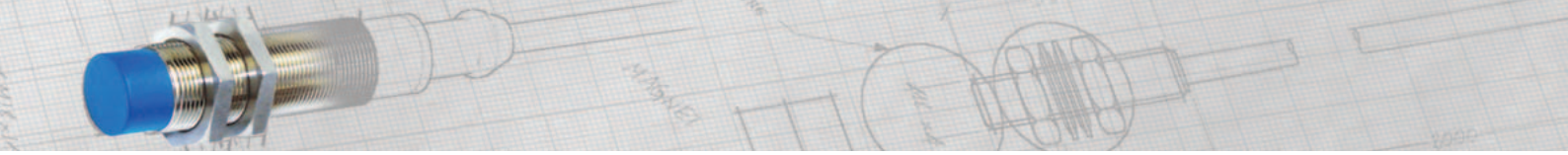
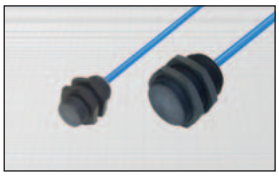
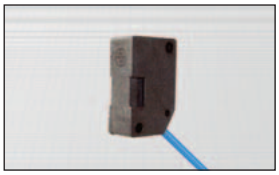
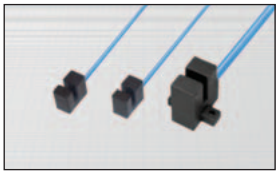
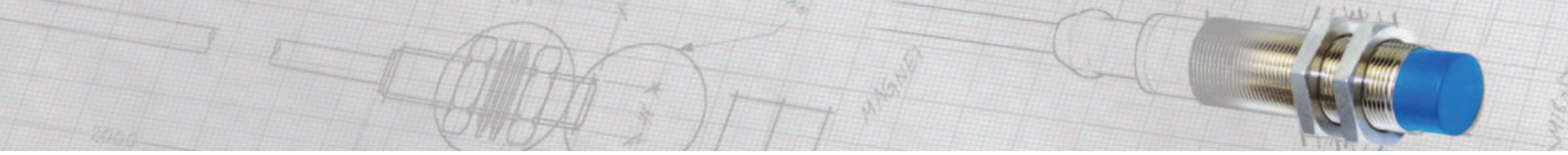


ATEX SENSORS









ATEX SENSORS

BDC ELECTRONIC
has obtained the ATEX notification of the production quality system and the ATEX certification according to the directive 94/9/EC for equipment intended for use in potentially explosive atmosphere.

CESI

NOTIFICATION

PRODUCTION QUALITY ASSURANCE NOTIFICATION

[1] Equipment or Protective System or Component intended for use in potentially explosive atmospheres Directive 94/9/EC

[2]

[3] Notification number: CESI 03 ATEX 090 Q

[4] Equipment or Component as listed: Proximity switches

Protection concepts: Intrinsic safety 'i'

[5] Applicant: BDC Electronic S.r.l. viale Lidice 37/39 – 10095 Grugliasco (TO)

[6] Manufacturer: BDC Electronic S.r.l. viale Lidice 37/39 – 10095 Grugliasco (TO)

[7] CESI, notified body n. 0722 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, notifies to the applicant that the actual manufacturer has a production quality system which complies to Annex IV of the Directive.

[8] This notification is based on audit report n. EX-A3/015603 issued the 07.05.2003.

This notification can be withdrawn if the manufacturer no longer satisfies the requirement of Annex IV.

Results of periodical re-assessment of the quality system are a part of this notification.

[9] This notification is valid until 07.05.2006 and can be withdrawn if the Manufacturer does not satisfy the production quality assurance re-assessment.

[10] According to Article 10 [1] of the Directive 94/9/EC the CE marking shall be followed by the identification n. 0722 identifying the notified body involved in the production control stage.

This notification may only be reproduced in its entirety and without any change.

Date 07 May 2003 - Translation issued the 07 May 2003

Prepared Sergio G. Giugno

Verified Mirko Balaz

Approved Ulisse Colombo

CESI

Page 1/1

Schema di certificazione CESI-ATEX

CESI

CERTIFICATE

EC-TYPE EXAMINATION CERTIFICATE

[1]

[2] Equipment or Protective System intended for use in potentially explosive atmospheres Directive 94/9/EC

[3] EC-Type Examination Certificate number: CESI 03 ATEX 080

[4] Equipment: Capacitive and inductive proximity sensors series DC, DC1, DF and NKS

[5] Manufacturer: BDC Electronics S.r.l.

[6] Address: Via Lidice 37/39 – 10095 Torino (TO) Italy

[7] This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] CESI, notified body n. 0722 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report n. EX-A3/013651.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50014: 1997 + A1..A2 EN 50020 : 2002 EN 50284 : 1999 EN 50281-1-1 : 1998 + A1

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

[11] This EC-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

[12] The marking of the equipment or protective system shall include the following:

II 1GD EEx ia IIC T6 IP 67 T85°C

II 1G EEx ia IIC T6

This certificate may only be reproduced in its entirety and without any change, schedule included.

Date April 15, 2003 - Translation issued the April 15, 2003

Prepared Francesco Esposito

Verified Mirko Balaz

Approved Ulisse Colombo

CESI

Page 1/3

Schema di certificazione CESI-ATEX

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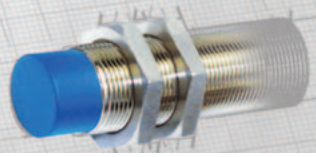

ATEX SENSORS

The ATEX sensors meet the requirements of 94/9/EC directive and are certified by CESI with certification CESI 03 ATEX 080 for use in potentially explosive atmospheres.
The specific applied standards are listed on the product pages.

It's very important to choose the category of the device according to the classification of the potentially explosive area:

GASES, VAPOURS OR MISTS

Zone 0: continuous danger
Areas in which explosive atmospheres caused by mixtures of air and gases, vapours or mists are present continuously, for long periods or frequently.

Zone 1: potential danger
Areas in which explosive atmospheres caused by mixtures of air and gases, vapours or mists are likely to occur.

Zone 2: minimum danger
Areas in which explosive atmospheres caused by mixtures of air and gases, vapours or mists are unlikely to occur or, if they do occur, are likely to do so only infrequently and for a short period only.

DUSTS

Zone 20: continuous danger
Areas in which explosive atmospheres caused by mixtures of air and combustible dust are present continuously, for long periods or frequently.

Zone 21: potential danger
Areas in which explosive atmospheres caused by mixtures of air and combustible dust are likely to occur.

Zone 22: minimum danger
Areas in which explosive atmospheres caused by mixtures of air and combustible dust are unlikely to occur or, if they do occur, are likely to do so only infrequently and for a short period only.

ATEX SENSORS

DC = cylindrical inductive NOT amplified d.c. NAMUR series 2 wires
DCA = cylindrical inductive amplified d.c. 3-4 wires
DCL = cylindrical inductive analog linear output
DF = inductive slot sensors NOT amplified d.c. NAMUR series
NKS = capacitive NOT amplified d.c. NAMUR series

Diameter of cylindrical sensor or slot width for slot types.
For other types, change the number with the following:

80 = 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

DC	18	P/	4	6	0	9	KS	A	-5	PUR

3 = with connector M12 x 1
6 = standard type cable output
7 = cable output with sheath holder
8 = with gland
A = body length 50 mm completely threaded

0 = NO output (LED types) o NC (types without LED)
1 = NC (normally closed output)
2 = NO + NC (complementary outputs)
C = NC (normally closed output on pin 2 of connector)

0 = NAMUR series with 2 wires
8 = NPN
9 = PNP

L = smooth body
K = protection against short circuit and overload
S = LED output status
T = high temperatures version

A = 1G - 1D category
3GD = 3G - 3D category

Cable length (if required different than standard 2m)

For Polyurethane cable add PUR

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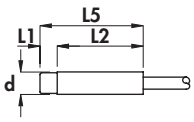
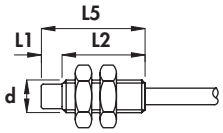
NAMUR SERIES diameters 4 - 5 - 6,5 - 8 - 12 mm •
ATEX certified II 1GD for zone 0;20 •
Cable output •

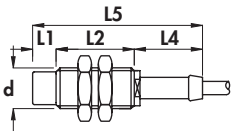
Housing A



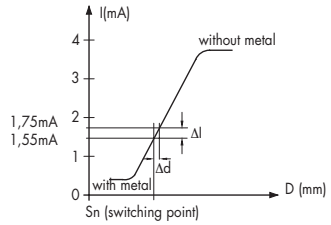
Housing B



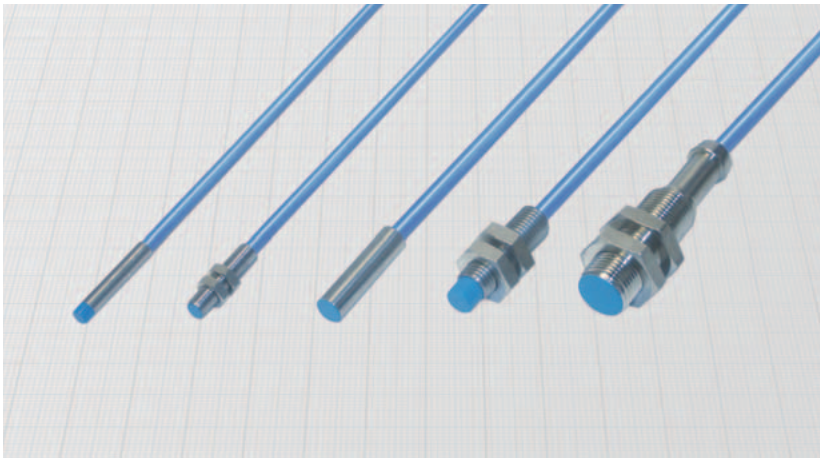
Housing F



Typical curve



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



Technical data:

- Supply voltage according to NAMUR: 7,7 ÷ 9 Vdc
- Max ripple: 10%
- Consumption at 8,2 V with Rx = 1000
  - with metal: ≤ 1 mA
  - without metal: ≥ 3 mA
- Temperature range: - 20° ÷ + 60°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Degree protection: IP67
- Cable conductor cross section: 0,14 mm² on 4 and 5 mm
  0,35 mm² on 6,5 ÷ 12 mm
- Marking: Ex II 1D IP67 T80°C
  II 1G EEx ia IIC T6
- Certified CESI 03 ATEX 080
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- According to: EN60947-5-6/EN50014/EN50020/EN50281-1-1/EN50284
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Safety parameters:

- Vi max: 13,5 V
- Ii max: 60 mA
- Ci max: 100 nF
- Li max: 100 µH
- Pi max: 200 mW

Use in hazardous area according to instruction manuals

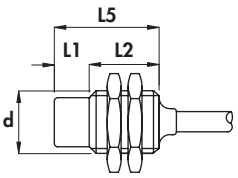
Materials:

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

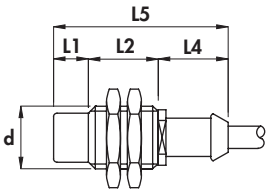
Housing	Flush mounting	Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Nominal sensing distance (S_n) ± 10%	Max switching frequency (f)	ORDERING REFERENCES
			mm	mm	mm	mm	mm	mm	mm	mm	KHz	
A	•		-	20	-	-	20	3	4	0,8	5	**DC4/4600LA**
B	•		-	20	-	-	20	3	M5 x 0,5	0,8	5	**DC5/4700A**
A	•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

• NAMUR SERIES diameters 14 - 18 mm
• ATEX certified II 1GD for zone 0;20
• Cable output

