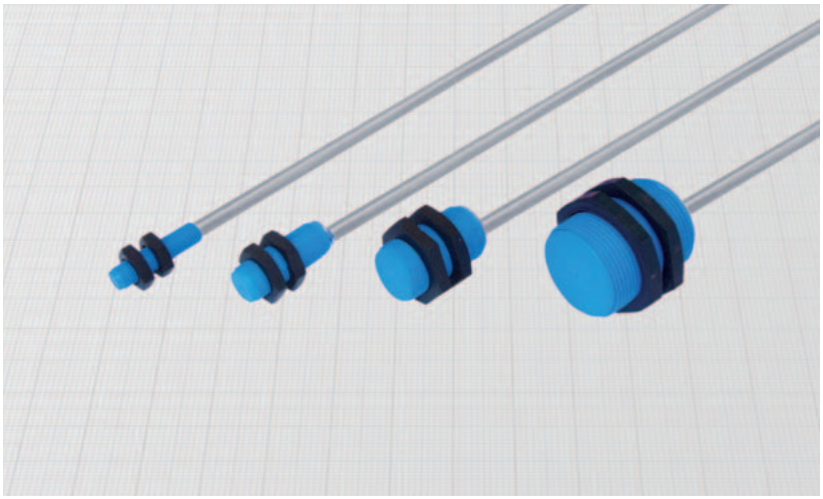
Housing B-16



Housing B-17



Diameter		M8 x 1	M12 x 1	M18 x 1	M30 x 1,5
Nut	Size	SW13	SW17	SW24	SW36
	Thickness mm	4	4	4	5
Max tightening torque Nm		1	1	5	20



Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: plastic
- Sensing face: plastic

Technical data:

- Supply voltage (U_B): see ordering references
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 1,5 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,22 mm² on 8 mm
  0,35 mm² on 12 mm
  0,50 mm² on 18 and 30 mm
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Supply di alimentazione (U_B)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	ORDERING REFERENCES PNP (positive switching) NC
		mm	mm	mm	mm	mm	mm	mm	V (min - max)	KHz	mA	mm		
B-14	•	-	-	-	-	30	3,5	M8 x 1	7 ÷ 30	4	200	1,5	**DSA8P/4609KS**	**DSA8P/4619KS**
B-14	•	-	-	-	-	30	3,5	M8 x 1	7 ÷ 30	3	200	2,5	**DSA8P/5609KS**	**DSA8P/5619KS**
B-15	•	-	-	-	-	30	4	M12 x 1	7 ÷ 30	2	200	2	**DSA12P/4609KS**	**DSA12P/4619KS**
B-15	•	-	-	-	-	30	4	M12 x 1	7 ÷ 30	1,5	200	4	**DSA12P/5609KS**	**DSA12P/5619KS**
B-16	•	-	-	-	-	30	5	M18 x 1	5 ÷ 40	0,8	200	5	**DSA18P/4609KS**	**DSA18P/4619KS**
B-16	•	-	-	-	-	30	5	M18 x 1	5 ÷ 40	0,6	200	8	**DSA18P/5609KS**	**DSA18P/5619KS**
B-17	•	-	-	-	-	35	6	M30 x 1,5	7 ÷ 40	0,8	200	10	**DSA30P/4609KS**	**DSA30P/4619KS**
B-17	•	-	-	-	-	35	6	M30 x 1,5	7 ÷ 40	0,4	200	15	**DSA30P/5609KS**	**DSA30P/5619KS**

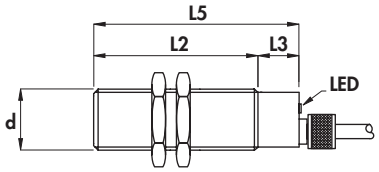
NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie. DSA8P/4608KS)

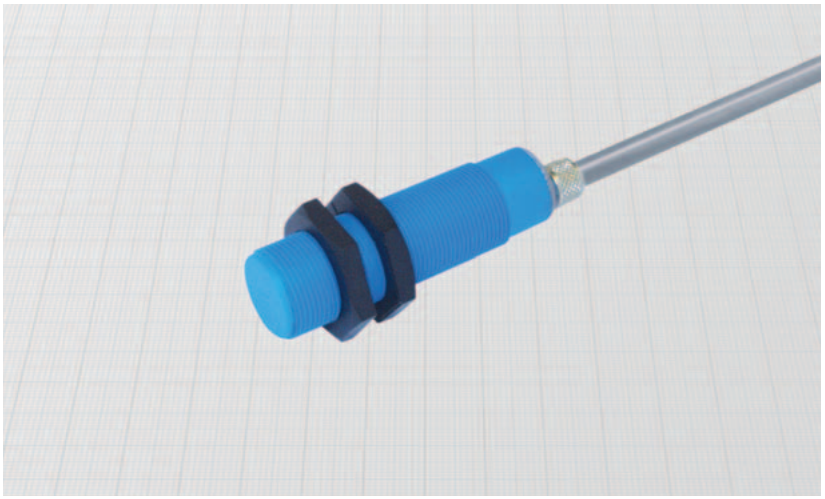
NO / NC

- **Degree of protection IP68**
- **Amplified in d.c. 3 and 4 wires**
- Cable output

Housing J-4



Diameter		M18 x 1
Nut	Size	SW24
	Thickness mm	4
Max tightening torque Nm		5



Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: plastic
- Gland: nickel plated brass
- Sensing face: plastic

General Features:

This new series solves definitively the problem of the ingress of liquids to the inner parts of the sensors. Thanks to the inner hermetic sealing they can be submitted to no-stop jets of liquids under pressure even in presence of temperature changes.
They find application in automatic washing machinery, in machines subject to water jets and in continuous immersion applications.

Technical data:

- Supply voltage (U_B): 5 ÷ 60 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): 2,2 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP68
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,50 mm²
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting / Non flush mounting	L2	L3	L5	Cable diameter	Body diameter (d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO (brown, black, blue)	NC (brown, black, blue)	NO + NC (brown, black, white, blue)
		mm	mm	mm	mm	mm	KHz	mA	mm			
J-4	•	50	10	60	5	M18 x 1	1	400	5	**DCA18P/4609KSJ**	**DCA18P/4619KSJ**	**DCA18P/4629KSJ**
J-4	•	50	10	60	5	M18 x 1	1	400	8	**DCA18P/5609KSJ**	**DCA18P/5619KSJ**	**DCA18P/5629KSJ**

NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie. DCA18P/4608KSJ)

NO (brown, black, blue) | NC (brown, black, blue) | NO + NC (brown, black, white, blue)

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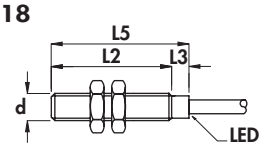
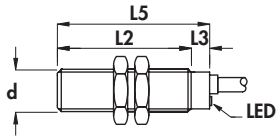
Amplified in a.c. 2 wires •

Cable output •

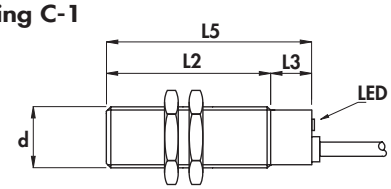
Housing B-18



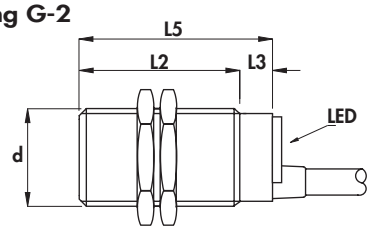
Housing B-19



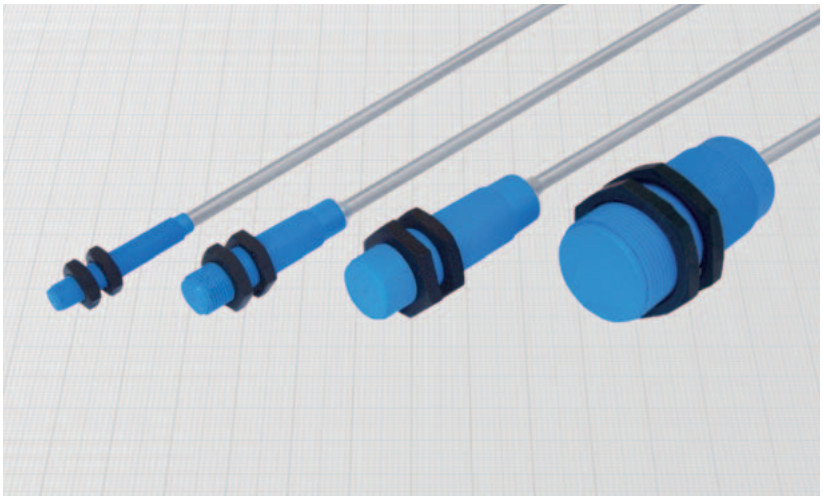
Housing C-1



Housing G-2



Diameter		M8 x 1	M12 x 1	M18 x 1	M30 x 1,5
Nut	Size	SW13	SW17	SW24	SW36
	Thickness mm	4	4	4	5
Max tightening torque Nm		1	1	5	20



Technical data:

- Supply voltage (U_B): 20 ÷ 240 Vac
- Electrical system frequency: 40 ÷ 60 Hz
- Off-state current (I_r): ≤1,5 mA at 110 Vac
- Minimum operational current (I_m): 5 mA
- Voltage drop (U_d): ≤ 5 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,35 mm² on 8 and 12 mm
  0,50 mm² on 18 mm
  0,75 mm² on 30 mm
- Suppression of initial false impulse
- Class 2 equipment according to IEC 536
- Shock and vibration according to EN60068-2-27 EN60068-2-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE

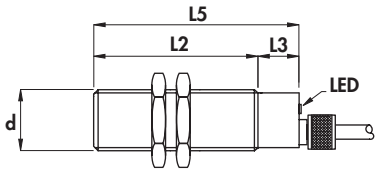
Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: plastic
- Sensing face: plastic

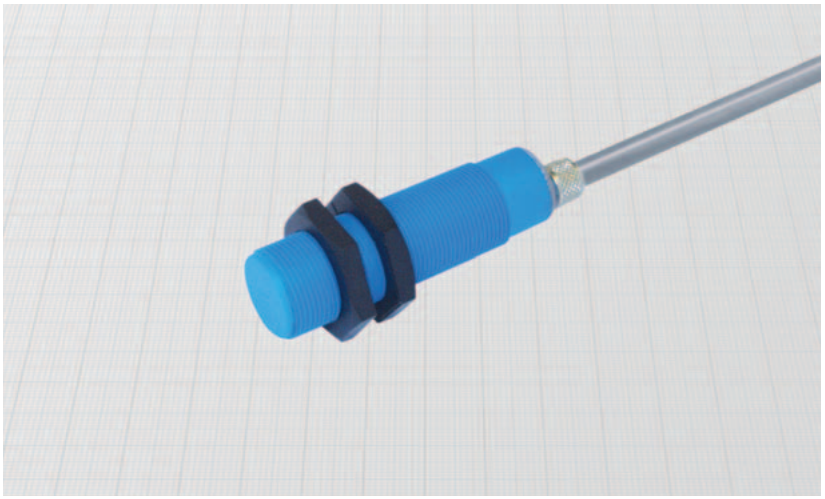
Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES NO	ORDERING REFERENCES NC
		mm	mm	mm	mm	mm	mm	mm	Hz	mA	mm		
B-18	•	-	40	7	-	47	4	M8 x 1	25	100	1,5	**AC8P/4609S**	**AC8P/4619S**
B-18	•	-	40	7	-	47	4	M8 x 1	25	100	2,5	**AC8P/5609S**	**AC8P/5619S**
B-19	•	-	42	8	-	50	4	M12 x 1	25	500	2	**AC12P/4609S**	**AC12P/4619S**
B-19	•	-	42	8	-	50	4	M12 x 1	25	500	4	**AC12P/5609S**	**AC12P/5619S**
C-1	•	-	50	10	-	60	5	M18 x 1	25	500	5	**AC18P/4609S**	**AC18P/4619S**
C-1	•	-	50	10	-	60	5	M18 x 1	25	500	8	**AC18P/5609S**	**AC18P/5619S**
G-2	•	-	50	10	-	60	6	M30 x 1,5	25	500	10	**AC30P/4609S**	**AC30P/4619S**
G-2	•	-	50	10	-	60	6	M30 x 1,5	25	500	15	**AC30P/5609S**	**AC30P/5619S**

- **Degree of protection IP68**
- **Amplified in a.c. 2 wires**
- Cable output

Housing J-4



Diameter		M18 x 1
Nut	Size	SW24
	Thickness mm	4
Max tightening torque Nm		5



Materials:
- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: plastic
- Gland: nickel plated brass
- Sensing face: plastic

General Features:
This new series solves definitively the problem of the ingress of liquids to the inner parts of the sensors. Thanks to the inner hermetic sealing they can be submitted to no-stop jets of liquids under pressure even in presence of temperature changes.
They find application in automatic washing machinery, in machines subject to water jets and in continuous immersion applications.