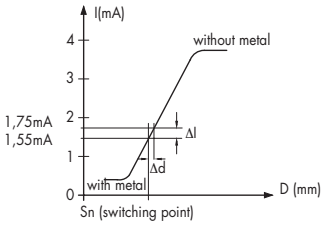
Housing B-1



Housing F-1



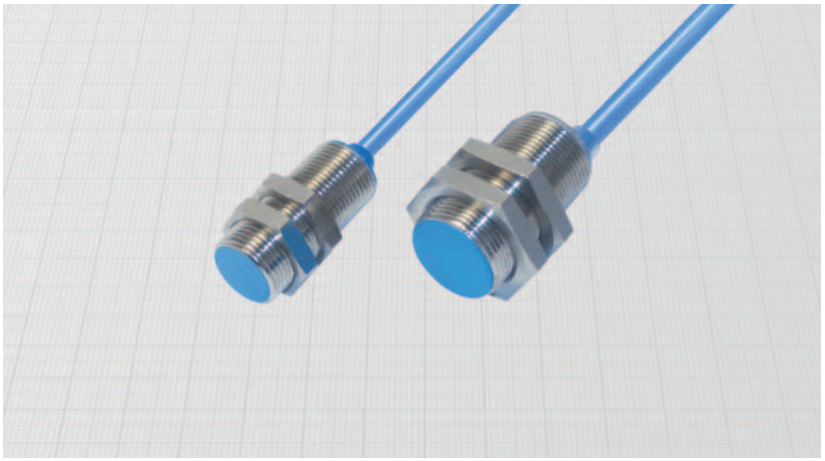
Typical curve



Diameter		M14 x 1	M18 x 1
Nut	Size	SW17	SW24
	Thickness mm	4	4
Max tightening torque Nm		20	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 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: - 20° ÷ + 60°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Degree of protection according to EN60529: IP67
- Cable conductor cross section: 0,35 mm² on 14 mm
  0,75 mm² on 18 mm
- Marking: Ⓔx II 1D IP67 T80°C
  II 1G EEx ia IIC T6
- Certified: CESI 03 ATEX 080
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- According to: EN60947-5-6/EN50014/EN50020/EN50281-1-1/EN50284
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Safety parameters:

- Vi max: 13,5 V
- Ii max: 60 mA
- Ci max: 100 nF
- Li max: 100 µH
- Pi max: 200 mW

Use in hazardous area according to instruction manuals

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)	ORDERING REFERENCES
		mm	mm	mm	mm	mm	mm	mm	mm	KHz	
B-1	•	-	30	-	-	30	4	M14 x 1	3	2	**DC14/4700A**
B-1	•	10	30	-	-	40	4	M14 x 1	5	1	**DC14/5700A**
B-1	•	-	30	-	-	30	5	M18 x 1	5	1	**DC18/4600A**
F-1	•	-	30	-	20	50	5	M18 x 1	5	1	**DC18/4700A**
B-1	•	10	20	-	-	30	5	M18 x 1	8	0,5	**DC18/5600A**
F-1	•	10	20	-	20	50	5	M18 x 1	8	0,5	**DC18/5700A**

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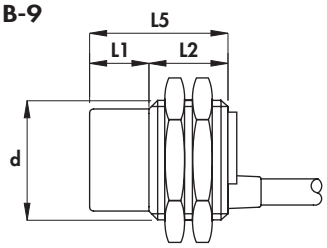
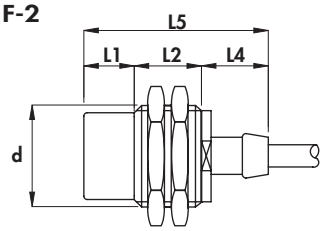
NAMUR SERIES diameters 28 - 30 - 45 mm •
ATEX certified II 1GD for zone 0;20 •
Cable output •

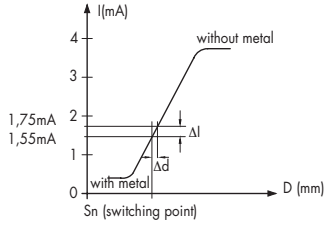
Housing B-9



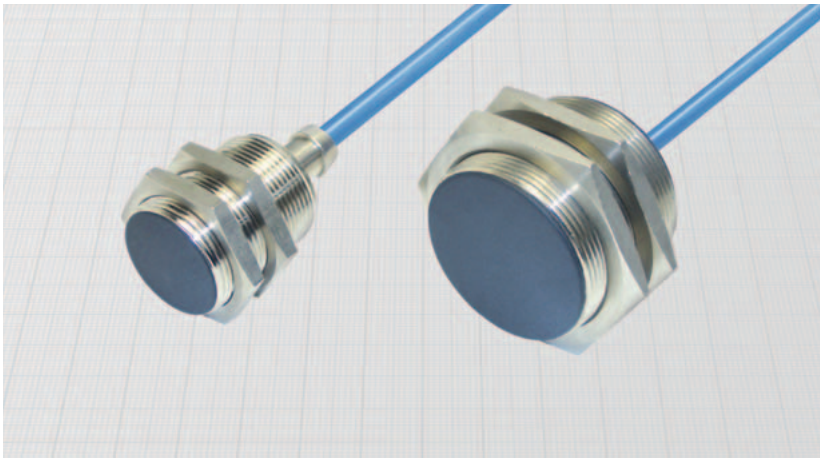
Housing F-2



Typical curve



Diameter		M28 x 1,5	M30 x 1,5	M45 x 1,5
Nut	Size	SW32	SW36	SW55
	Thickness mm	4	5	5
Max tightening torque Nm		80	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 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: - 20° ÷ + 60°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Degree of protection according to EN60529: IP67
- Cable conductor cross section: 0,75 mm²
- Marking: Ⓔx II 1D IP67 T80°C
  II 1G EEx ia IIC T6
- Certified CESI 03 ATEX 080
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- According to: EN60947-5-6/EN50014/EN50020/EN50281-1-1/EN50284
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Safety parameters:

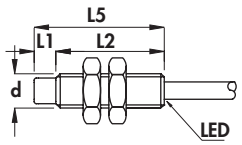
- Vi max: 13,5 V
- Ii max: 60 mA
- Ci max: 100 nF
- Li max: 100 µH
- Pi max: 200 mW

Use in hazardous area according to instruction manuals

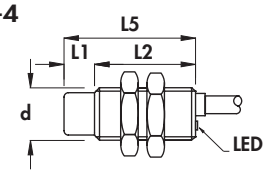
Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Nominal sensing distance (S_n) ± 10%	Max switching frequency (f)	ORDERING REFERENCES
		mm	mm	mm	mm	mm	mm	mm	mm	KHz	
B-9	•	-	35	-	-	35	5	M28 x 1,5	10	0,3	**DC28/4700A**
B-9	•	10	25	-	-	35	5	M28 x 1,5	15	0,2	**DC28/5700A**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

• NAMUR SERIES with LED
• ATEX certified II 1GD for zone 0;20
• Cable output

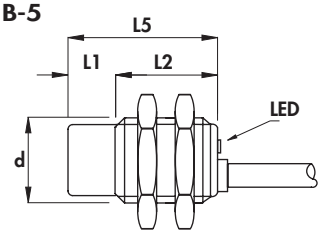
Housing B



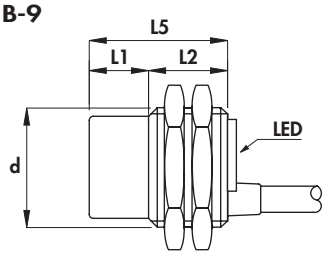
Housing B-4



Housing B-5



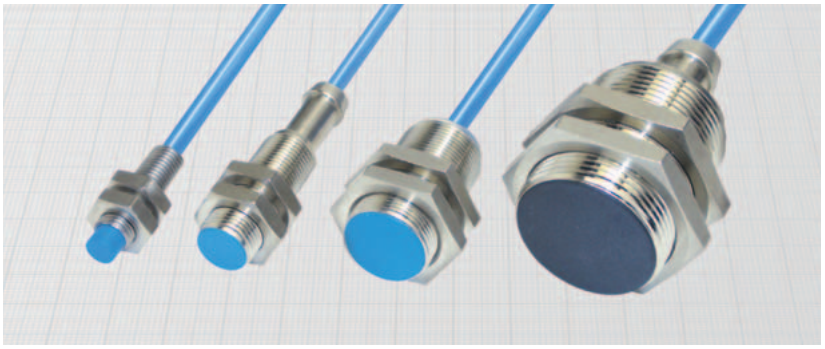
Housing B-9



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 load can be applied on both terminals (function PNP or NPN). The output is internally triggered and monitored by LED.

Technical data:

- Working voltage: 7,7 ÷ 9 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) at 10 mA: < 6,5 V
- Voltage drop (U_d) at 8 mA: < 5 V
- Temperature range: - 20° ÷ +60°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
- Marking: Ex II 1D IP67 T80°C; II 1G EEx ia IIC T6
- Certified CESI 03 ATEX 080
- Protected against short-circuit and overload (8mm not included)
- Protected against any wrong connection
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- According to: EN60947-5-6/EN50014/EN50020/EN50281-1-1/EN50284
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Safety parameters:

- Vi max: 13,5 V
- Ii max: 60 mA
- Ci max: 100 nF
- Li max: 100 µH
- Pi max: 200 mW

Use in hazardous area according to instruction manuals

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)	ORDERING REFERENCES NO	ORDERING REFERENCES NC
		mm	mm	mm	mm	mm	mm	mm	mm	KHz		
B	•	-	30	-	-	30	4	M8 x 1	1,5	3	**DC8/4600SA**	**DC8/4610SA**
B	•	5	25	-	-	30	4	M8 x 1	2,5	2	**DC8/5600SA**	**DC8/5610SA**
B - 4	•	-	30	-	-	30	4	M12 x 1	2	2	**DC12/4600KSA**	**DC12/4610KSA**
B - 4	•	7	23	-	-	30	4	M12 x 1	4	1	**DC12/5600KSA**	**DC12/5610KSA**
B - 5	•	-	30	-	-	30	5	M18 x 1	5	0,8	**DC18/4600KSA**	**DC18/4610KSA**
B - 5	•	10	20	-	-	30	5	M18 x 1	8	0,6	**DC18/5600KSA**	**DC18/5610KSA**
B - 9	•	-	35	-	-	35	5	M30 x 1,5	10	0,8	**DC30/4600KSA**	**DC30/4610KSA**
B - 9	•	15	20	-	-	35	5	M30 x 1,5	15	0,4	**DC30/5600KSA**	**DC30/5610KSA**

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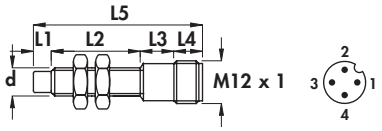
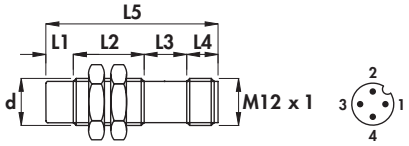
NAMUR SERIES •
ATEX certified II 1GD for zone 0;20 •
Connector output M12x1 •

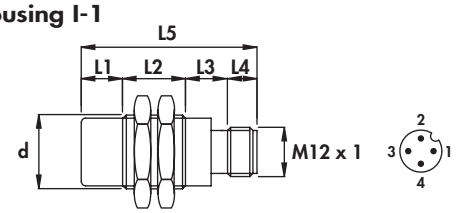
Housing I



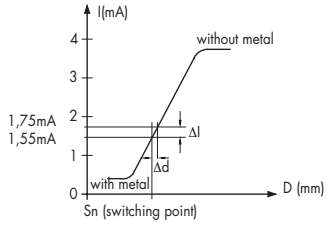
Housing I-9



Housing I-1



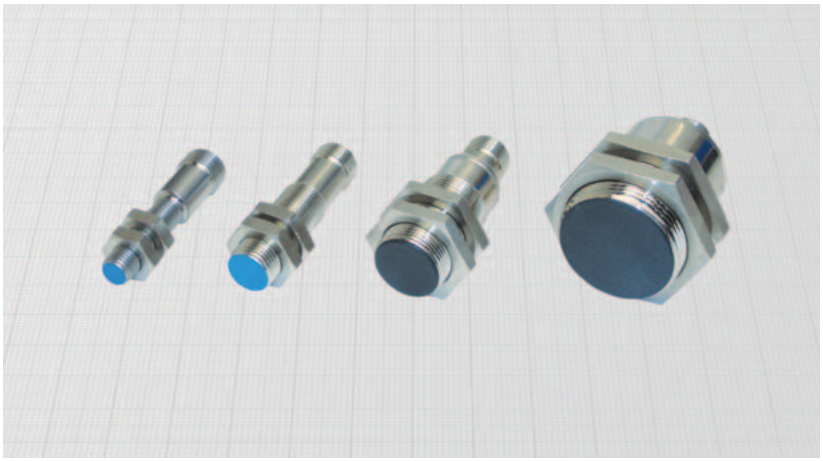
Typical curve



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:

- 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: - 20° ÷ + 60°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Degree of protection according to EN60529: IP67
- Marking: Ex II 1D IP67 T80°C
  II 1G EEx ia IIC T6
- Certified CESI 03 ATEX 080
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- According to: EN60947-5-6/EN50014/EN50020/EN50281-1-1/EN50284
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Safety parameters:

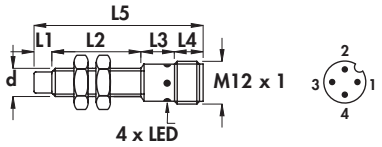
- Vi max: 13,5 V
- Ii max: 60 mA
- Ci max: 100 nF
- Li max: 100 µH
- Pi max: 200 mW

Use in hazardous area according to instruction manuals

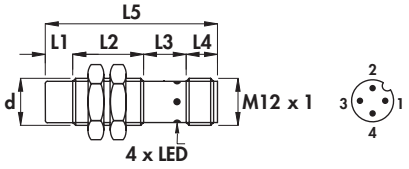
Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Female connector Atex	Body diameter (d)	Nominal sensing distance (S_n) ± 10%	Max switching frequency (f)	ORDERING REFERENCES
		mm	mm	mm	mm	mm	n°	mm	mm	KHz	1 brown, 3 blue
I	•	-	26	13	8	47	8B - 10	M8 x 1	1,5	4	**DC8/4300A**
I	•	5	21	13	8	47	8B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

• NAMUR SERIES with LED
• ATEX certified II 1GD for zone 0;20
• Connector output M12 x 1

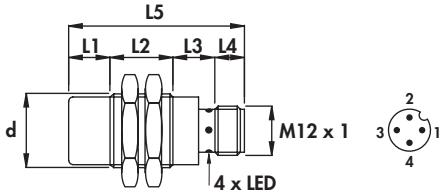
Housing I



Housing I-9



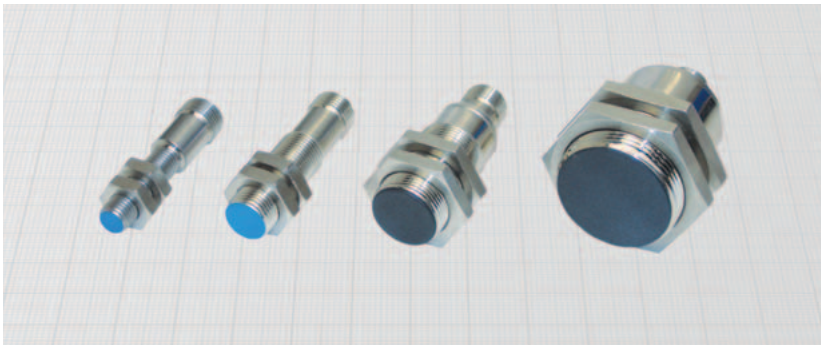
Housing I-1



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). The output is internally triggered and monitored by LED.

Technical data:

- Working voltage: 7,7 ÷ 9 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) at 10 mA: < 6,5 V
- Voltage drop (U_d) at 8 mA: < 5 V
- Temperature range: - 20° ÷ +60°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
- Marking: Ⅱ 1D IP67 T80°C
  Ⅱ 1G EEx ia IIC T6
- Certified CESI 03 ATEX 080
- Protected against short-circuit and overload (8 mm not included)
- Protected against any wrong connection
- Electromagnetic compatibility (EMC) according to EN60947-5-2
- According to: EN60947-5-6/EN50014/EN50020/EN50281-1-1/EN50284
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Safety parameters:

- Vi max: 13,5 V
- Ii max: 60 mA
- Ci max: 100 nF
- Li max: 100 µH
- Pi max: 200 mW

Use in hazardous area according to instruction manuals

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

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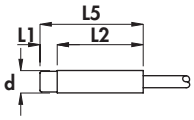
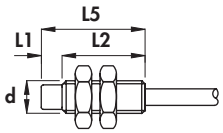
NAMUR SERIES for high temperatures (-20° ÷ + 110°C) • ATEX certified II 1GD for zone 0;20 • Cable output •

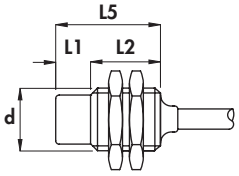
Housing A



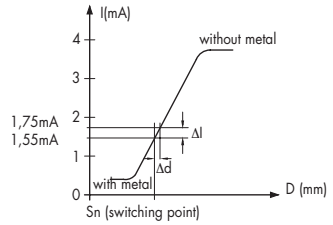
Housing B



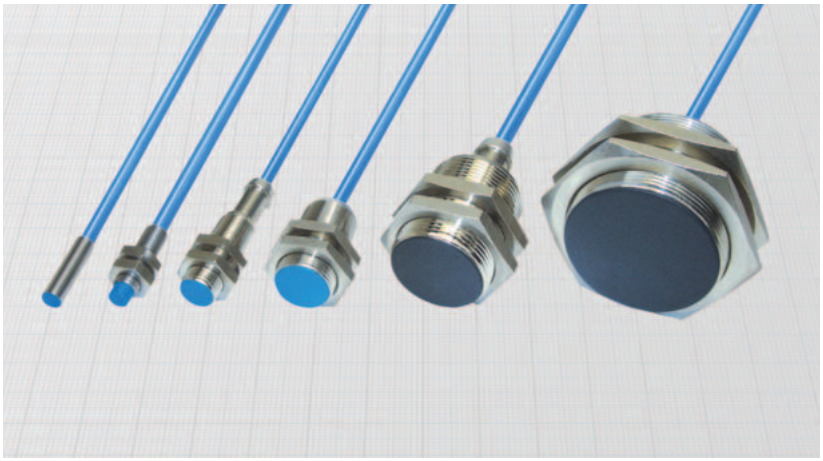
Housing B-1



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



Technical data:

- 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: - 20° ÷ + 110°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Degree of protection according to EN60529: IP67
- Cable conductor cross section: 0,35 mm² on 6,5 ÷ 12 mm; 0,75 mm² on 18 ÷ 45 mm
- Marking: Ⓔx II 1D IP67 T130°C; II 1G EEx ia IIC T4
- Certified CESI 03 ATEX 080
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- According to: EN60947-5-6/EN50014/EN50020/EN50281-1-1/EN50284
- 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 - 8 mm: stainless steel
- Housing 12 ÷ 45 mm: nickel plated brass
- Sensing face: plastic

Safety parameters:

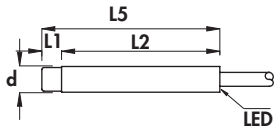
- Vi max: 13,5 V
- Ii max: 60 mA
- Ci max: 100 nF
- Li max: 100 µH
- Pi max: 200 mW

Use in hazardous area according to instruction manuals

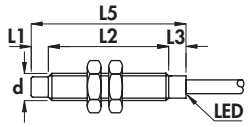
Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Nominal sensing distance (S_n) ± 10%	Max switching frequency (f)	ORDERING REFERENCES
		mm	mm	mm	mm	mm	mm	mm	mm	KHz	
A	•	-	25	-	-	25	4	6,5	1,5	5	**DC6,5/4600LTA**
B	•	-	25	-	-	25	4	M8 x 1	1,5	5	**DC8/4600TA**
B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

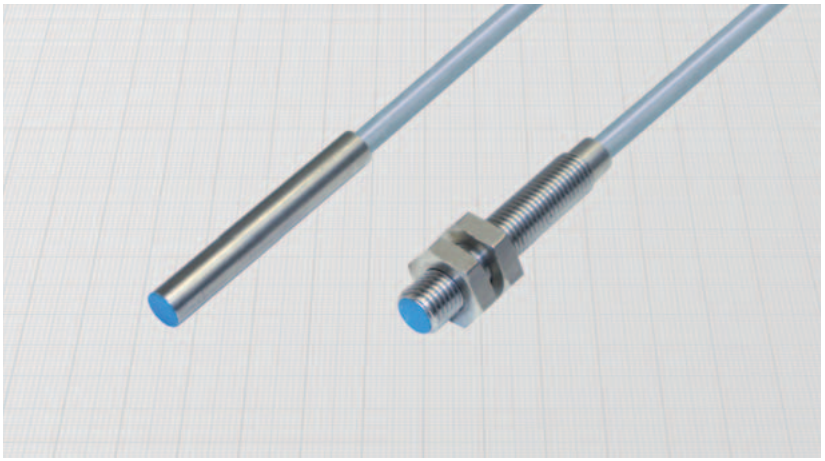
• AMPLIFIED IN d.c. 3 and 4 wires - diameters 6,5 - 8 mm
• ATEX certified II 3GD for zone 2;22
• Cable output

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; 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: - 20° ÷ + 60°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
- Marking: II 3D IP67 T80°C X; II 3G EEx nA IIC T6 X
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2
- According to: EN50014/EN60079-15/EN50281-1-1
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Use in hazardous area according to instruction manuals

Housing	Flush mounting	Non flush mounting	L1	L2	L3	L5	Cable diameter	Body diameter (d)	Nominal sensing distance (S_n) ±10%	Max switching frequency (f)	Rated operational current (I_e)	ORDERING REFERENCES PNP (positive switching) NO	NC	NO + NC
			mm	mm	mm	mm	mm	mm	mm	KHz	mA			
A - 3	•		-	45	-	45	3,5	6,5	1,5	4	100	**DCA6,5/4609LKS3GD**	**DCA6,5/4619LKS3GD**	**DCA6,5/4629LKS3GD**
A - 3		•	5	40	-	45	3,5	6,5	2,5	3	100	**DCA6,5/5609LKS3GD**	**DCA6,5/5619LKS3GD**	**DCA6,5/5629LKS3GD**
A - 3	•		-	45	-	45	3,5	8	1,5	4	100	**DCA8/4609LKS3GD**	**DCA8/4619LKS3GD**	**DCA8/4629LKS3GD**
B - 6	•		-	40	5	45	3,5	M8 x 1	1,5	4	100	**DCA8/4609KS3GD**	**DCA8/4619KS3GD**	**DCA8/4629KS3GD**
A - 3		•	5	40	-	45	3,5	8	2,5	3	100	**DCA8/5609LKS3GD**	**DCA8/5619LKS3GD**	**DCA8/5629LKS3GD**
B - 6		•	5	35	5	45	3,5	M8 x 1	2,5	3	100	**DCA8/5609KS3GD**	**DCA8/5619KS3GD**	**DCA8/5629KS3GD**

NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie DCA6,5/4608KS3GD)

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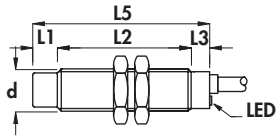
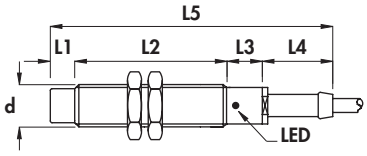
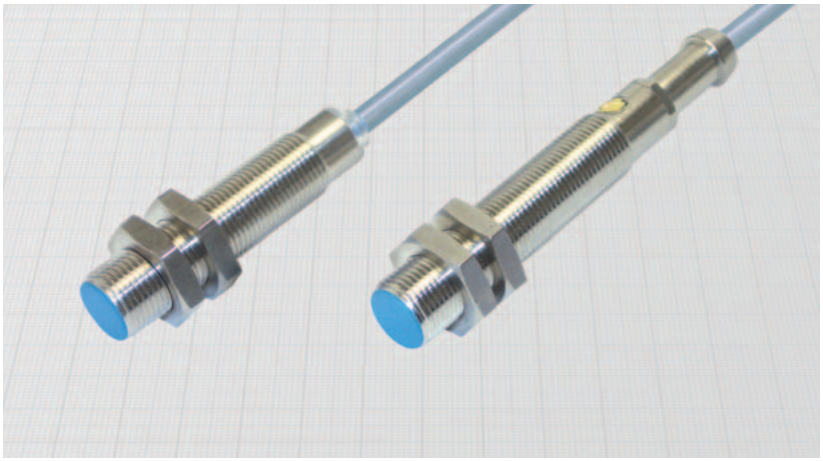
AMPLIFIED IN d.c. 3 wires - diameters 12 mm •
ATEX certified II 3GD for zone 2;22 •
Cable output •

Housing B-3



Housing D





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

Materials:

- Cable: 2 m PVC; 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: - 20° ÷ + 60°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 versions
  0,25 mm² on 4 wires versions
- Marking: II 3D IP67 T80°C X
  II 3G EEx nA IIC T6 X
- Protected against short-circuit and overload
- Protected against any wrong connection
- Suppression of initial false impulse
- Electromagnetic compatibility (EMC) according to EN60947-5-2
- According to: EN50014/EN60079-15/EN50281-1-1
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

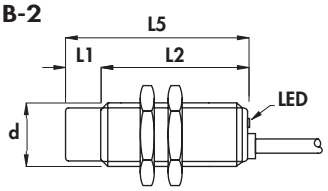
Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Nominal sensing distance (S_n) ± 10%	Max switching frequency (f)	Rated operational current (I_e)	ORDERING REFERENCES PNP (positive switching) NO	NC	NO + NC
		mm	mm	mm	mm	mm	mm	mm	mm	KHz	mA			
B - 3	•	-	43	7	-	50	4	M12 x 1	2	2	100	**DCA12/4609KS3GD**	**DCA12/4619KS3GD**	**DCA12/4629KS3GD**
D	•	-	50	10	20	80	4	M12 x 1	2	2	100	**DCA12/4709KS3GD**	**DCA12/4719KS3GD**	**DCA12/4729KS3GD**
B - 3	•	7	36	7	-	50	4	M12 x 1	4	1,5	100	**DCA12/5609KS3GD**	**DCA12/5619KS3GD**	**DCA12/5629KS3GD**
D	•	7	43	10	20	80	4	M12 x 1	4	1,5	100	**DCA12/5709KS3GD**	**DCA12/5719KS3GD**	**DCA12/5729KS3GD**

NPN (negative switching)
Use the above mentioned part number changing the last number 9 with 8 (ie DCA12/4608KS3GD)

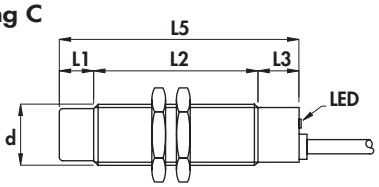
NO / NC / NO + NC

• AMPLIFIED IN d.c. 3 wires - diameters 18 mm
• ATEX certified II 3GD for zone 2;22
• Cable output

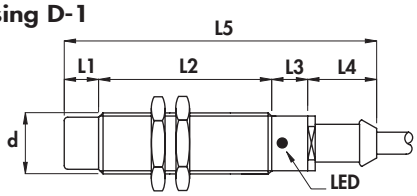
Housing B-2

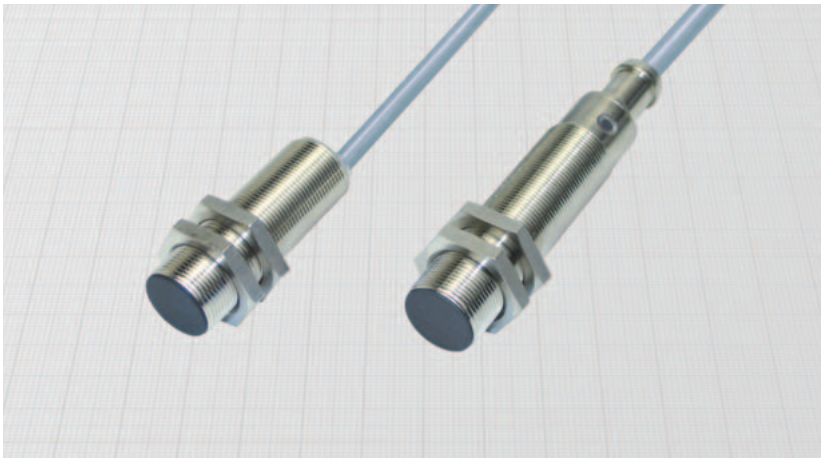


Housing C



Housing D-1





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

Materials:

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

Technical data:

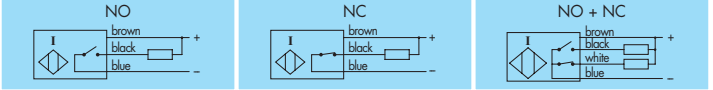
- Supply voltage (U_B): 5 ÷ 60 Vdc
- Max ripple: 10%
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): < 2,2 V
- Temperature range: - 20° ÷ + 60°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Switching hysteresis (H): 10%
- Degree of protection: IP67
- Switch status indicator: yellow LED
- Cable conductor cross section: 0,50 mm² on 3 wires versions
  0,35 mm² on 4 wires versions
- Marking: Ex II 3D IP67 T80°C X
  II 3G EEx nA IIC T6 X
- 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
- According to: EN50014/EN60079-15/EN50281-1-1
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Use in hazardous area according to instruction manuals

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 PNP (positive switching) NO	NC	NO + NC
			mm	mm	mm	mm	mm	mm	mm	mm	KHz	mA			
B - 2	•		-	50	-	-	50	5	M18 x 1	5	1	200	DCA18/4A09KS3GD	DCA18/4A19KS3GD	DCA18/4A29KS3GD
B - 2		•	10	40	-	-	50	5	M18 x 1	8	1	200	DCA18/5A09KS3GD	DCA18/5A19KS3GD	DCA18/5A29KS3GD
C	•		-	58	12	-	70	5	M18 x 1	5	1	200	DCA18/4609KS3GD	DCA18/4619KS3GD	DCA18/4629KS3GD
D - 1	•		-	60	12	20	92	6	M18 x 1	5	1	200	DCA18/4709KS3GD	DCA18/4719KS3GD	DCA18/4729KS3GD
C		•	10	48	12	-	70	5	M18 x 1	8	1	200	DCA18/5609KS3GD	DCA18/5619KS3GD	DCA18/5629KS3GD
D - 1		•	10	50	12	20	92	6	M18 x 1	8	1	200	DCA18/5709KS3GD	DCA18/5719KS3GD	DCA18/5729KS3GD

NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie DCA18/4A08KS3GD)



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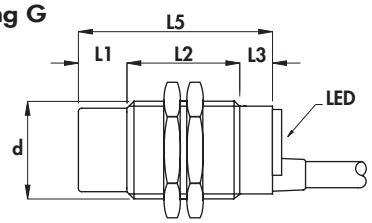
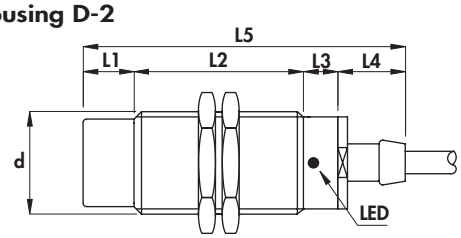
AMPLIFIED IN d.c. 3 and 4 wires - diameters 30 - 45 mm •
ATEX certified II 3GD for zone 2;22 •
Cable output •

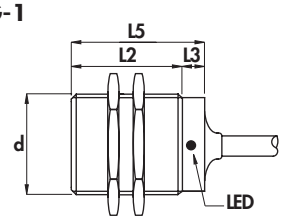
Housing G

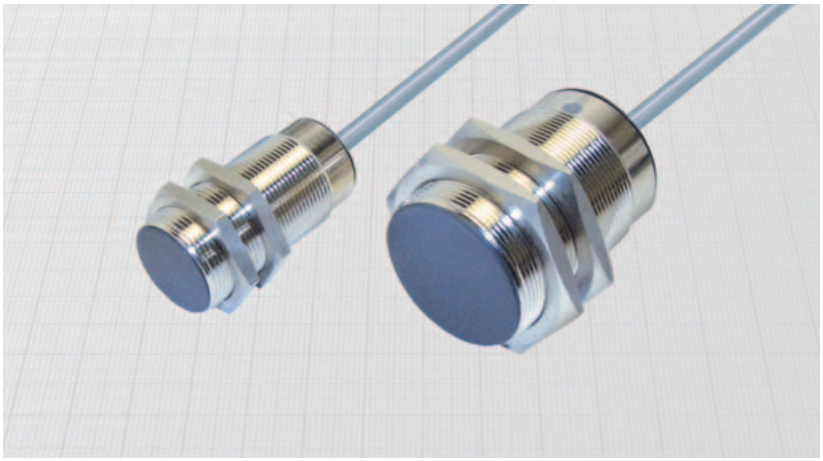


Housing D-2



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; 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: - 20° ÷ + 60°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
- Marking: Ⓔx II 3D IP67 T80°C X
  II 3G EEx nA IIC T6 X
- 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
- According to: EN50014/EN60079-15/EN50281-1-1
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Use in hazardous area according to instruction manuals

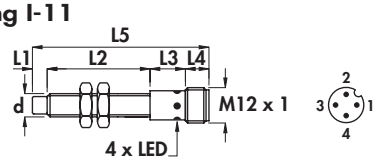
Housing	Flush mounting	Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Nominal sensing distance (S_n) ± 10%	Max switching frequency (f)	Rated operational current (I_e)	ORDERING REFERENCES PNP (positive switching) NO	NC	NO + NC
			mm	mm	mm	mm	mm	mm	mm	mm	KHz	mA			
G	•		-	50	10	-	60	6	M30 x 1,5	10	0,8	200	**DCA30/4609KS3GD**	**DCA30/4619KS3GD**	**DCA30/4629KS3GD**
D-2	•		-	65	10	20	95	6	M30 x 1,5	10	0,8	200	**DCA30/4709KS3GD**	**DCA30/4719KS3GD**	**DCA30/4729KS3GD**
G		•	15	35	10	-	90	6	M30 x 1,5	15	0,4	200	**DCA30/5609KS3GD**	**DCA30/5619KS3GD**	**DCA30/5629KS3GD**
D-2		•	15	50	10	20	95	6	M30 x 1,5	15	0,4	200	**DCA30/5709KS3GD**	**DCA30/5719KS3GD**	**DCA30/5729KS3GD**
G-1	•		10	50	10	-	60	6	M45 x 1,5	20	0,15	200	**DCA45/4609KS3GD**	**DCA45/4619KS3GD**	**DCA45/4629KS3GD**