Technical data:
- Supply voltage (U_B): 20 ÷ 240 Vac
- Electrical system frequency: 40 ÷ 60 Hz
- Off-state current (I_r): ≤1,5 mA at 110 Vac
- Minimum operational current (I_m): 5 mA
- Voltage drop (U_d): ≤ 5 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP68
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,50 mm²
- Suppression of initial false impulse
- Class 2 equipment according to IEC 536
- Shock and vibration according to EN60068-2-27 EN60068-2-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE

Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES NO	ORDERING REFERENCES NC
		mm	mm	mm	mm	mm	mm	mm	Hz	mA	mm		
J - 4	•	-	50	10	-	60	5	M18 x 1	25	500	5	**AC18P/4609SJ**	**AC18P/4619SJ**
J - 4	•	-	50	10	-	60	5	M18 x 1	25	500	8	**AC18P/5609SJ**	**AC18P/5619SJ**

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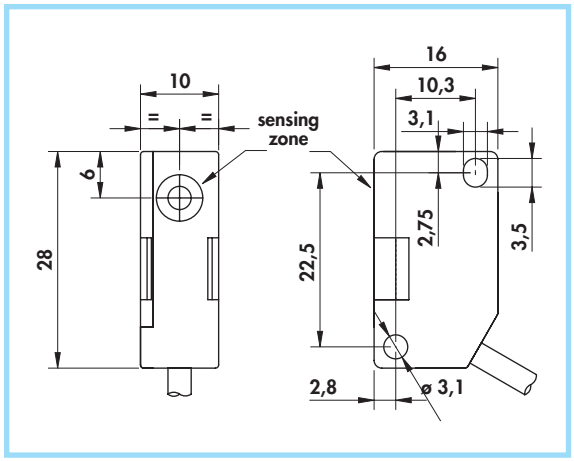
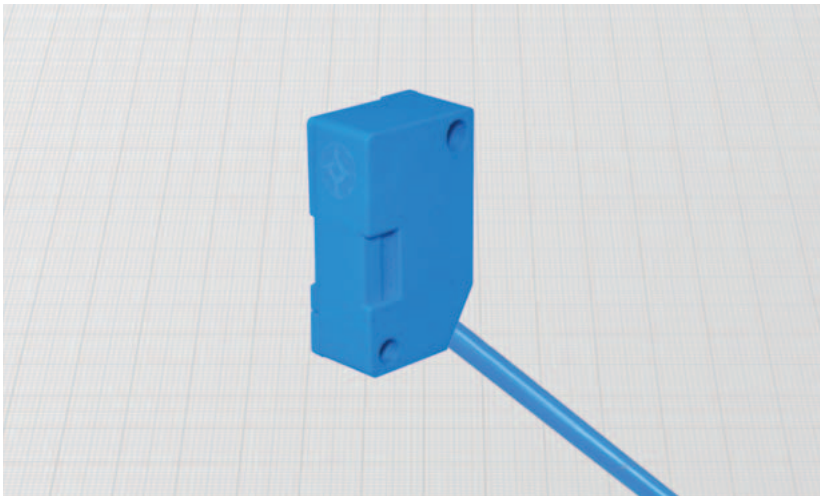
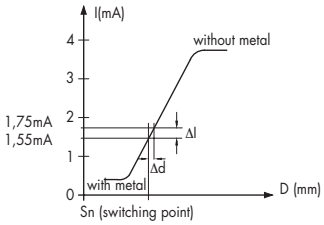
NAMUR SERIES - Type Z •
Non-amplified in d.c. 2 wires •
Cable output •





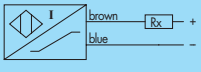
Typical curve



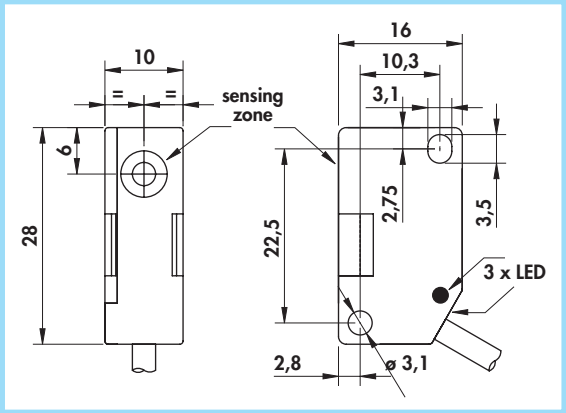
Materials:
- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: plastic

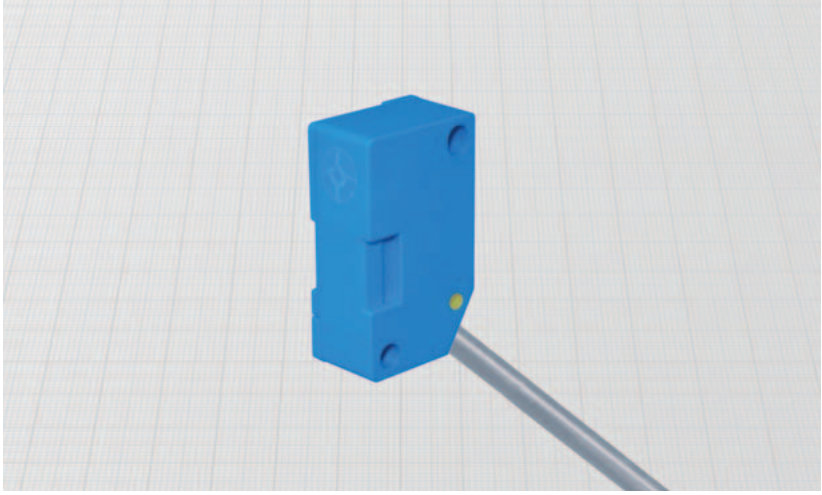
General Features:
This sensor has the same shape and fixing holes as V3 standard microswitches. The particular cable position allows the mounting on every side of the housing.

Technical data:
- Working voltage: 5 ÷ 30 Vdc
- Supply voltage according to NAMUR: 7,7 ÷ 9 Vdc
- Max ripple: 10%
- Consumption at 8,2 V con Rx = 1000 Ω
  - with metal: ≤ 1 mA
  - without metal: ≥ 3 mA
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Degree of protection: IP67
- Cable conductor cross section: 0,15 mm²
- According to EN 60947-5-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6
- For certified ATEX versions see ATEX Catalogue

Flush mounting / Non flush mounting	Cable diameter	Sensing zone diameter	Max switching frequency (f)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES
	mm	mm	KHz	mm	
•	3	9	2	2	**DCZ/4600**
•	3	9	1	4	**DCZ/5600**

- **Type Z**
- **Amplified in d.c. 3 wires**
- Cable output





Materials:
- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: plastic

General Features:
This sensor has the same shape and fixing holes as V3 standard microswitches. The particular cable position allows the mounting on every side of the housing. The output status is indicated by LED visible from 3 sides.

Technical data:
- Supply voltage (U_B): 7 ÷ 30 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 1,5 V
- Temperature range: - 25° ÷ + 75°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,15 mm²
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Flush mounting / Non flush mounting	Cable diameter	Sensing zone diameter	Rated operational current (I_e)	Max switching frequency (f)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	NC
	mm	mm	mA	KHz	mm		
•	3	9	200	2	2	**DCAZ/4609KS**	**DCAZ/4619KS**
•	3	9	200	1,5	4	**DCAZ/5609KS**	**DCAZ/5619KS**

NPN (negative switching)
Use the above mentioned part number changing the last number 9 with 8 (ie. DCAZ/4608KS)

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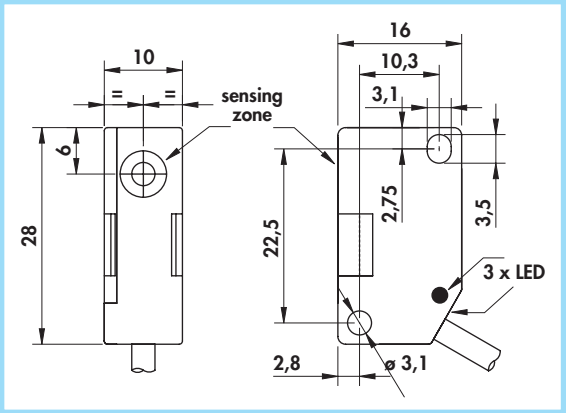
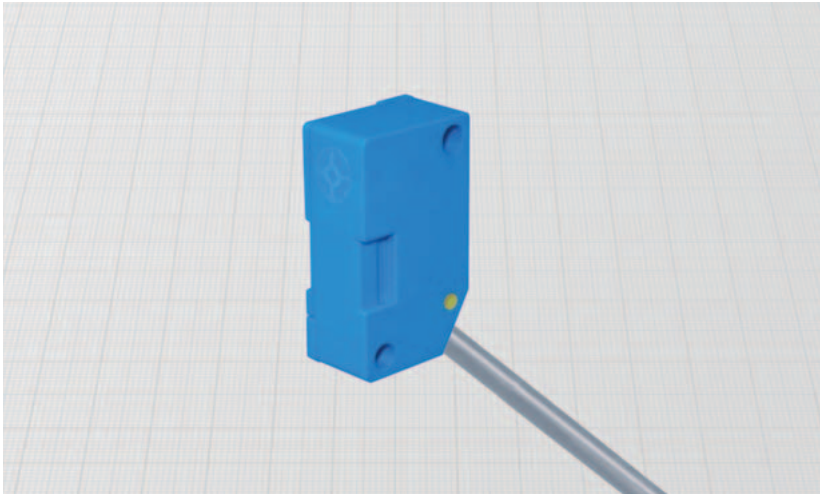
Type Z •
Amplified in d.c. 2 wires non polarized •
Cable output •

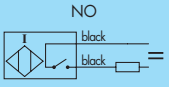
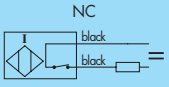




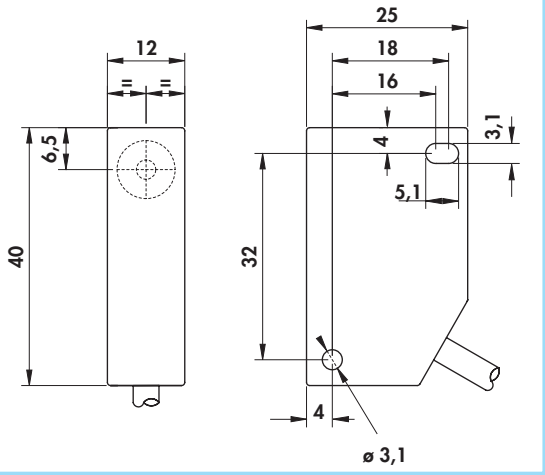
Materials:
- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: plastic

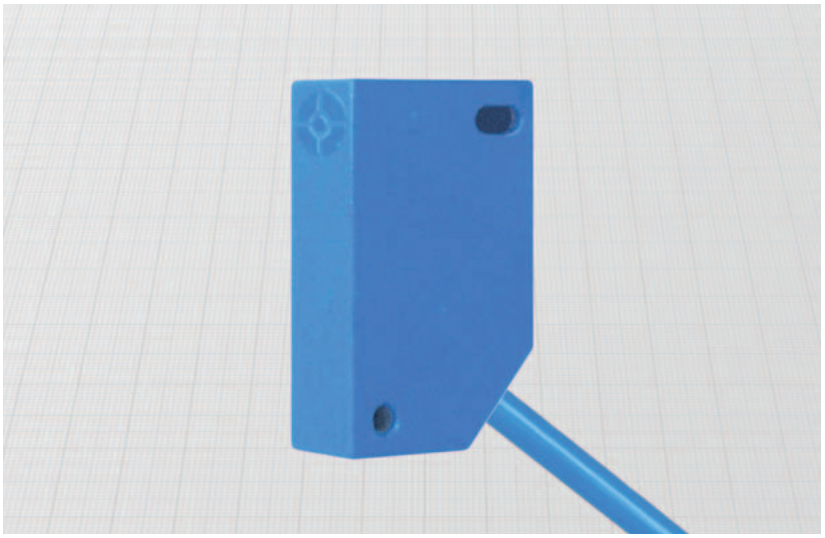
General Features:
These sensors are not polarized and the load can be connected on both positive and negative lead (function PNP or NPN).
So they can replace traditional mechanical microswitches in many applications. They have shape and fixing holes as V3 standard microswitches. The particular cable position allows the mounting on every side of the housing. The output status is indicated by LED visible from 3 sides.