NPN (negative switching)

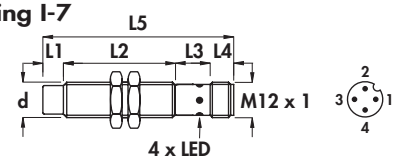
Use the above mentioned part number changing the last number 9 with 8 (ie. DCA30/4608KS3GD)

- **AMPLIFIED IN d.c.**
- **ATEX certified II 3GD for zone 2;22**
- Connector output M12 x 1

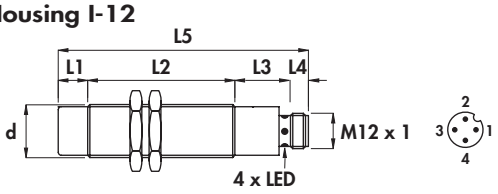
Housing I-11



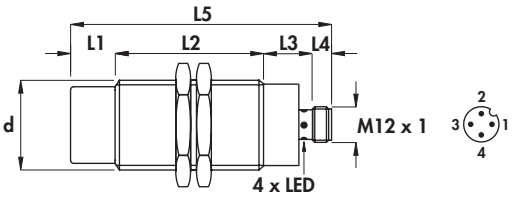
Housing I-7



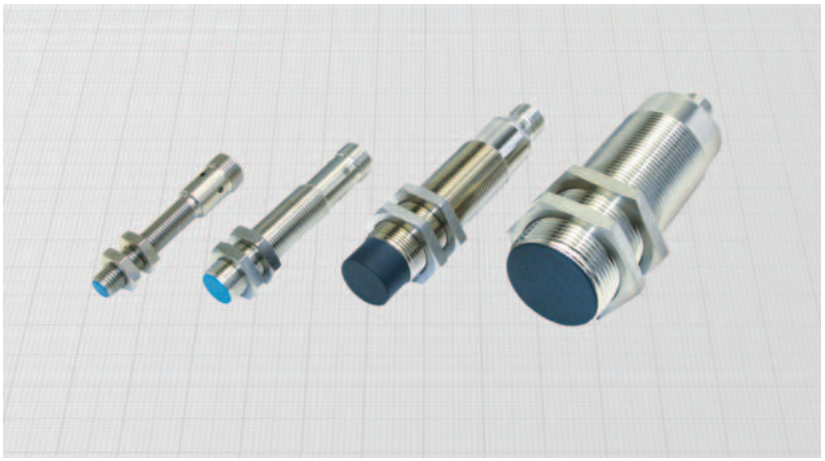
Housing I-12



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



Technical data:

- Supply voltage (U_B): see ordering references
- Max ripple: 10%
- Rated operational current (I_e): 100 mA
- No-load supply current (I_o): ≤ 10 mA
- Voltage drop (U_d): < 1,5 V
- Temperature range: - 20° ÷ + 60°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
- Marking: Ex II 3D IP67 T80°C X
  II 3G EEx nA IIC T6 X
- 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
- According to: EN50014/EN60079-15/EN50281-1-1
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Materials:

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

Use in hazardous area according to instruction manuals

Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Female connector Atex	Body diameter (d)	Supply voltage (U_B)	Max switching frequency (f)	Nominal sensing distance (S_n) ± 10%	ORDERING REFERENCES PNP (positive switching) NO	NC	NO + NC
		mm	mm	mm	mm	mm	n°	mm	(min V_{max})	KHz	mm			
I-11	•	-	40	12	8	60	C8B - C10	M8 x 1	7 ÷ 30	4	1,5	**DCA8/4309KS3GD**	**DCA8/43C9KS3GD**	**DCA8/4329KS3GD**
I-11	•	5	35	12	8	60	C8B - C10	M8 x 1	7 ÷ 30	3	2,5	**DCA8/5309KS3GD**	**DCA8/53C9KS3GD**	**DCA8/5329KS3GD**
I-7	•	-	43	15	8	66	C8B - C10	M12 x 1	5 ÷ 40	2	2	**DCA12/4309KS3GD**	**DCA12/43C9KS3GD**	**DCA12/4329KS3GD**
I-7	•	7	36	15	8	66	C8B - C10	M12 x 1	5 ÷ 40	1,5	4	**DCA12/5309KS3GD**	**DCA12/53C9KS3GD**	**DCA12/5329KS3GD**
I-12	•	-	50	19	8	77	C8B - C10	M18 x 1	5 ÷ 60	1	5	**DCA18/4309KS3GD**	**DCA18/43C9KS3GD**	**DCA18/4329KS3GD**
I-12	•	10	50	19	8	87	C8B - C10	M18 x 1	5 ÷ 60	1	8	**DCA18/5309KS3GD**	**DCA18/53C9KS3GD**	**DCA18/5329KS3GD**
I-2	•	-	65	17	8	90	C8B - C10	M30x1,5	7 ÷ 60	0,8	10	**DCA30/4309KS3GD**	**DCA30/43C9KS3GD**	**DCA30/4329KS3GD**
I-2	•	15	50	17	8	90	C8B - C10	M30x1,5	7 ÷ 60	0,4	15	**DCA30/5309KS3GD**	**DCA30/53C9KS3GD**	**DCA30/5329KS3GD**

NPN (negative switching)

Use the above mentioned part number changing the last number 9 with 8 (ie DCA8/4308KS3GD)

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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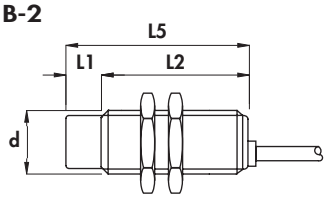
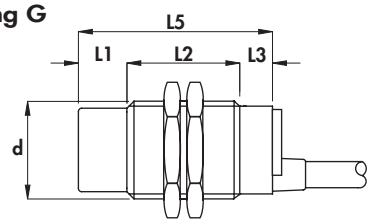
ANALOG LINEAR OUTPUT 4 ÷ 20 mA • ATEX certified II 1GD for zone 0;20 • Cable output •

Housing B-2

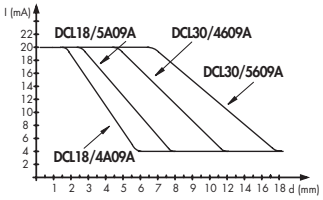


Housing G

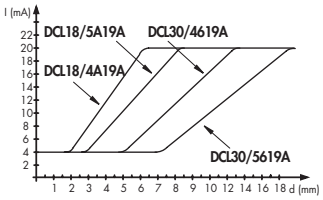


Typical curves

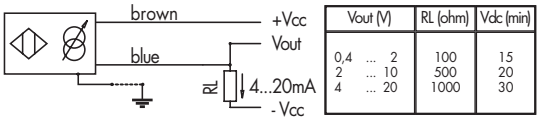
Graph 1



Graph 2



Wiring



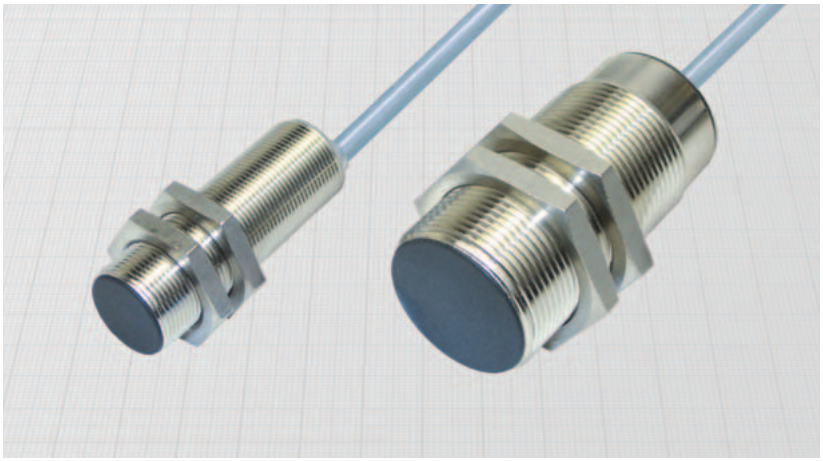
Vout (V)	RL (ohm)	Vdc (min)
0,4 ... 2	100	15
2 ... 10	500	20
4 ... 20	1000	30

RL (max) = $\frac{(Vdc-10)}{20}$ KΩ

Diameter		M18 x 1	M30 x 1,5
Nut	Size	SW24	SW36
	Thickness mm	4	5
Max tightening torque Nm		35	50

Materials:

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



General Features:

These inductive proximity sensors provide an output current inversely or directly proportional to the distance between sensing face and metal target. The output current is dependent also on the target material. So the proximity sensors in addition to determining distance, displacements, vibrations and distortions can be used to recognize the composition of metal and alloys.

Employing the sensor:

The current flowing through the load RL, generates a variation in voltage across the resistor for a suitable value of RL, it is possible to obtain voltage variations from one tenth to 20 V as can be seen in the tables.

Technical data:

- Supply voltage: 10 ÷ 30 Vdc
- Max ripple: 20%
- Output current range: 4 ÷ 20 mA
- Temperature range: - 10° ÷ + 60°C
- Max thermal drift: < 10%
- Degree of protection: IP67
- Cable conductor cross section: 0,75 mm²
- Marking: II 1D IP67 T80°C
  II 1G EEx ia IIC T6
- Certified CESI 03 ATEX 080
- Protected against short-circuit and overload
- Protected against any wrong connection
- Electromagnetic compatibility (EMC) according to EN61000-6-2
- According to: EN50014/EN50020/EN50281-1-1/EN50284
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Safety parameters:

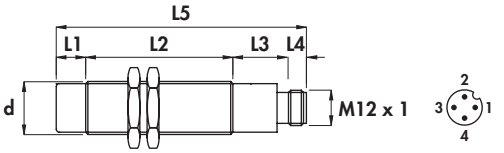
- Vi max: 30 V
- Ii max: 100 mA
- Ci max: 5 nF
- Li max: 750 µH
- Pi max: 660 mW

Use in hazardous area according to instruction manuals

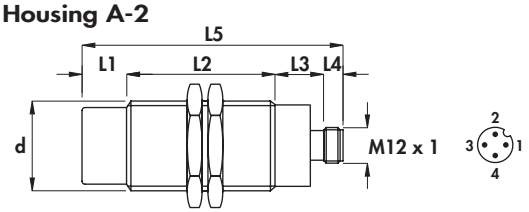
Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Maximum linearity error	No- load supply current	Max switching frequency (f)	Repeat accuracy (R)	Measure range	ORDERING REFERENCES	
														INVERSEL PROPORTIONAL Graph 1	DIRECTLY PROPORTIONAL Graph 2
		mm	mm	mm	mm	mm	mm	mm	%	mA	Hz	%	mm		
B - 2	•	-	50	-	-	50	5	M18 x 1	3	4	250	0,5	2 ÷ 6	**DCL18/4A09A**	**DCL18/4A19A**
B - 2	•	10	40	-	-	50	5	M18 x 1	3	4	250	0,5	3 ÷ 8	**DCL18/5A09A**	**DCL18/5A19A**
G	•	-	50	10	-	60	5	M30 x 1,5	5	4	250	0,5	5 ÷ 12	**DCL30/4609A**	**DCL30/4619A**
G	•	15	35	10	-	60	5	M30 x 1,5	5	4	250	0,5	7 ÷ 18	**DCL30/5609A**	**DCL30/5619A**

• ANALOG LINEAR OUTPUT 4 ÷ 20 mA
• ATEX certified II 1GD for zone 0;20
• Connector output

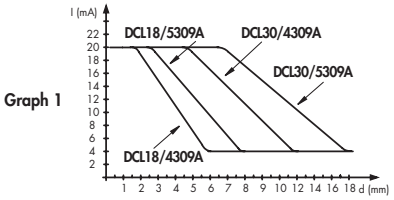
Housing I-12

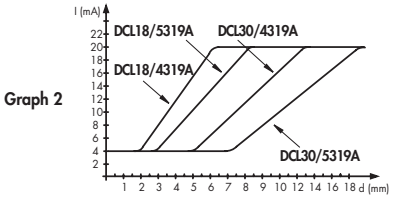


Housing A-2

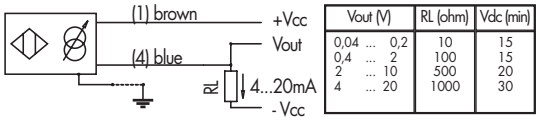


Typical curves





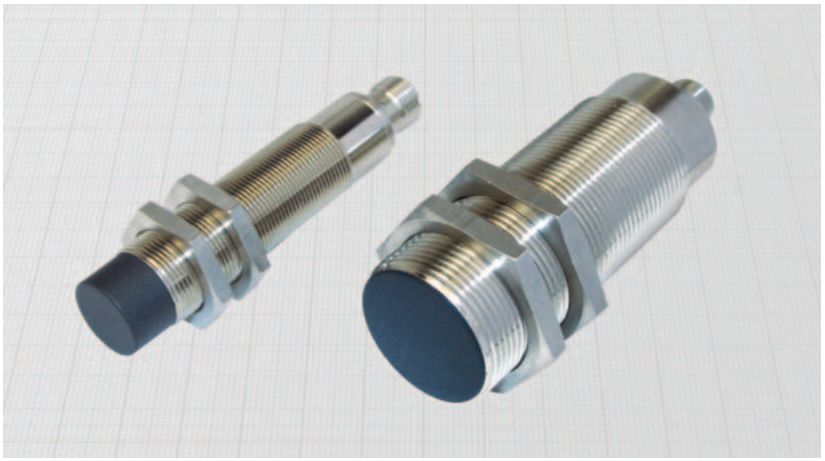
Wiring



Vout (V)	RL (ohm)	Vdc (min)
0,04 ... 0,2	10	15
0,4 ... 2	100	15
2 ... 10	500	20
4 ... 20	1000	30

RL (max) = $\frac{(Vdc-12)}{20}$ KΩ

Diameter		M18 x 1	M30 x 1,5
Nut	Size	SW24	SW36
	Thickness mm	4	5
Max tightening torque Nm		35	50



General Features:

These inductive proximity sensors provide an output current inversely or directly proportional to the distance between sensing face and metal target. The output current is dependent also on the target material. So the proximity sensors in addition to determining distance, displacements, vibrations and distortions can be used to recognize the composition of metal and alloys. It is recommended to use ATEX certified connectors type C8B/002...A or C10/002...A.

Employing the sensor:

The current flowing through the load RL, generates a variation in voltage across the resistor for a suitable value of RL, it is possible to obtain voltage variations from one tenth to 20 V as can be seen in the tables.

Technical data:

- Supply voltage: 15 ÷ 30 Vdc
- Max ripple: 20%
- Output current range: 4 ÷ 20 mA
- Temperature range: - 10° ÷ + 60°C
- Max thermal drift: < 10%
- Degree of protection: IP67
- Marking: II 1D IP67 T80°C
  II 1G EEx ia IIC T6
- Certified CESI 03 ATEX 080
- Protected against short-circuit and overload
- Protected against any wrong connection
- Electromagnetic compatibility (EMC) according to EN61000-6-2
- According to: EN50014/EN50020/EN50281-1-1/EN50284
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Safety parameters:

- Vi max: 30 V
- Ii max: 100 mA
- Ci max: 5 nF
- Li max: 750 µH
- Pi max: 660 mW

Materials:

- Housing: nickel plated brass
- Sensing face: plastic

Use in hazardous area according to instruction manuals

Housing	Flush mounting / Non flush mounting	L1	L2	L3	L4	L5	Female connector Atex	Body diameter (d)	Maximum linearity error	No- load supply current	Max switching frequency (f)	Repeat accuracy (R)	Measure range	ORDERING REFERENCES	
		mm	mm	mm	mm	mm	n°	mm	%	mA	Hz	%	mm	INVERSELY PROPORTIONAL Graph 1	DIRECTLY PROPORTIONAL Graph 2
I - 12	•	-	50	14	10	74	8B - 10	M18 x 1	3	4	250	0,5	2 ÷ 6	**DCL18/4309A**	**DCL18/4319A**
I - 12	•	10	50	14	10	84	8B - 10	M18 x 1	3	4	250	0,5	3 ÷ 8	**DCL18/5309A**	**DCL18/5319A**
A - 2	•	-	65	15	8	88	8B - 10	M30 x 1,5	5	4	250	0,5	5 ÷ 12	**DCL30/4309A**	**DCL30/4319A**
A - 2	•	15	50	15	8	88	8B - 10	M30 x 1,5	5	4	250	0,5	7 ÷ 18	**DCL30/5309A**	**DCL30/5319A**

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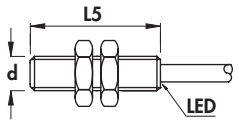
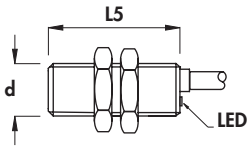
NAMUR SERIES with LED •
ATEX certified II 1GD for zone 0;20 •
Cable output •

Housing B-14



Housing B-15

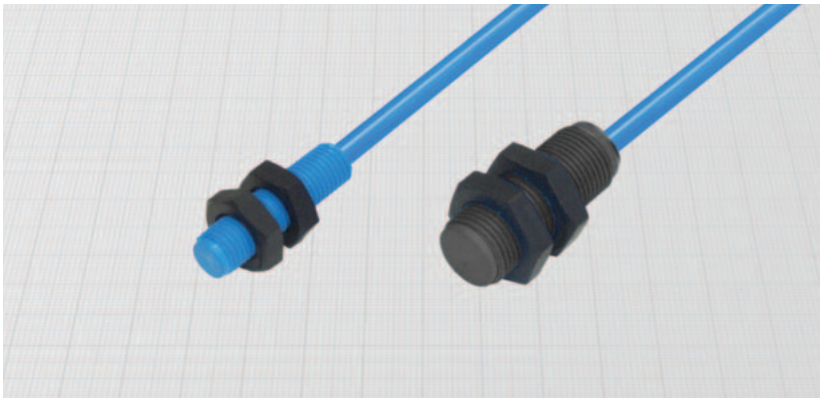


Diameter		M8 x 1	M12 x 1
Nut	Size	SW13	SW17
	Thickness mm	4	4
Max tightening torque Nm		1	1

Materials:

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

(*) Note: For flush mounting version, it's recommended to leave the sensing face outside of metal for a length equal to a half of the external diameter.



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).
The output is internally triggered and monitored by LED.

Technical data:

- Working voltage: 7,7 ÷ 9 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) at 10 mA: < 6,5 V
- Voltage drop (U_d) at 8 mA: < 5 V
- Temperature range: - 20° ÷ + 60°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
- Marking: Ⓔx II 1D IP67 T80°C
  II 1G EEx ia IIC T6
- Certified CESI 03 ATEX 080
- Protected against short-circuit and overload (8 mm not included)
- Protected against any wrong connection
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- According to: EN60947-5-6/EN50014/EN50020/EN50281-1-1/EN50284
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Safety parameters:

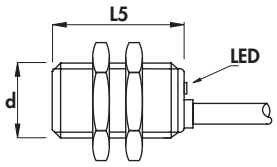
- Vi max: 13,5 V
- Ii max: 60 mA
- Ci max: 100 nF
- Li max: 100 µH
- Pi max: 200 mW

Use in hazardous area according to instruction manuals

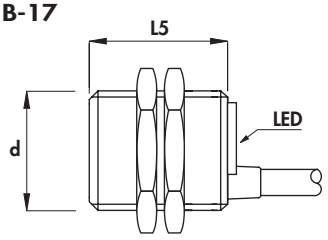
Housing	Flush mounting / Non flush mounting (*)	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Nominal sensing distance (S_n) ± 10%%	Max switching frequency (f)	ORDERING REFERENCES NO	ORDERING REFERENCES NC
		mm	mm	mm	mm	mm	mm	mm	mm	KHz		
B-14	•	-	-	-	-	30	4	M8 x 1	1,5	3	**DC8P/4600SA**	**DC8P/4610SA**
B-14	•	-	-	-	-	30	4	M8 x 1	2,5	2	**DC8P/5600SA**	**DC8P/5610SA**
B-15	•	-	-	-	-	30	4	M12 x 1	2	2	**DC12P/4600KSA**	**DC12P/4610KSA**
B-15	•	-	-	-	-	30	4	M12 x 1	4	1	**DC12P/5600KSA**	**DC12P/5610KSA**

• NAMUR SERIES with LED
• ATEX certified II 1GD for zone 0;20
• Cable output

Housing B-16



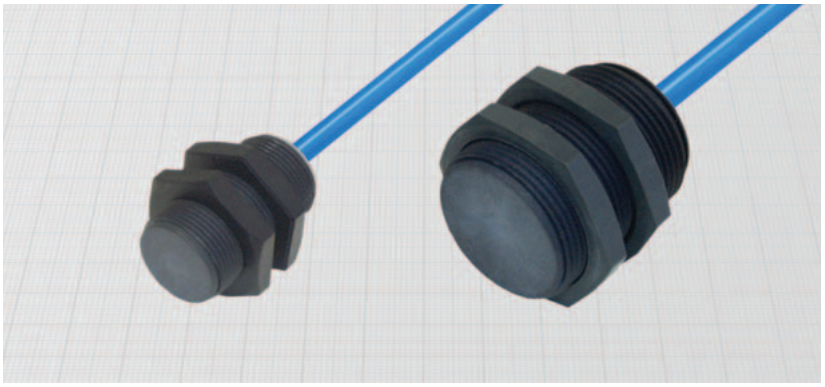
Housing B-17



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

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

(*) Note: For flush mounting version, it's recommended to leave the sensing face outside of metal for a length equal to a half of the external diameter.

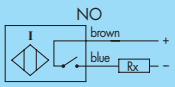
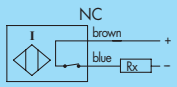


General Features:
With this new series of sensors it's possible to drive specific inputs for NAMUR sensors or inputs for 2 wires amplified switches with low current (up to 10 mA). The load can be applied on both terminals (function PNP or NPN). The output is internally triggered and monitored by LED. The special material of the housing allows the use without additional protections against electrostatic charges.