Technical data:
- Supply voltage (U_B): 10 ÷ 48 Vdc
- Max ripple: 10%
- Off-state current (I_r): ≤ 1 mA
- Minimum operational current (I_m): 5 mA
- Voltage drop (U_d) con I_e = 10 mA: ≤ 5 V
- Voltage drop (U_d) con I_e = 100 mA: ≤ 6 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,35 mm²
- Protected against short-circuit and overload
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

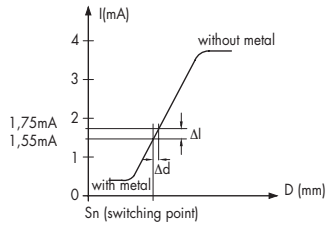
Flush mounting / Non flush mounting	Cable diameter	Sensing zone diameter	Rated operational current (I_e)	Max switching frequency (f)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES	
						NO 	NC 
	mm	mm	mA	KHz	mm		
•	4	9	100	2	2	**DCMZ/4600KS**	**DCMZ/4610KS**
•	4	9	100	1,5	4	**DCMZ/5600KS**	**DCMZ/5610KS**

- **NAMUR SERIES - Type T**
- **Non-amplified in d.c. 2 wires**
- Cable output



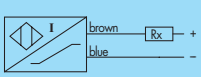


Typical curve



Materials:
- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: plastic

Technical data:
- Working voltage: 5 ÷ 30 Vdc
- Supply voltage according to NAMUR: 7,7 ÷ 9 Vdc
- Max ripple: 10%
- Consumption at 8,2 V with Rx = 1000 Ω
  - with metal: ≤ 1 mA
  - without metal: ≥ 3 mA
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Degree of protection: IP67
- Cable conductor cross section: 0,35 mm²
- According to EN60947-5-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6
- For certified ATEX version see ATEX Catalogue

Flush mounting	Non flush mounting	Cable diameter	Sensing zone diameter	Max switching frequency (f)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES
		mm	mm	KHz	mm	
•		4	9	1	2	**DCT/4700**
	•	4	9	0,8	4	**DCT/5700**

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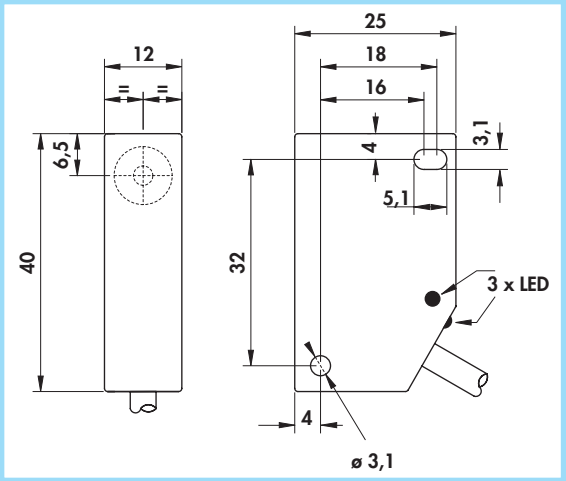
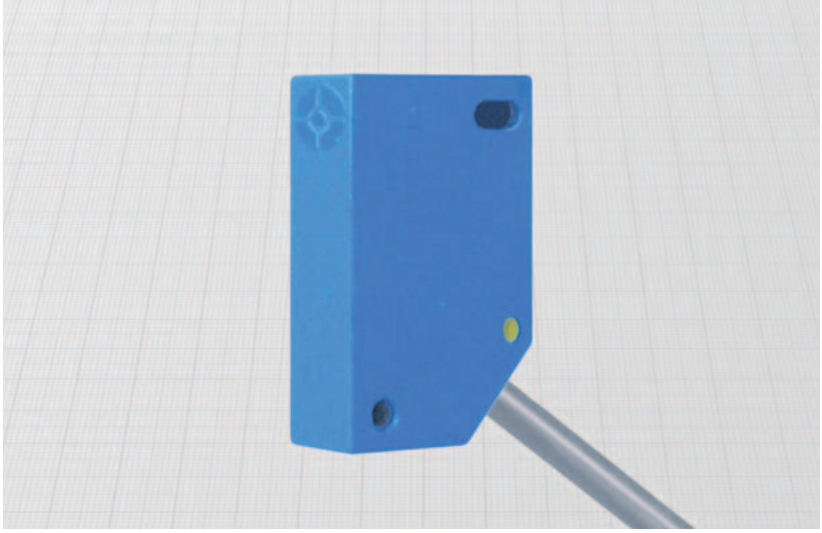
Type T •
Amplified in d.c. 3 and 4 wires •
Cable output •



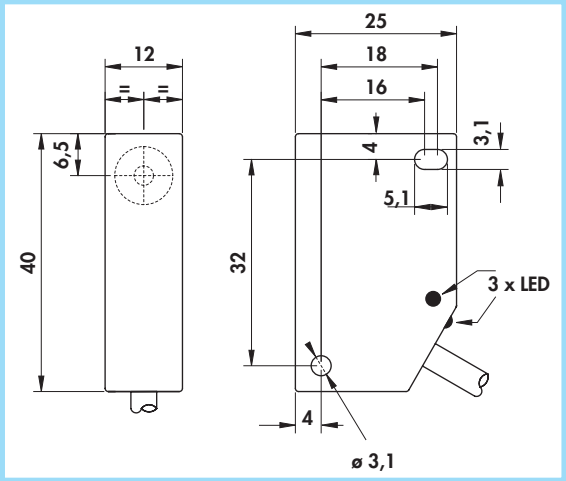


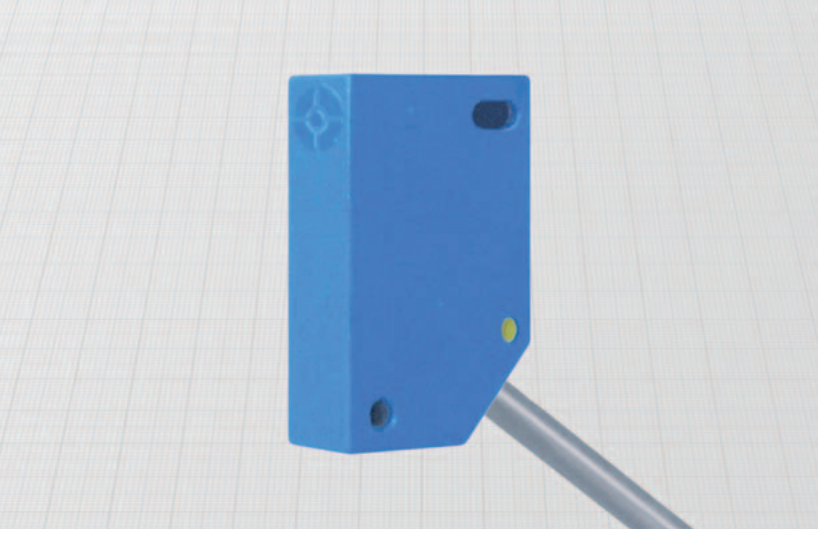
Materials:
- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: plastic

Technical data:
- Supply voltage (U_B): 5 ÷ 40 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 1,5 V
- Temperature range: - 25° ÷ + 75°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,25 mm² on 4 wires versions
  0,35 mm² on 3 wires versions
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Montaggio a filo	Montaggio sporgente	Cable diameter	Sensing pzone diameter	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES		
							PNP (positive switching)		
		mm	mm	KHz	mA	mm	NO	NC	NO + NC
•		4	9	1	200	2	**DCAT/4709KS**	**DCAT/4719KS**	**DCAT/4729KS**
	•	4	9	0,8	200	4	**DCAT/5709KS**	**DCAT/5719KS**	**DCAT/5729KS**
							NPN (negative switching) Use the above mentioned part number changing the last number 9 with 8 (ie. DCAT/4708KS)		
							NO	NC	NO + NC

- **Type T**
- **Amplified in a.c. 2 wires**
- Cable output





Materials:
- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: plastic

Technical data:
- Supply voltage (U_B): 20 ÷ 240 Vac
- Electrical system frequency: 40 ÷ 60 Hz
- Off-state current (I_r): ≤1,5 mA a 110 Vac
- Minimum operational current (Im): 5 mA
- Voltage drop (U_d): ≤ 5 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,35 mm²
- Suppression of initial false impulse
- Class 2 equipment according to IEC 536
- Shock and vibration according to EN60068-2-27 EN60068-2-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2

Flush mounting	Non flush mounting	Cable diameter	Sensing pzone diameter	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES NO	ORDERING REFERENCES NC
		mm	mm	Hz	mA	mm		
•		4	9	25	500	2	**ACT/4709S**	**ACT/4719S**
	•	4	9	25	500	4	**ACT/5709S**	**ACT/5719S**

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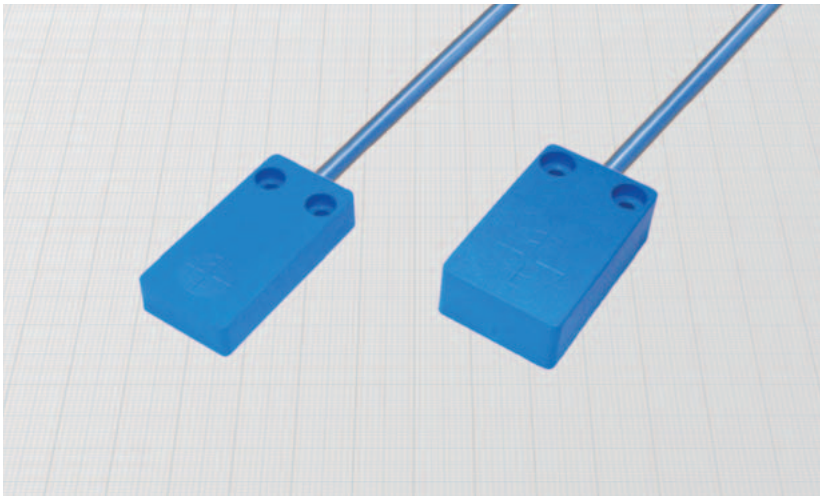
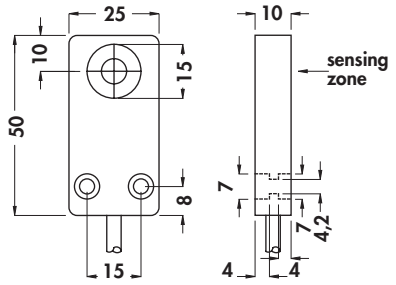
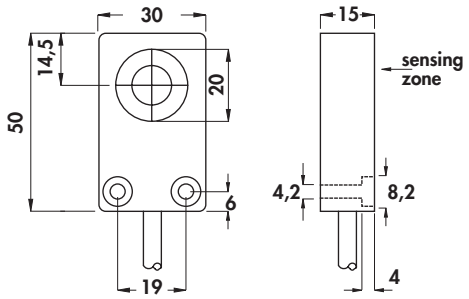
NAMUR SERIES - Type X and Y •
Non-amplified in d.c. 2 wires •
Cable output •



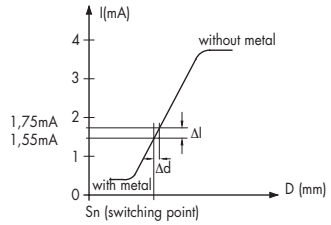
Housing N



Housing N-2



Typical curve

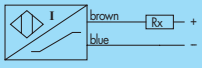


Materials:

- Cable: 2m PVC - CEI 2022 II- 90°C 300V-O.R.
- Housing: plastic

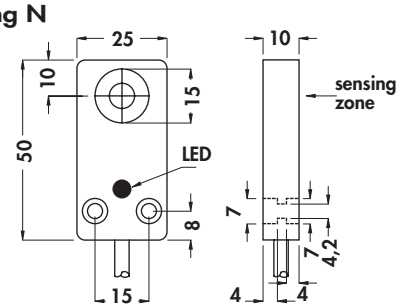
Technical data:

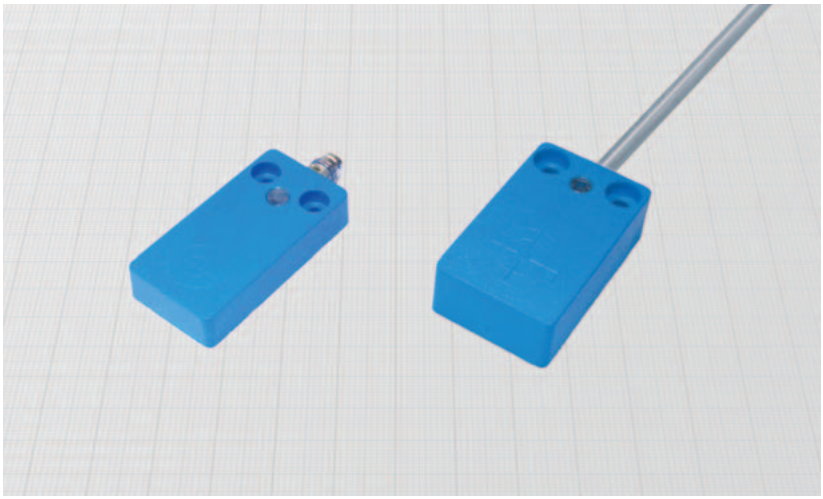
- Working voltage: 5 ÷ 30 Vdc
- Supply voltage according to NAMUR: 7,7 ÷ 9 Vdc
- Max ripple: 10%
- Consumption at 8,2 V con Rx = 1000 Ω
  - with metal: ≤ 1 mA
  - without metal: ≥ 3 mA
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Degree of protection: IP67
- Cable conductor cross section: 0,75 mm²
- According to EN60947-5-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6
- For certified ATEX version see ATEX Catalogue

Housing	Montaggio a filo	Montaggio sporgente	Cable diameter	Sensing zone diameter	Max switching frequency (f)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES
			mm	mm	KHz	mm	
N	•		5	15	2	5	**DCX/4700**
N		•	5	15	1	8	**DCX/5700**
N-2	•		5	23	0,8	10	**DCY/4700**
N-2		•	5	23	0,4	15	**DCY/5700**

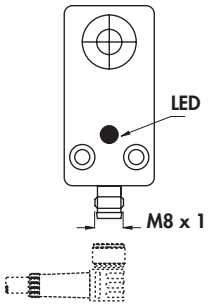
- **Type X and Y**
- **Amplified in d.c. 3 and 4 wires**
- Cable and connector output M8 x 1

Housing N

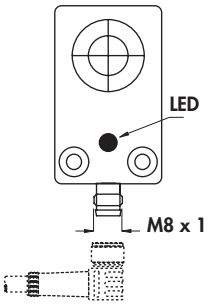




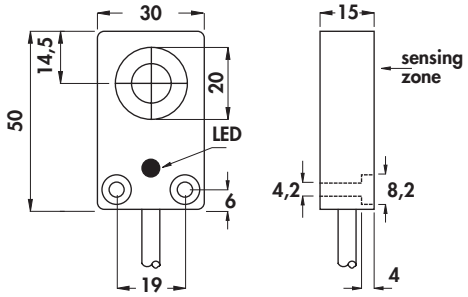
Housing N-1



Housing N-3



Housing N-2



Technical data:

- Supply voltage (U_B): 5 ÷ 60 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 2,2 V
- Temperature range: - 25° ÷ + 75°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section (cable version): 0,50 mm²
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: plastic
- Connector: nickel plated brass

Housing	Flush mounting	Non flush mounting	Cable diameter	Female connector	Sensing zone diameter	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	NC	NO + NC
			mm	n°	mm	KHz	mA	mm			
N	•		5	-	15	1	400	5	**DCAX/4609KS**	**DCAX/4619KS**	**DCAX/4629KS**
N		•	5	-	15	1	400	8	**DCAX/5609KS**	**DCAX/5619KS**	**DCAX/5629KS**
N - 1	•		-	11-12	15	1	400	5	**DCAX/4909KS**	**DCAX/4919KS**	**DCAX/4929KS**
N - 1		•	-	11-12	15	1	400	8	**DCAX/5909KS**	**DCAX/5919KS**	**DCAX/5929KS**
N - 2	•		5	-	23	0,8	400	10	**DCAY/4609KS**	**DCAY/4619KS**	**DCAY/4629KS**
N - 2		•	5	-	23	0,4	400	15	**DCAY/5609KS**	**DCAY/5619KS**	**DCAY/5629KS**
N - 3	•		-	11-12	23	0,8	400	10	**DCAY/4909KS**	**DCAY/4919KS**	**DCAY/4929KS**
N - 3		•	-	11-12	23	0,4	400	15	**DCAY/5909KS**	**DCAY/5919KS**	**DCAY/5929KS**

NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie. DCAX/4608KS)

NO / NC / NO + NC

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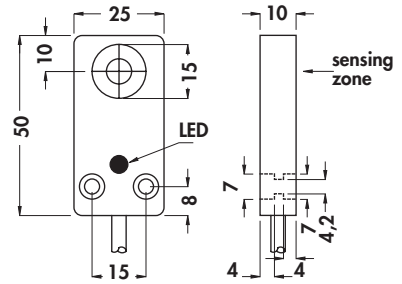
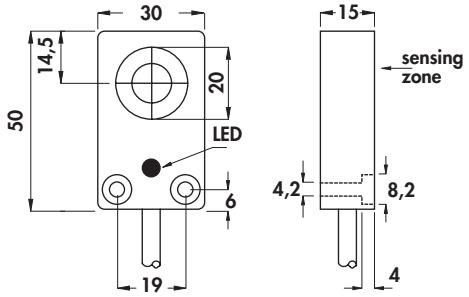
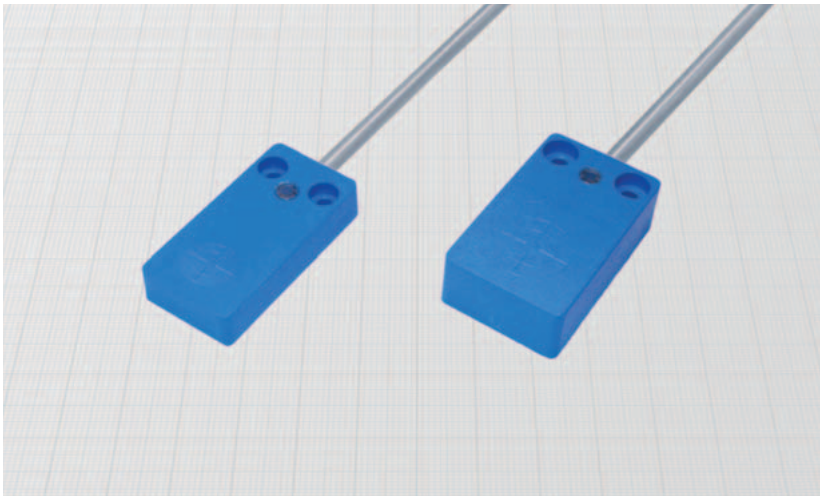
Type X and Y •
Amplified in a.c. 2 wires •
Cable output •

Housing N



Housing N-2



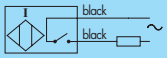
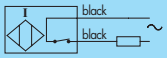


Materials:

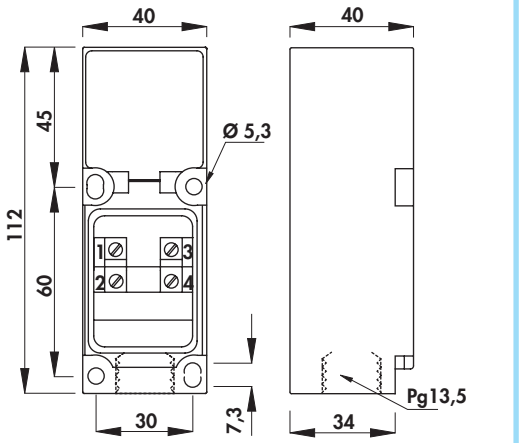
- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: plastic

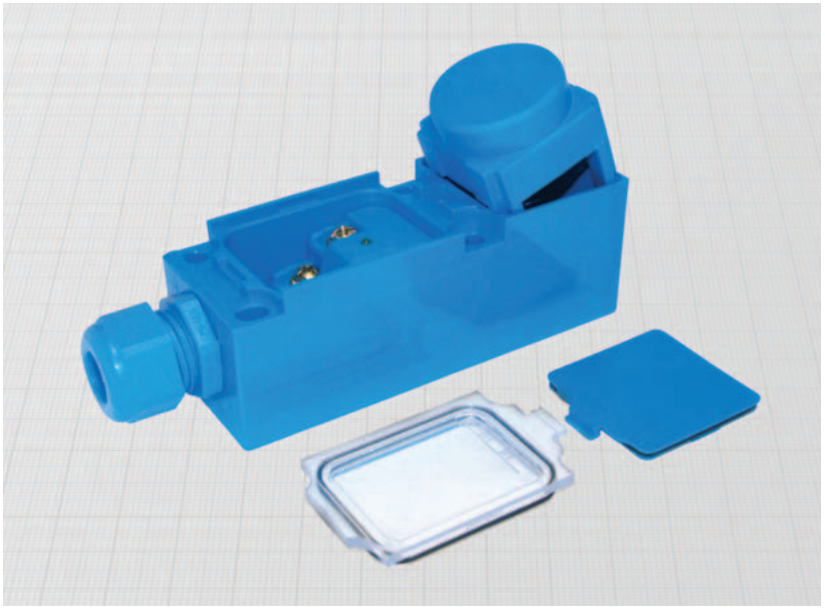
Technical data:

- Supply voltage (U_B): 20 ÷ 240 Vac
- Electrical system frequency: 40 ÷ 60 Hz
- Off-state current (I_r): ≤1,5 mA a 110 Vac
- Minimum operational current (I_m): 5 mA
- Voltage drop (U_d): ≤ 5 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,50 mm²
- Suppression of initial false impulse
- Class 2 equipment according to IEC 536
- Shock and vibration according to EN60068-2-27 EN60068-2-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE

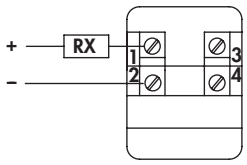
Housing	Flush mounting	Non flush mounting	Cable diameter	Sensing zone diameter	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES NO	ORDERING REFERENCES NC
			mm	mm	Hz	mA	mm		
N	•		5	15	20	500	5	**ACX/4609S**	**ACX/4619S**
N		•	5	15	20	500	8	**ACX/5609S**	**ACX/5619S**
N-2	•		5	23	20	500	10	**ACY/4609S**	**ACY/4619S**
N-2		•	5	23	20	500	15	**ACY/5609S**	**ACY/5619S**

- **NAMUR SERIES - Type P - 5 Positions head**
- **Non-amplified in d.c.**
- Terminal block output

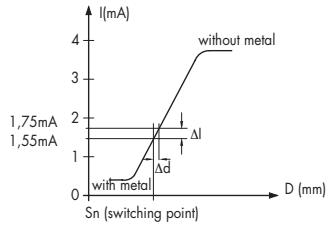




Connection diagram



Typical curve



Materials:

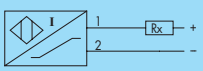
- Housing: plastic
- Terminal block cover: polycarbonate

General Features:

These sensors are called "turnable sensing head" because the sensing head, inside the plastic housing can be positioned on 5 different positions. To choose the desired sensing face it is enough to remove the cover and set the sensing head in the proper position.
The internal terminal block can be easily reached by removing the transparent cover.
The included plastic gland Pg13.5 is suited for cables diameter up to 9 mm.