Technical data:
- Working voltage: 7,7 ÷ 9 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) at 10 mA: < 6,5 V
- Voltage drop (U_d) at 8 mA: < 5 V
- Temperature range: - 20° ÷ + 60°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
- Marking: Ex II 1D IP67 T80°C
  II 1G EEx ia IIC T6
- Certified CESI 03 ATEX 080
- Protected against short-circuit and overload
- Protected against any wrong connection
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- According to: EN60947-5-6/EN50014/EN50020/EN50281-1-1/EN50284
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Safety parameters:
- Vi max: 13,5 V
- Ii max: 60 mA
- Ci max: 100 nF
- Li max: 100 µH
- Pi max: 200 mW

Use in hazardous area according to instruction manuals

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)	ORDERING REFERENCES NO	ORDERING REFERENCES NC
		mm	mm	mm	mm	mm	mm	mm	mm	KHz		
B-16	•	-	-	-	-	30	5	M18 x 1	5	0,8	**DC18P/4600KSA**	**DC18P/4610KSA**
B-16	•	-	-	-	-	30	5	M18 x 1	8	0,6	**DC18P/5600KSA**	**DC18P/5610KSA**
B-17	•	-	-	-	-	35	5	M30 x 1,5	10	0,8	**DC30P/4600KSA**	**DC30P/4610KSA**
B-17	•	-	-	-	-	35	5	M30 x 1,5	15	0,4	**DC30P/5600KSA**	**DC30P/5610KSA**

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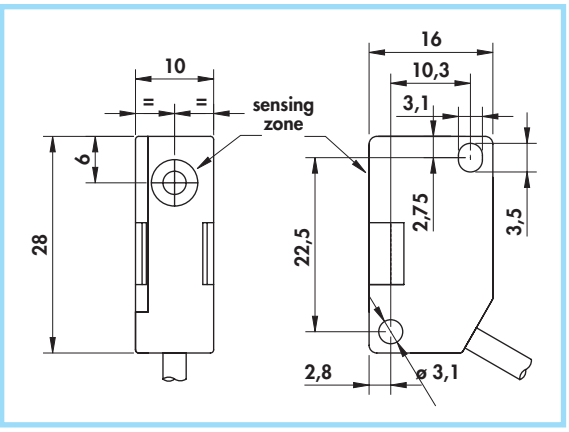
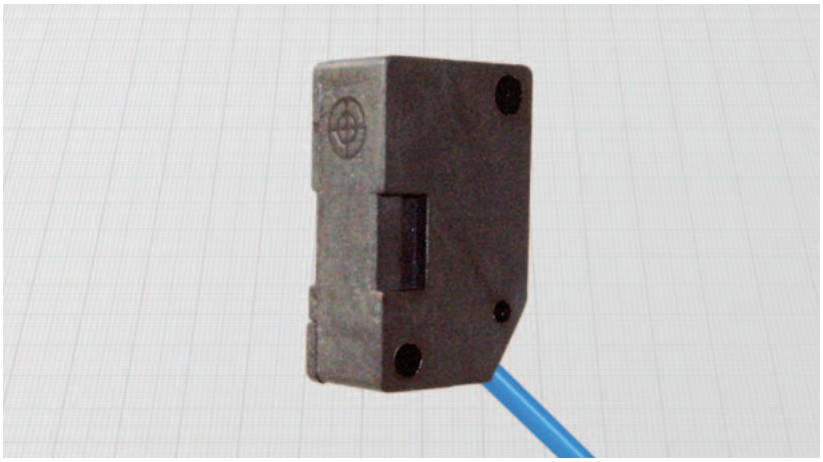
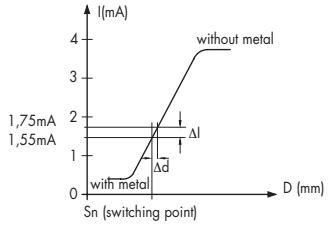
NAMUR SERIES - Type Z •
ATEX certified II 1GD for zone 0;20 •
Cable output •





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 holes position as a type V3 microswith. The cable position allows the mounting on every side of the housing. The special material of the housing allows the use without additional protections against electrostatic charges.

Technical data:

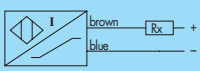
- Supply voltage according to NAMUR: 7,7 ÷ 9 Vdc
- Max ripple: 10%
- Consumption at 8,2 V with Rx = 1000 Ω
  - with metal: ≤ 1 mA
  - without metal: ≥ 3 mA
- Temperature range: - 20° ÷ + 60°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Degree of protection according to EN60529: IP67
- Cable conductor cross section: 0,15 mm²
- Marking: Ⓔx II 1D IP67 T80°C
  II 1G EEx ia IIC T6

- Certified CESI 03 ATEX 080
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- According to: EN60947-5-6/EN50014/EN50020/EN50281-1-1/EN50284
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

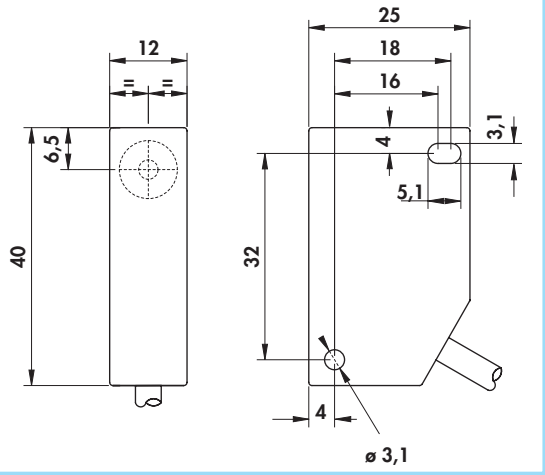
Safety parameters:

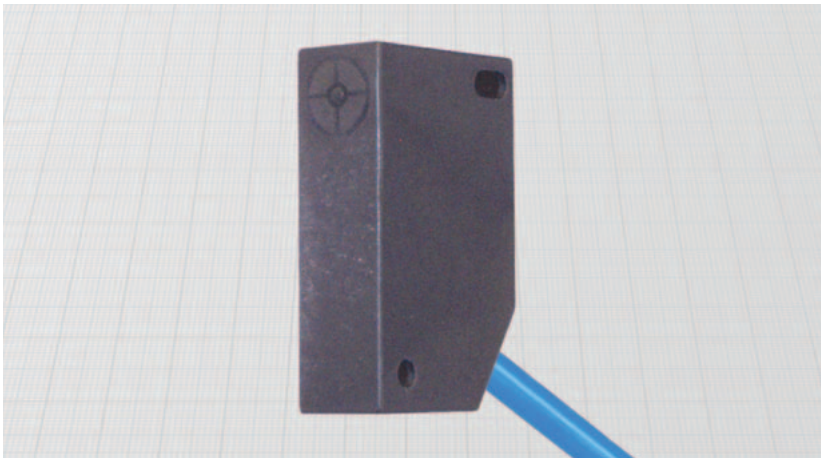
- Vi max: 13,5 V
- Ii max: 60 mA
- Ci max: 100 nF
- Li max: 100 µH
- Pi max: 200 mW

Use in hazardous area according to instruction manuals

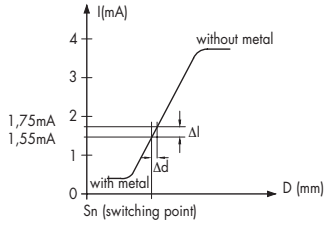
Flush mounting / Non flush mounting	Cable diameter	Sensing zone diameter	Nominal sensing distance (S_n) ± 10%%	Max switching frequency (f)	ORDERING REFERENCES
	mm	mm	mm	KHz	
•	3	9	2	1	**DCZ/4600A**
•	3	9	4	0,8	**DCZ/5600A**

- **NAMUR SERIES - Type T**
- **ATEX certified II 1GD for zone 0;20**
- Cable output





Typical curve



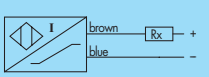
Materials:
- Cable: 2 m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: plastic

General Features:
In this type of housing the cable position allows the mounting on every side of the housing. The special material of the housing allows the use without additional protections against electrostatic charges.

Technical data:
- 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: - 20° ÷ + 60°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Degree of protection according to EN60529: IP67
- Cable conductor cross section: 0,35 mm²
- Marking: Ⓔx II 1D IP67 T80°C
  II 1G EEx ia IIC T6
- Certified CESI 03 ATEX 080
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- According to: EN60947-5-6/EN50014/EN50020/EN50281-1-1/EN50284
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Safety parameters:
- Vi max: 13,5 V
- Ii max: 60 mA
- Ci max: 100 nF
- Li max: 100 µH
- Pi max: 200 mW

Use in hazardous area according to instruction manuals

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

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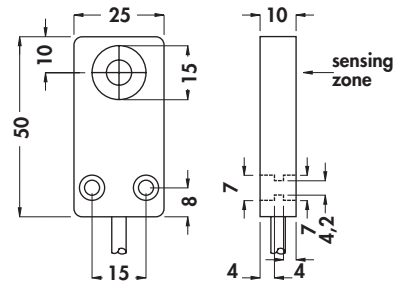
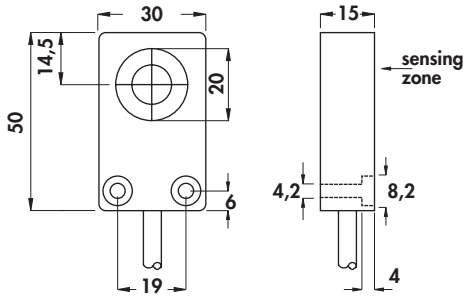
NAMUR SERIES - X and Y Type • ATEX certified II 1GD for zone 0;20 • Cable output •

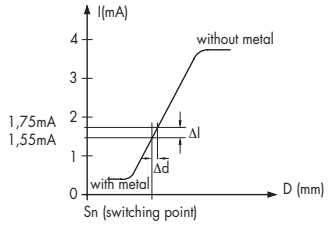
Housing N



Housing N-2

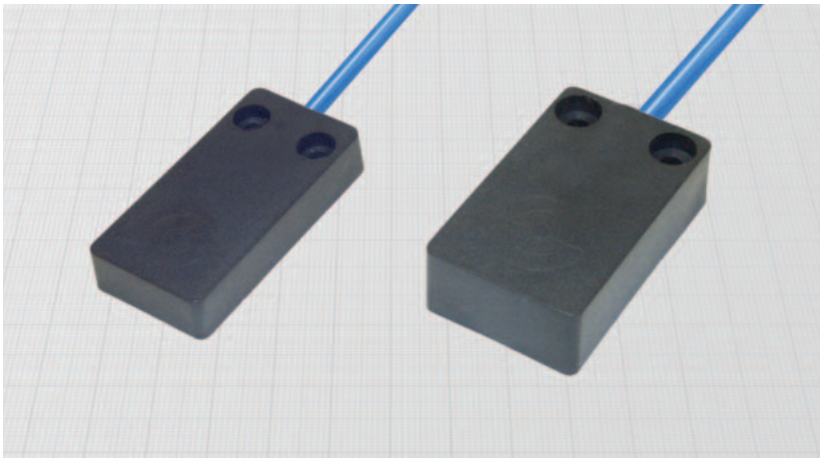


Typical curve



Materials:

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



General Features:

This series of sensors is ideal for limited space applications. The particular material of the housing allows the use without additional protections against electrostatic charges.