Technical data:

- Working voltage: 5 ÷ 30 Vdc
- Supply voltage according to NAMUR: 7,7 ÷ 9 Vdc
- Max ripple: 10%
- Consumption at 8,2 V con Rx = 1000 Ω
  - with metal: ≤ 1 mA
  - without metal: ≥ 3 mA
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 4%
- Degree of protection (with fully locked gland): IP65
- According to EN60947-5-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6
- For certified ATEX version see ATEX Catalogue

Flush mounting / Non flush mounting	Sensing zone diameter	Max switching frequency (f)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES
	mm	KHz	mm	
•	30	0,2	15	**DCP/4700**
•	30	0,2	20	**DCP/5700**

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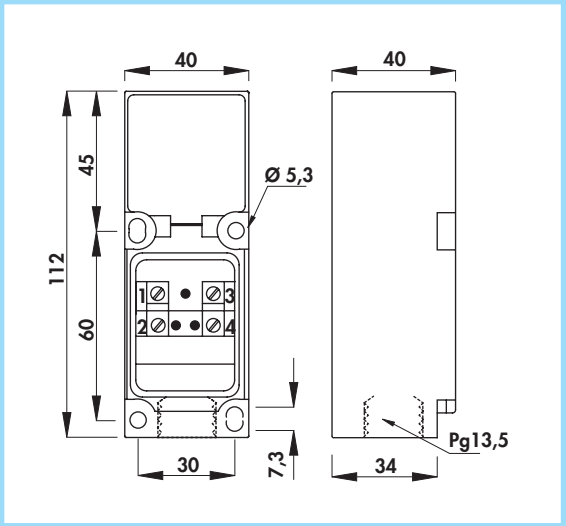
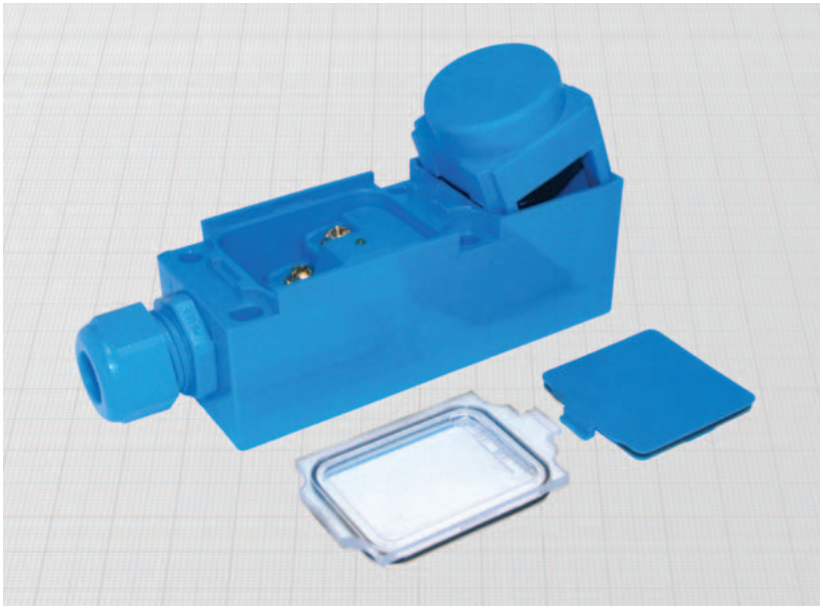
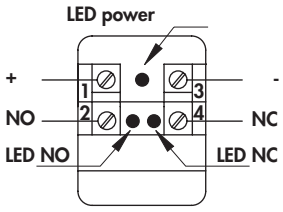
Type P - 5 Positions head •
Amplified in d.c. •
Terminal block output •





Connection diagram



Materials:

- Housing: plastic
- Terminal block cover: polycarbonate

General Features:

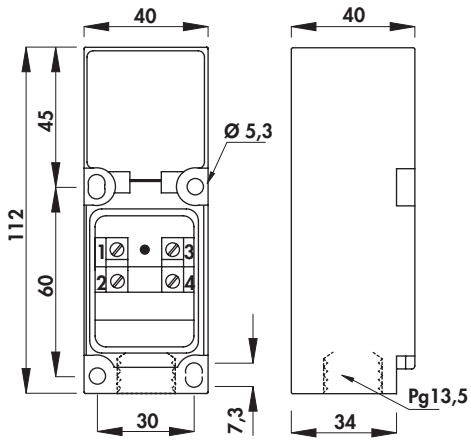
These sensors are called "turnable sensing head" because the sensing head, inside the plastic housing can be positioned on 5 different positions. To choose the desired sensing face it is enough to remove the cover and set the sensing head in the proper position.
The internal terminal block can be easily reached by removing the transparent cover.
The included plastic gland Pg13.5 is suited for cables diameter up to 9 mm.

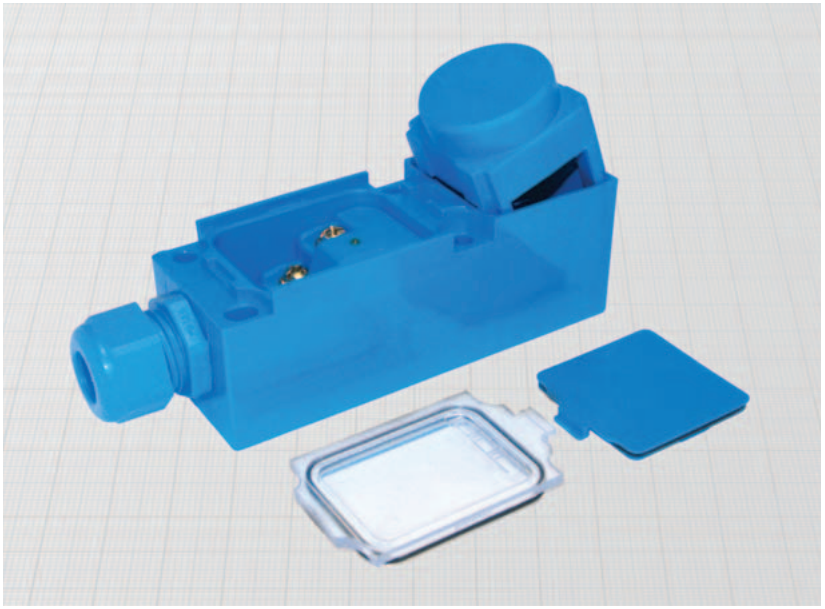
Technical data:

- Supply voltage (U_B): 10 ÷ 60 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 2,2 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 4%
- Switching hysteresis (H): 10%
- Degree of protection (with fully locked gland): IP65
- Indications: output n.o. yellow LED; output n.c. red LED; power green LED
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

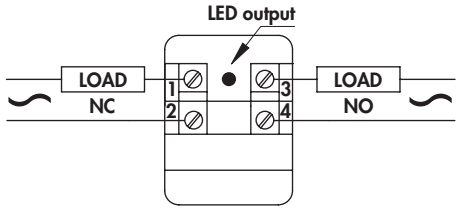
Flush mounting	Non flush mounting	Sensing zone diameter	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP NO + NC	ORDERING REFERENCES NPN NO + NC
		mm	KHz	mA	mm		
•		30	0,1	400	15	**DCAP/4729KS**	**DCAP/4728KS**
	•	30	0,1	400	20	**DCAP/5729KS**	**DCAP/5728KS**

- **Type P - 5 Positions head**
- **Amplified in a.c.**
- Terminal block output





Connection diagram



Materials:

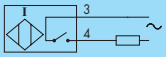
- Housing: plastic
- Terminal block cover: plycarbonate

General Features:

These sensors are called "turnable sensing head" because the sensing head, inside the plastic housing can be positioned on 5 different positions. To choose the desired sensing face it is enough to remove the cover and set the sensing head in the proper position.
The internal terminal block can be easily reached by removing the transparent cover.
The included plastic gland Pg13.5 is suited for cables diameter up to 9 mm.

Technical data:

- Supply voltage (U_B): 20 ÷ 240 Vac
- Electrical system frequency: 40 ÷ 60 Hz
- Off-state current (I_r): ≤ 1,5 mA at 110 Vac
- Minimum operational current (I_m): 5 mA
- Voltage drop (U_d): ≤ 5 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 4%
- Switching hysteresis (H): 10%
- Degree of protection (with fully locked gland): IP65
- Switch status indicator: yellow LED
- Suppression of initial false impulse
- Class 2 equipment according to IEC 536
- Shock and vibration according to EN60068-2-27 EN60068-2-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE

Flush mounting	Non flush mounting	Sensing zone diameter	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES	
						NO 	NC 
		mm	Hz	mA	mm		
•		30	25	500	15	**ACP/4709S**	**ACP/4719S**
	•	30	25	500	20	**ACP/5709S**	**ACP/5719S**

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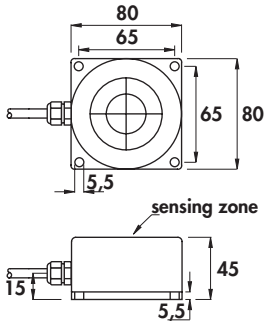
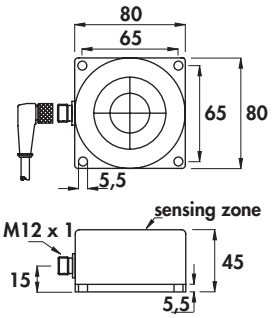
NAMUR SERIES - diameter 80 mm •
Non-amplified in d.c. 2 wires •
Cable and connector output M12 x 1 •

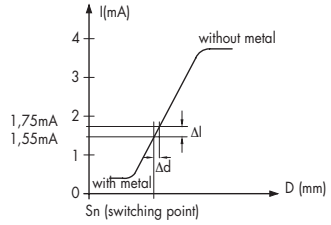
Housing P

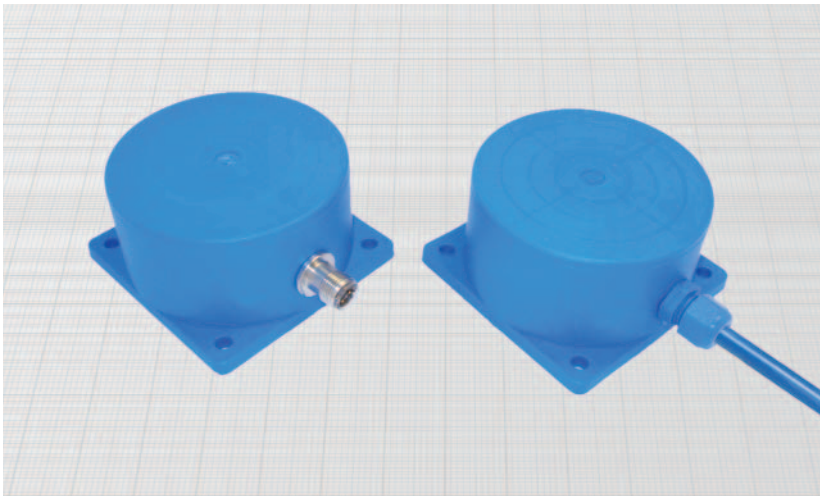


Housing P-1



Typical curve



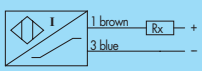


Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: plastic
- Connector: nickel plated brass

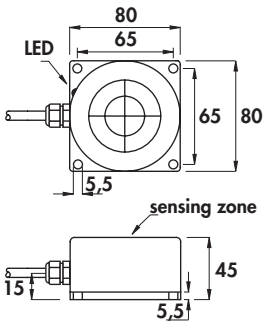
Technical data:

- Working voltage: 5 ÷ 30 Vdc
- Supply voltage according to NAMUR: 7,7 ÷ 9 Vdc
- Max ripple: 10%
- Consumption at 8,2 V con Rx = 1000 Ω
  - with metal: ≤ 1 mA
  - without metal: ≥ 3 mA
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Degree of protection: IP67
- Cable conductor cross section (cable version): 0,75 mm²
- According to EN60947-5-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6
- For certified ATEX version see ATEX Catalogue

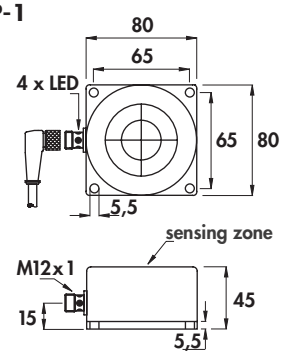
Housing	Flush mounting / Non flush mounting	Cable diameter	Female connector	Sensing zone diameter	Max switching frequency (f)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES
		mm	n°	mm	KHz	mm	
P	•	5	-	80	0,5	40	**DC80B/5800**
P - 1	•	-	6 - 8B - 10	80	0,5	40	**DC80B/5300**

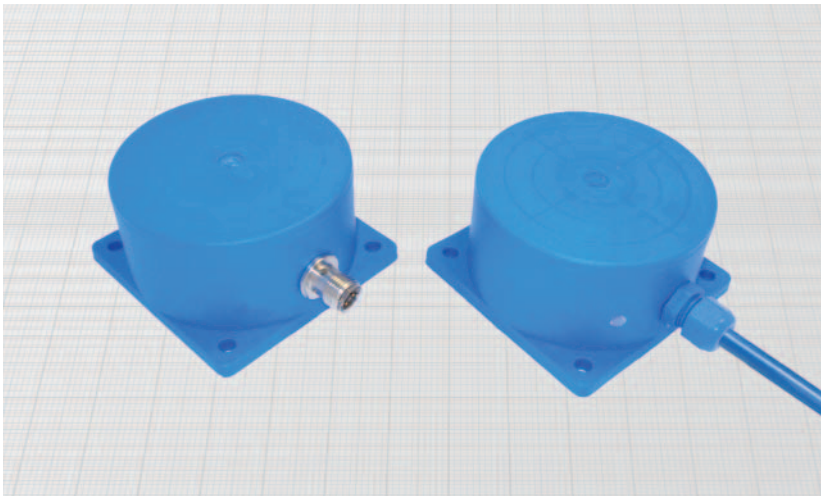
- **Diameter 80 mm**
- **Amplified in d.c. 3 and 4 wires**
- Cable and connector output M12 x 1

Housing P



Housing P-1





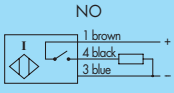
Materials:

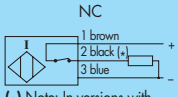
- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: plastic
- Connector: nickel plated brass

Technical data:

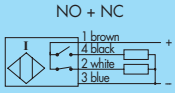
- Supply voltage (U_B): 10 ÷ 60 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 2,2 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section (cable version): 0,50 mm²
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Housing	Flush mounting / Non flush mounting	Cable diameter	Female connector	Sensing zone diameter	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES – PNP (positive switching) NO	NC	NO + NC
		mm	n°	mm	KHz	mA	mm			
P	•	6	-	80	0,5	400	40	**DCA80B/5809KS**	**DCA80B/5819KS**	**DCA80B/5829KS**
P - 1	•	-	6 - 8B - 10	80	0,5	400	40	**DCA80B/5309KS**	**DCA80B/53C9KS**	**DCA80B/5329KS**



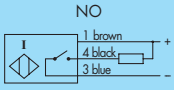


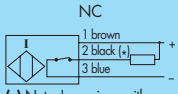
(•) Note: In versions with connector use the white wire.



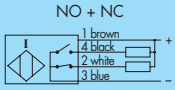
NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie. DCA80B/5808KS)





(•) Note: In versions with connector use the white wire.



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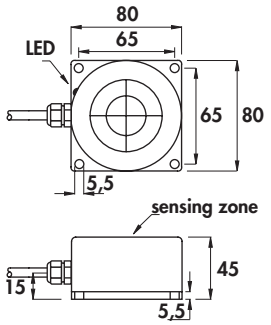
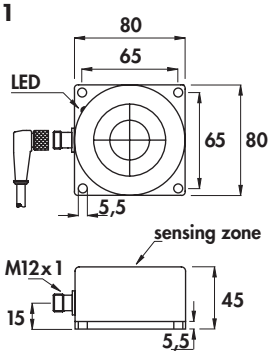
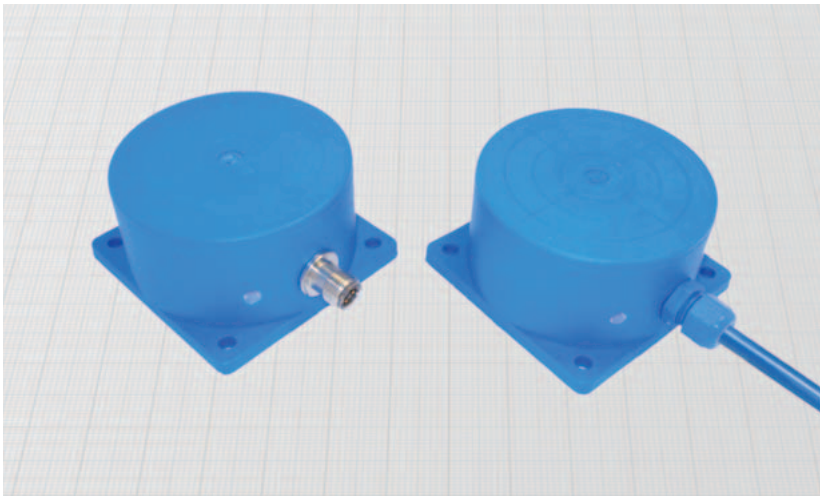
Diameter 80 mm •
Amplified in a.c. 2 wires •
Cable and connector output M12 x 1 •

Housing P



Housing P-1





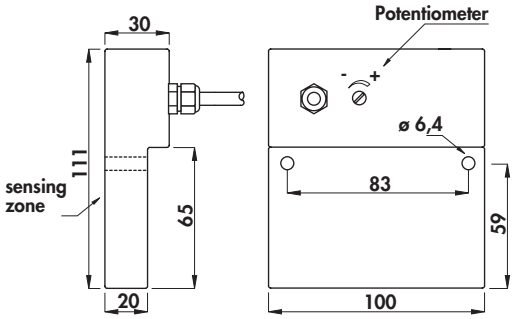
Materials:
- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: plastic
- Connector: nickel plated brass

Technical data:
- Supply voltage (U_B): 20 ÷ 240 Vac
- Electrical system frequency: 40 ÷ 60 Hz
- Off-state current (I_r): ≤1,5 mA at 110 Vac
- Minimum operational current (I_m): 5 mA
- Voltage drop (U_d): ≤ 5 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section (cable version): 0,75 mm²
- Suppression of initial false impulse
- Class 2 equipment according to IEC 536
- Shock and vibration according to EN60068-2-27 EN60068-2-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE

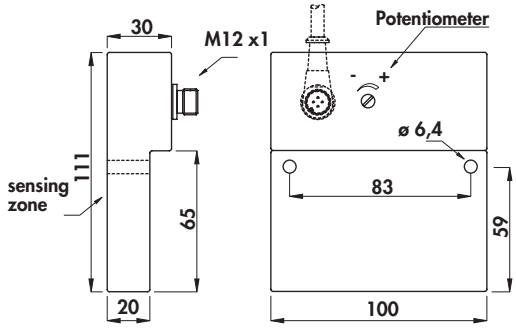
Housing	Flush mounting / Non flush mounting	Cable diameter	Female connector	Sensing zone diameter	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES	
								Cable output	
								NO black / black	NC black / black
		mm	n°	mm	Hz	mA	mm		
P	•	6	-	80	15	500	40	**AC80B/5809S**	**AC80B/5819S**
								4 PIN connector	
								NO 1 brown / 2 blue	NC 1 brown / 2 blue
		mm	n°	mm	Hz	mA	mm		
P - 1	•	-	15 - 16	80	15	500	40	**AC80B/5109S**	**AC80B/5119S**
								3 PIN connector according to EN60947-5-2	
								NO 3 blue / 2 brown	NC 3 blue / 2 brown
		mm	n°	mm	Hz	mA	mm		
P - 1	•	-	17 - 18	80	15	500	40	**AC80B/5009S**	**AC80B/5019S**

- **NAMUR SERIES - Type R - Adjustable sensing distance**
- **Non-amplified in d.c. 2 wires**
- Cable and connector output M12 x 1

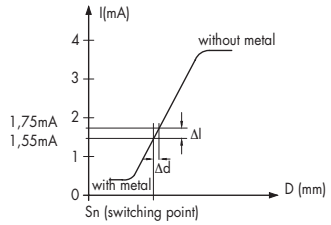
Housing R-1

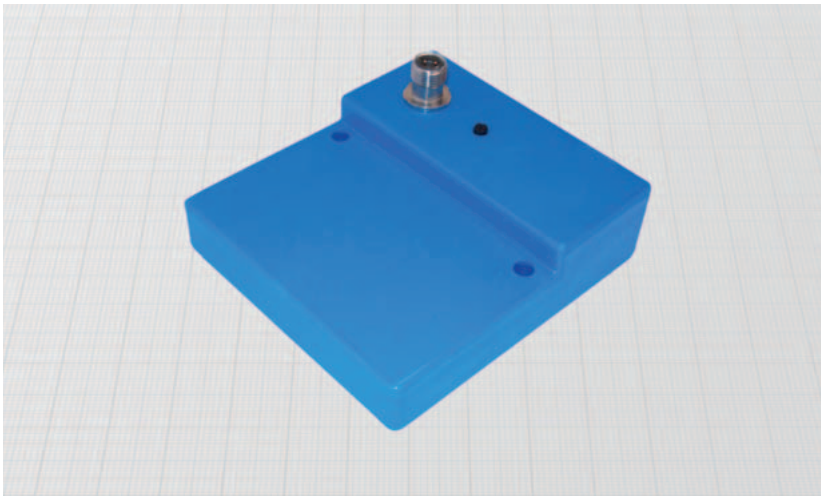


Housing R-2



Typical curve





Materials:

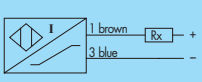
- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: plastic
- Connector: nickel plated brass

General Features:

These sensors are suitable for non flush mounting and have the adjustable sensing distance turning a multiturn potentiometer.

Technical data:

- Working voltage: 5 ÷ 30 Vdc
- Supply voltage according to NAMUR: 7,7 ÷ 9 Vdc
- Max ripple: 10%
- Consumption at 8,2 V con Rx = 1000 Ω
  - with metal: ≤ 1 mA
  - without metal: ≥ 3 mA
- Temperature range: - 20° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 4%
- Degree of protection: IP65
- Cable conductor cross section (cable version): 0,75 mm^2
- According to EN60947-5-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6
- For certified ATEX version see ATEX Catalogue

Housing	Flush mounting / Non flush mounting	Cable diameter	Female connector	Sensing zone diameter	Max switching frequency (f)	Distanza nominale di int. (S_n)	ORDERING REFERENCES
		mm	n°	mm	KHz	mm	
R - 1	•	5	-	75	0,3	10 ÷ 55	**DCR/5800**
R - 2	•	-	6 - 8B - 10	75	0,3	10 ÷ 55	**DCR/5300**

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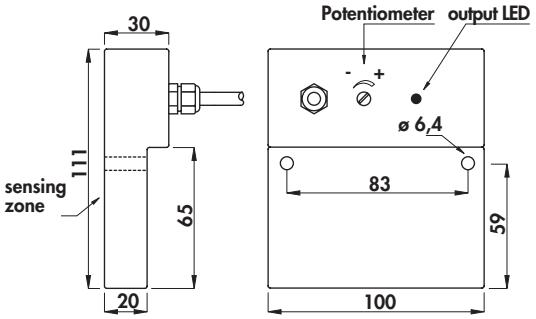
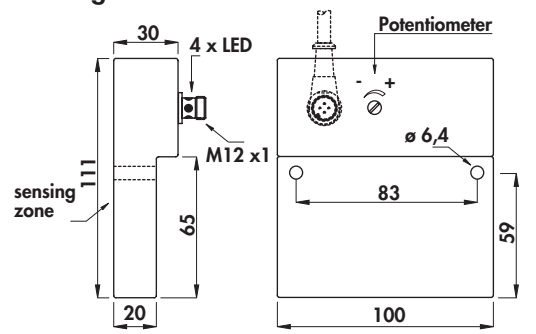
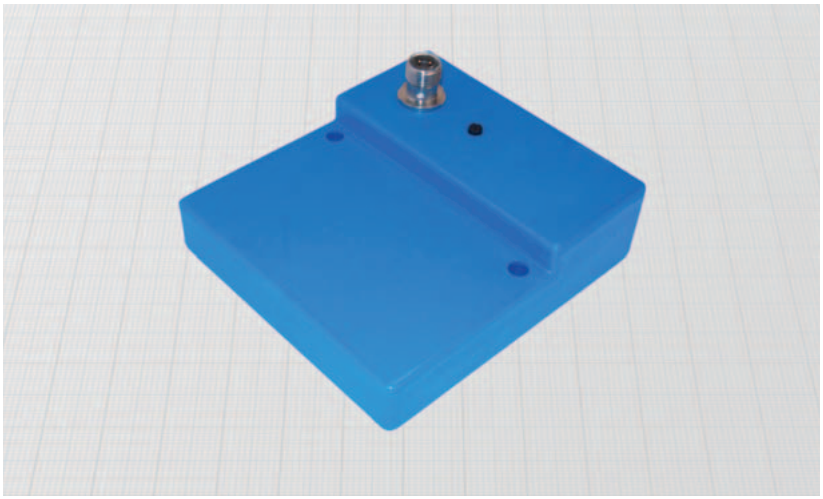
Type R - Adjustable sensing distance •
Amplified in d.c. 3 and 4 wires •
Cable and connector output M12 x 1 •

Housing R-1



Housing R-2





General Features:

These sensors are suitable for non flush mounting and have the adjustable sensing distance turning a multiturn potentiometer.

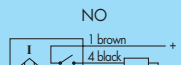
Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: plastic
- Connector: nickel plated brass

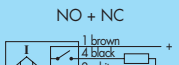
Technical data:

- Supply voltage (U_B): 10 ÷ 60 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 2,2 V
- Temperature range: - 20° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP65
- Switch status indicator: yellow LED
- Cable conductor cross section (cable version): 0,50 mm²
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

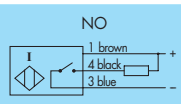
Housing	Flush mounting / Non flush mounting	Cable diameter	Female connector	Sensing zone diameter	Max switching frequency (f)	Rated operational current (I_e)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	NC	NO + NC
		mm	n°	mm	KHz	mA	mm			
R - 1	•	6	-	75	0,3	400	10 ÷ 55	**DCAR/5809KS**	**DCAR/5819KS**	**DCAR/5829KS**
R - 2	•	-	6 - 8B - 10	75	0,3	400	10 ÷ 55	**DCAR/5309KS**	**DCAR/53C9KS**	**DCAR/5329KS**

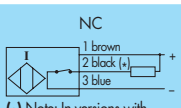


(+) Note: In versions with connector use the white wire.

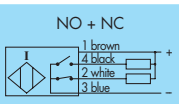


NPN (negative switching)
Use the above mentioned part number changing the last number 9 with 8 (ie DCAR/5808KS)



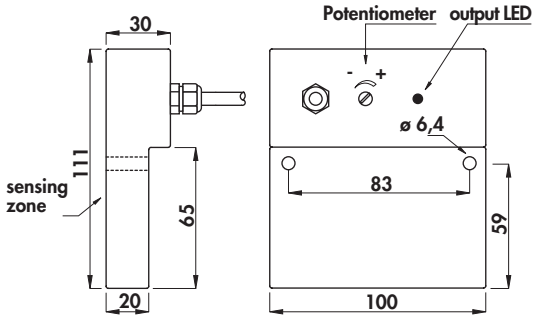


(+) Note: In versions with connector use the white wire.

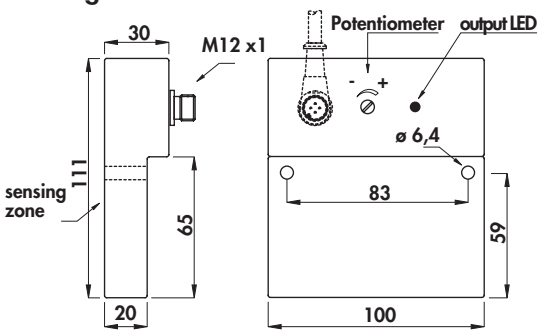


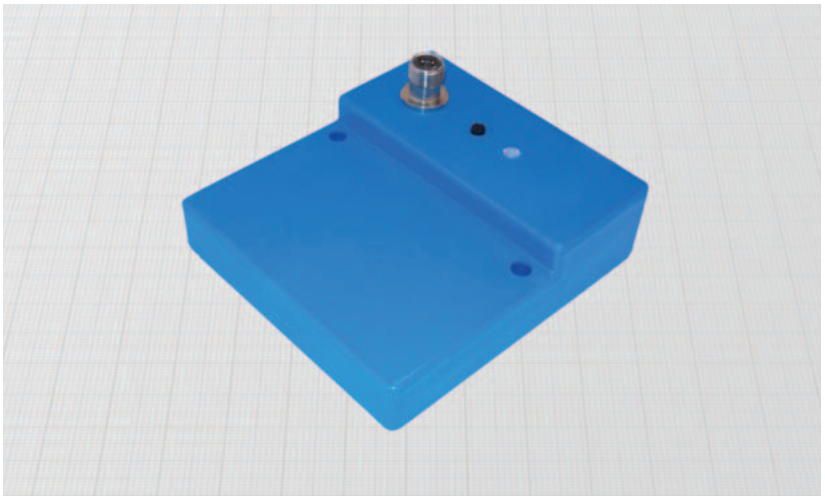
- **Type R - Adjustable sensing distance**
- **Amplified in a.c. 2 wires**
- Cable and connector output M12 x 1

Housing R-1



Housing R-2





Materials:

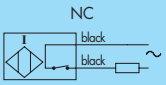
- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: plastic
- Connector: nickel plated brass

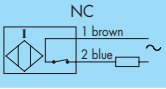
General Features:

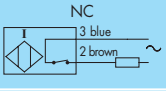
These sensors are suitable for non flush mounting and have the adjustable sensing distance turning a multiturn potentiometer.

Technical data:

- Supply voltage (U_B): 20 ÷ 240 Vac
- Electrical system frequency: 40 ÷ 60 Hz
- Off-state current (I_r): ≤1,5 mA at 110 Vac
- Minimum operational current (I_m): 5 mA
- Voltage drop (U_d): ≤ 5 V
- Temperature range: - 20° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP65
- Switch status indicator: yellow LED
- Cable conductor cross section (cable version): 0,75 mm²
- Suppression of initial false impulse
- Class 2 equipment according to IEC 536
- Shock and vibration according to EN60068-2-27 EN60068-2-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE

Housing	Flush mounting / Non flush mounting	Cable diameter	Female connector	Sensing zone diameter	Max switching frequency (f)	Rated operational current (I_e)	Distanza nom. di int. (S_n)	ORDERING REFERENCES – Cable output NO	ORDERING REFERENCES – Cable output NC
		mm	n°	mm	Hz	mA	mm		
R - 1	•	6	-	75	20	500	10 ÷ 55	**ACR/5809S**	**ACR/5819S**

								4 PIN connector NO	4 PIN connector NC
		mm	n°	mm	Hz	mA	mm		
R - 2	•	-	15 - 16	75	20	500	10 ÷ 55	**ACR/5109S**	**ACR/5119S**

								3 PIN connector according to EN60947-5-2 NO	3 PIN connector according to EN60947-5-2 NC
		mm	n°	mm	Hz	mA	mm		
R - 2	•	-	17 - 18	75	20	500	10 ÷ 55	**ACR/5009S**	**ACR/5019S**

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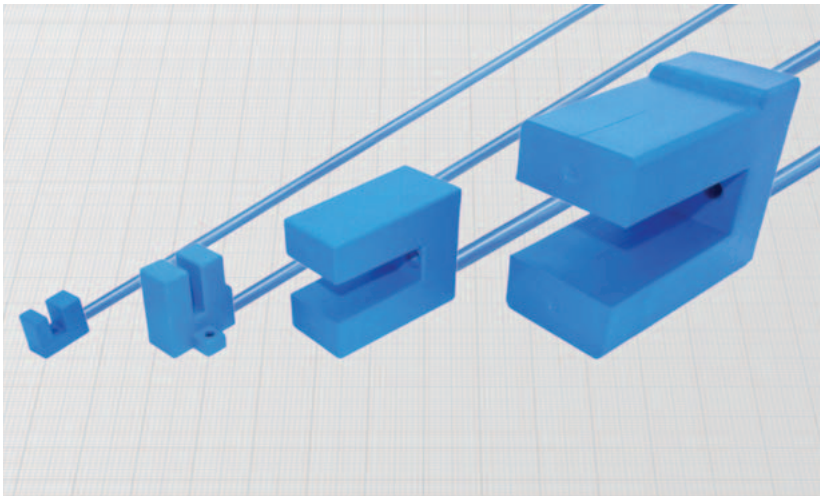
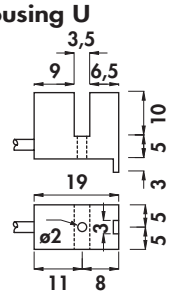
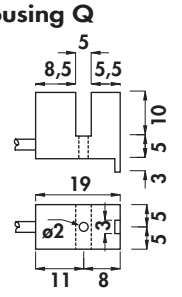
NAMUR SERIES •
Non-amplified in d.c. 2 wires •
Cable output •



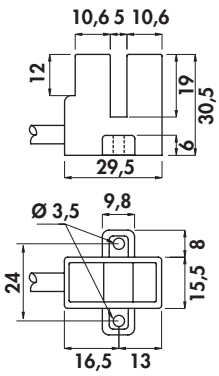
Housing U



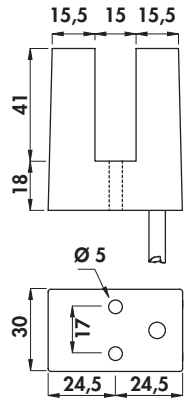
Housing Q



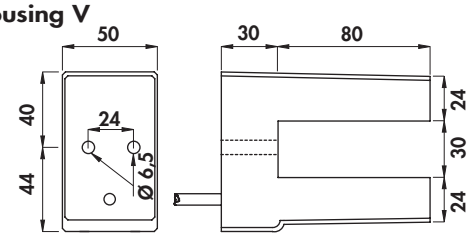
Housing S



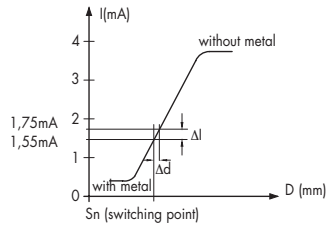
Housing T



Housing V



Typical curve

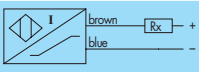


Technical data:

- Working voltage: 5 ÷ 30 Vdc
- Supply voltage according to NAMUR: 7,7 ÷ 9 Vdc
- Max ripple: 10%
- Consumption at 8,2 V con Rx = 1000 Ω
  - with metal: ≤ 1 mA
  - without metal: ≥ 3 mA
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Degree of protection: IP67
- Cable conductor cross section: 0,15 mm² on DF3,5/… and DF5/…
  0,75 mm² on DF6/…, DF15/… and DF30/…
- According to EN60947-5-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6
- For certified ATEX version see ATEX Catalogue

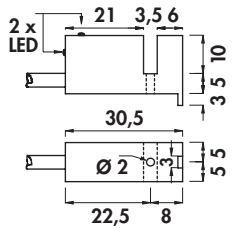
Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: plastic
- Screw and nut (included on DF3,5… and DF5…) brass

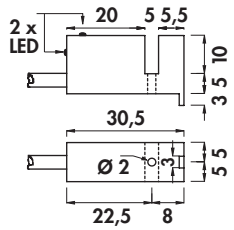
Housing	Cable diameter	Gap width	Max switching frequency (f)	Minimum penetration	ORDERING REFERENCES
	mm	mm	KHz	mm	
U	3	3,5	3	5	**DF3,5/4600**
Q	3	5	3	5	**DF5/4600**
S	5	5	1	9	**DF6/4600**
T	5	15	0,8	16	**DF15/4600**
V	5	30	0,3	30	**DF30/4600**

• Amplified in d.c. 3 and 4 wires
• Cable output

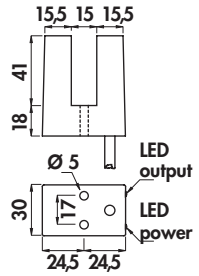
Housing Z



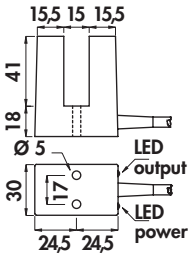
Housing R



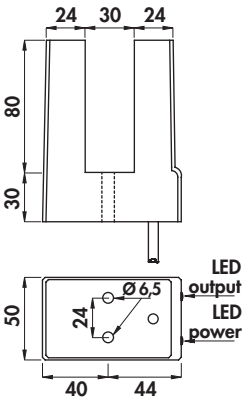
Housing T



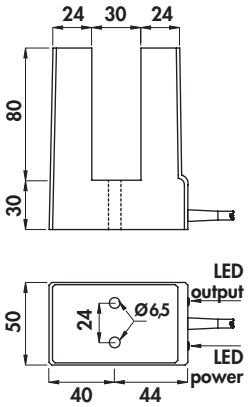
Housing T -1

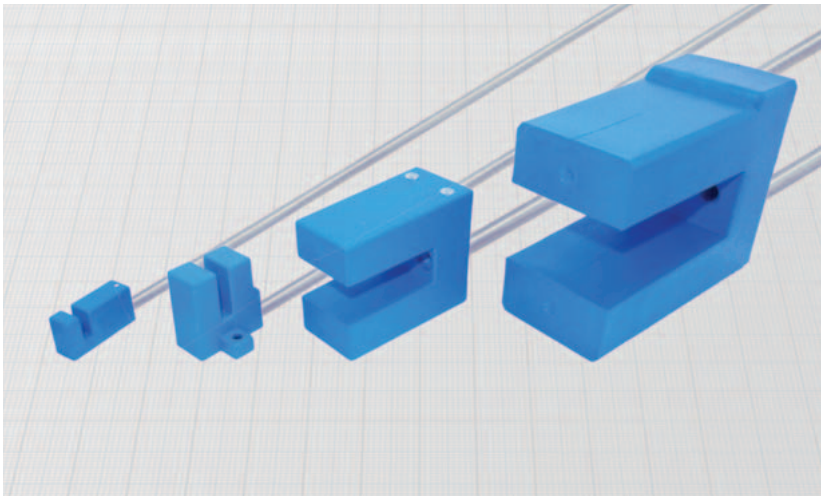


Housing V



Housing V -1





Technical data:

- Supply voltage(U_B) tipi DCF3,5/… and DCF5/… 10 ÷ 30 Vdc
- Supply voltage (U_B) tipi DCF15/… and DCF30/… 10 ÷ 60 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): ≤ 2,2 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section
  0,22 mm² on DCF3,5/… and DCF5/…
  0,50 mm² on DCF15/… and DCF30/…
- Protected against short-circuit and overload (versions with letter K)
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Materials:

- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: plastic
- Screw and nut
  (included on mod. DF3,5… and DF5…) brass

Housing	Cable diameter	Gap width	Rated operational current (I_e)	Max switching frequency (f)	Minimum penetration	ORDERING REFERENCES PNP (positive switching) NO (brown, black, blue)	NC (brown, black, blue)	NO + NC (brown, black, white, blue)
	mm	mm	mA	KHz	mm			
Z	3,5	3,5	200	1	5	**DCF3,5/4609KS**	**DCF3,5/4619KS**	**DCF3,5/4629KS**
R	3,5	5	200	1	5	**DCF5/4609KS**	**DCF5/4619KS**	**DCF5/4629KS**
T	6	15	400	0,5	16	**DCF15/4609KS**	**DCF15/4619KS**	**DCF15/4629KS**
T - 1	6	15	400	0,5	16	**DCF15/4L09KS**	**DCF15/4L19KS**	**DCF15/4L29KS**
V	6	30	400	0,2	30	**DCF30/4609KS**	**DCF30/4619KS**	**DCF30/4629KS**
V - 1	6	30	400	0,2	30	**DCF30/4L09KS**	**DCF30/4L19KS**	**DCF30/4L29KS**

NPN (negative switching)
Use the above mentioned part number changing the last number 9 with 8 (ie. DCF3,5/4608KS)

NO (brown, black, blue) | NC (brown, black, blue) | NO + NC (brown, black, white, blue)

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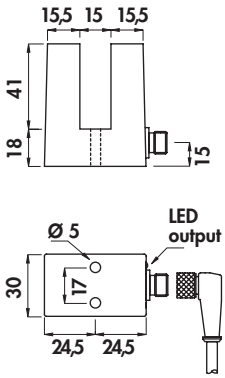
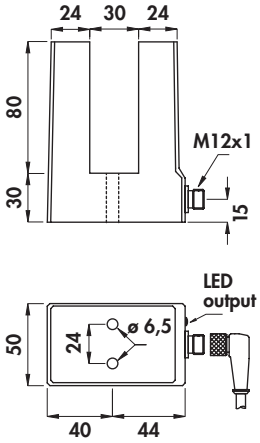
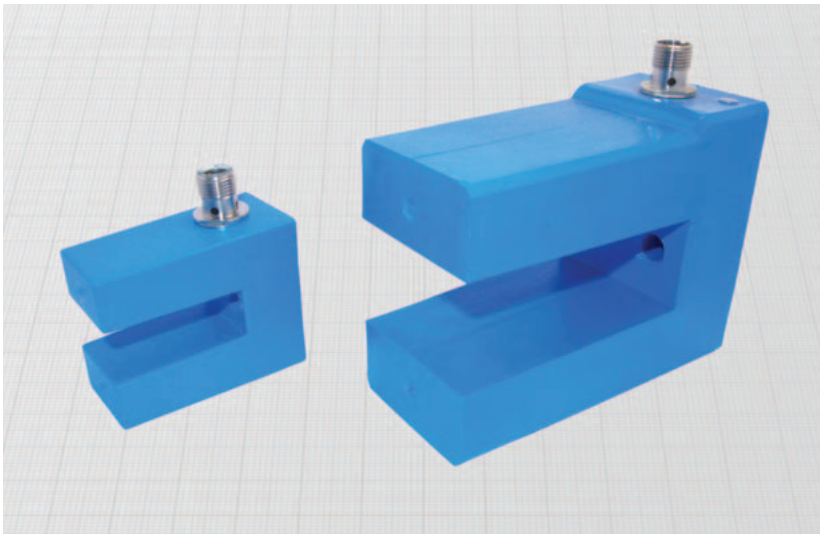
Amplified in d.c. •
Connector output M12 x 1 •

Housing X



Housing Y





Materials:

• Housing:	plastic
• Connector:	nickel plated brass

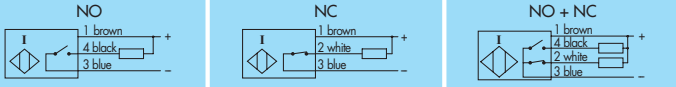
Technical data:

• Supply voltage (U_B):	10 ÷ 60 Vdc
• Max ripple:	10%
• No-load supply current (I_o):	≤ 10 mA
• Voltage drop (U_d):	≤ 2,2 V
• Temperature range:	- 25° ÷ + 70°C
• Max thermal drift of sensing distance S_r:	± 10%
• Repeat accuracy (R):	2%
• Switching hysteresis (H):	10%
• Degree of protection con connettori costampati:	IP67
• Switch status indicator:	yellow LED

- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

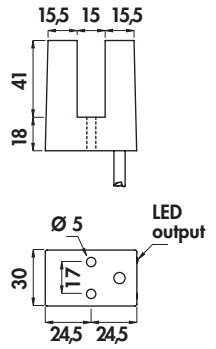
Housing	Female connector	Gap width	Rated operational current (I_e)	Max switching frequency (f)	Minimum penetration	ORDERING REFERENCES PNP (positive switching) NO	NC	NO + NC
	n°	mm	mA	KHz	mm			
X	6 - 8B - 10	15	400	0,5	16	**DCF15/4309KS**	**DCF15/43C9KS**	**DCF15/4329KS**
Y	6 - 8B - 10	30	400	0,2	30	**DCF30/4309KS**	**DCF30/43C9KS**	**DCF30/4329KS**

NPN (negative switching)
Use the above mentioned part number changing the last number 9 with 8 (ie. DCF15/4308KS)

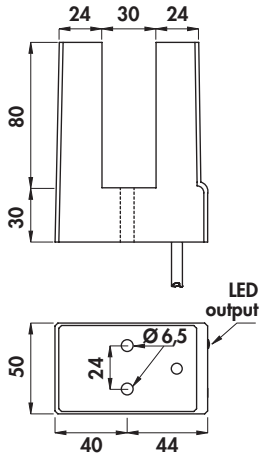


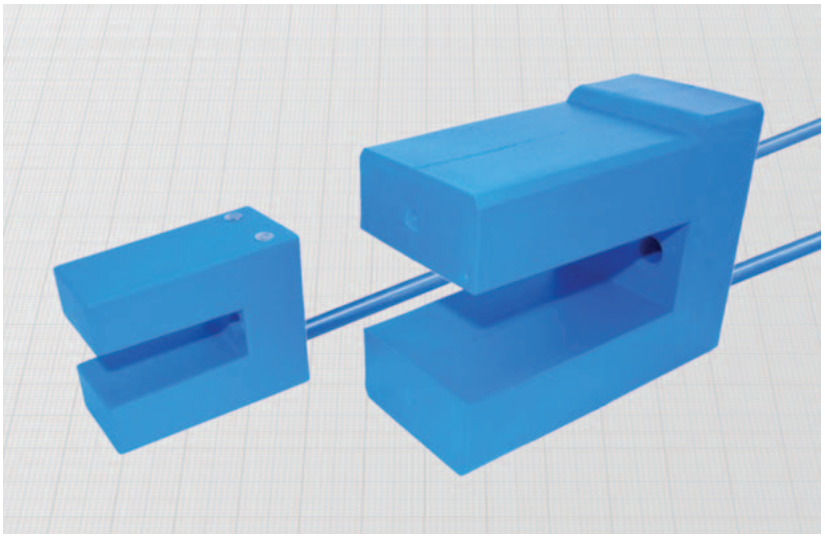
• Amplified in a.c. 2 wires
• Cable output

Housing T



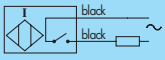
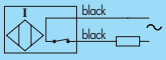
Housing V





Materials:
- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: plastic

Technical data:
- Supply voltage (U_B): 20 ÷ 240 Vac
- Electrical system frequency: 40 ÷ 60 Hz
- Off-state current (I_r): ≤1,5 mA at 110 Vac
- Minimum operational current (I_m): 5 mA
- Voltage drop (U_d): ≤ 5 V
- Temperature range: - 25° ÷ + 70°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,75 mm²
- Suppression of initial false impulse
- Class 2 equipment according to IEC 536
- Shock and vibration according to EN60068-2-27 EN60068-2-6
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE

Housing	Cable diameter	Gap width	Rated operational current (I_e)	Max switching frequency (f)	Minimum penetration	ORDERING REFERENCES	
						NO 	NC 
	mm	mm	mA	Hz	mm		
T	6	15	500	15	16	**ACF15/4609S**	**ACF15/4619S**
V	6	30	500	15	30	**ACF30/4609S**	**ACF30/4619S**

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