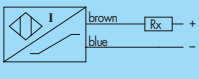
Technical data:

- 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: - 20° ÷ + 60°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Degree of protection according to EN60529: IP67
- Cable conductor cross section: 0,35 mm²
- Marking: II 1D IP67 T80°C
  II 1G EEx ia IIC T6
- Certified CESI 03 ATEX 080
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- According to: EN60947-5-6/EN50014/EN50020/EN50281-1-1/EN50284
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

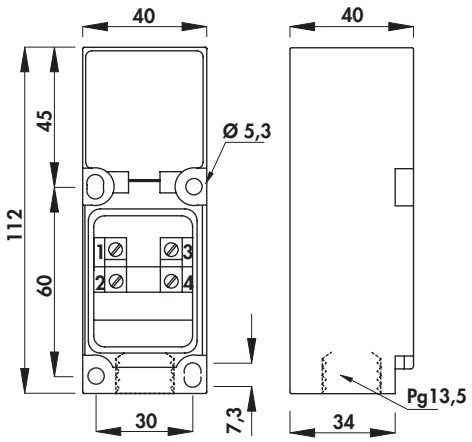
Safety parameters:

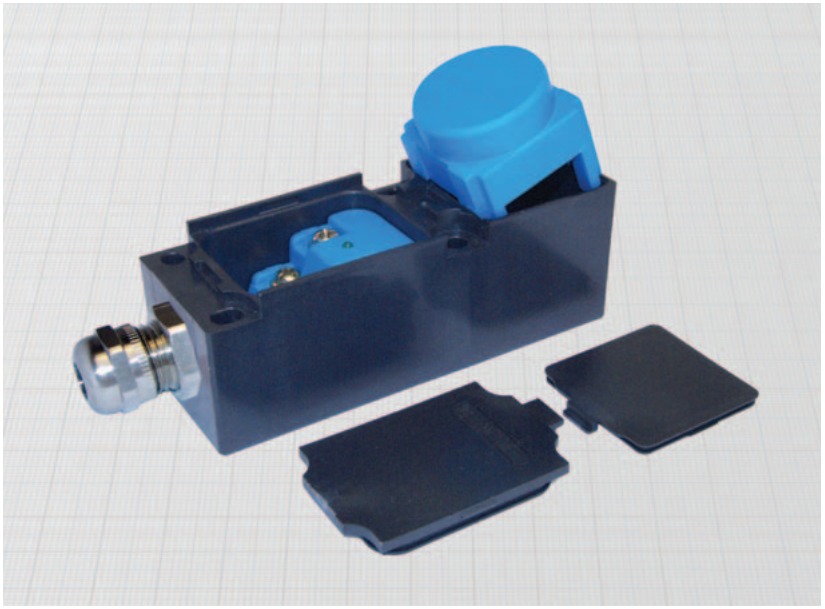
- Vi max: 13,5 V
- Ii max: 60 mA
- Ci max: 100 nF
- Li max: 100 µH
- Pi max: 200 mW

Use in hazardous area according to instruction manuals

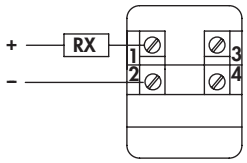
Housing	Flush mounting / Non flush mounting	Cable diameter	Sensing zone diameter	Nominal sensing distance (S_n) ±10%	Max switching frequency (f)	ORDERING REFERENCES
		mm	mm	mm	KHz	
N	•	4	15	5	2	**DCX/4700A**
N	•	4	15	8	1	**DCX/5700A**
N-2	•	4	23	10	0,8	**DCY/4700A**
N-2	•	4	23	15	0,4	**DCY/5700A**

• NAMUR SERIES - Type P - 5 Positions head
• ATEX certified II 1G for zone 0
• Terminal block output

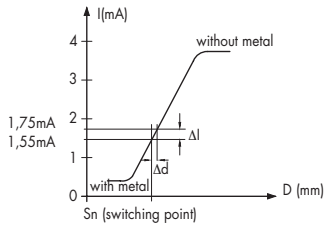




Connecting diagram



Typical curve



Materials:

- Gland: nickel plated brass
- Housing: plastic

General Features:

These sensors are described as "revolving head" because the actual sensor head, inside the plastic body, can be arranged in 5 different positions. To choose the desired direction it is sufficient to remove the cover, remove the head and positioning it according to the user's particular requirements. The internal terminal block can be reached easily by removing the front cover. The particular plastic material allows the use without additional protections against electrostatic charges.

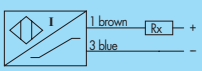
Technical data:

- 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: - 20° ÷ + 60°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Degree of protection according to EN60529 (with fully locked gland): IP65
- Marking: Ex II 1G EEx ia IIC T6
- Certified CESI 03 ATEX 080
- According to: EN60947-5-6/EN50014/EN50020/EN50284
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Safety parameters:

- Vi max: 13,5 V
- Ii max: 60 mA
- Ci max: 100 nF
- Li max: 100 µH
- Pi max: 200 mW

Use in hazardous area according to instruction manuals

Flush mounting / Non flush mounting	Revolving head diameter	Nominal sensing distance (S_n) ±10%	Max switching frequency (f)	ORDERING REFERENCES
	mm	mm	KHz	
•	35	15	0,2	**DCP/4700A**
•	35	20	0,2	**DCP/5700A**

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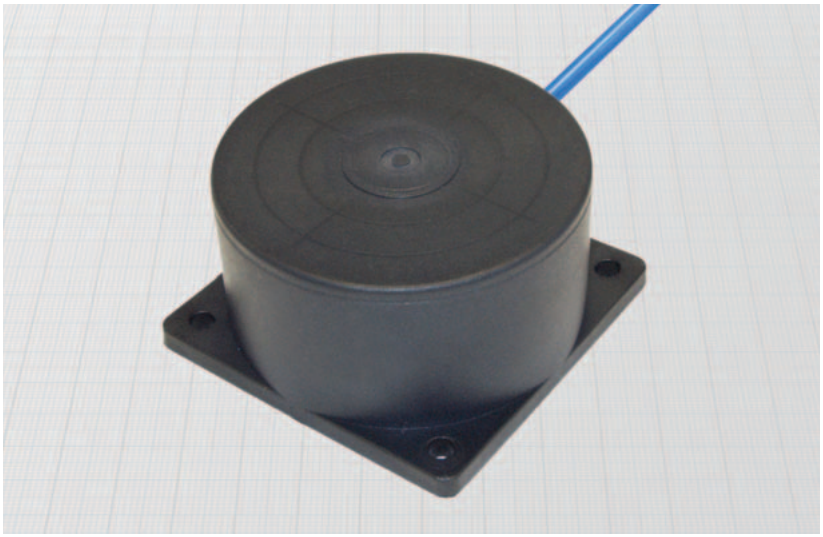
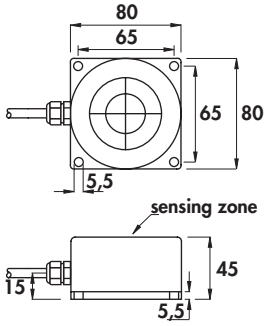
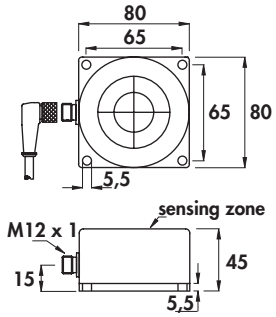
NAMUR SERIES - diameter 80 mm • ATEX certified II 1GD for zone 0;20 • Cable and connector output•



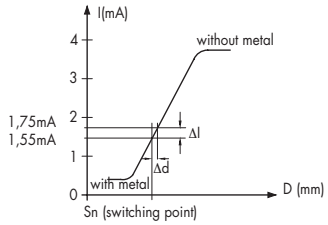
Housing P



Housing P-1



Typical curve



Materials:

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

General Features:

Suitable for detection of large targets. The special material of the housing allows the use without additional protections against electrostatic charges.

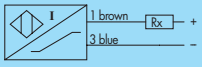
Technical data:

- 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: - 20° ÷ + 60°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Degree of protection according to EN60529: IP67
- Cable conductor cross section: 0,75 mm²
- Marking: Ex II 1D IP67 T80°C
  II 1G EEx ia IIC T6
- Certified CESI 03 ATEX 080
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- According to: EN60947-5-6/EN50014/EN50020/EN50281-1-1/EN50284
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Safety parameters:

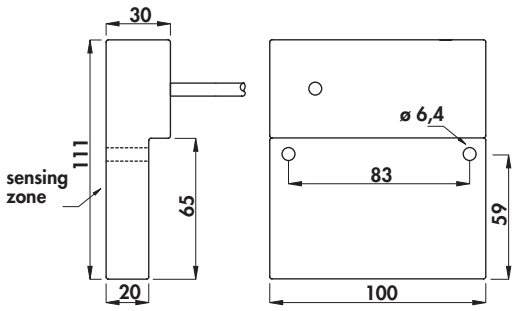
- Vi max: 13,5 V
- Ii max: 60 mA
- Ci max: 100 nF
- Li max: 100 µH
- Pi max: 200 mW

Use in hazardous area according to instruction manuals

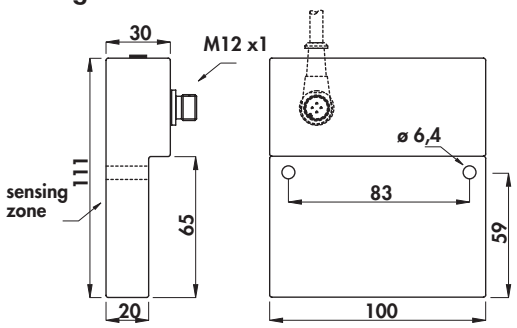
Housing	Flush mounting Non flush mounting	Cable diameter	Female connector Atex	Body diameter (d)	Nominal sensing distance (S_n) ±10%	Max switching frequency (f)	ORDERING REFERENCES
		mm	n°	mm	mm	KHz	
P	•	5	-	80	40	0,5	**DC80/5800A**
P - 1	•	-	8B - 10	80	40	0,5	**DC80/5300A**

- **NAMUR SERIES - Type R**
- **ATEX certified II 1GD for zone 0;20**
- Cable and connector output

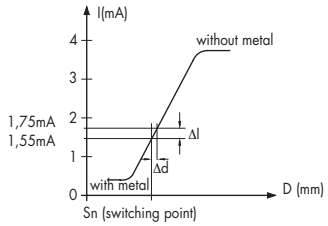
Housing R-1

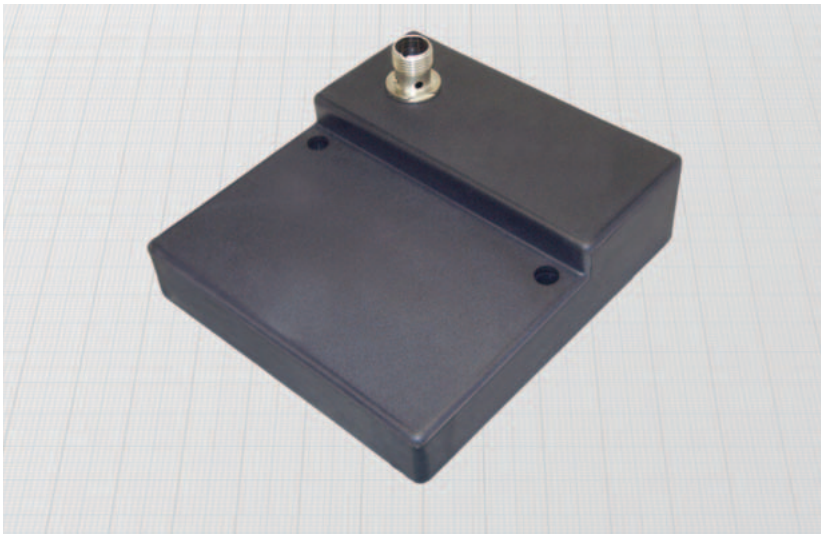


Housing R-2



Typical curve





Materials:

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

General Features:

Suitable for detection of large targets. The special material of the housing allows the use without additional protections against electrostatic charges.

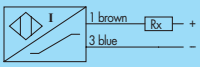
Technical data:

- 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: - 20° ÷ + 60°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Degree of protection according to EN60529: IP67
- Cable conductor cross section: 0,75 mm²
- Marking: II 1D IP67 T80°C
  II 1G EEx ia IIC T6
- Certified CESI 03 ATEX 080
- Electromagnetic compatibility (EMC) according to EN60947-5-2
- According to: EN60947-5-6/EN50014/EN50020/EN50281-1-1/EN50284
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Safety parameters:

- Vi max: 13,5 V
- Ii max: 60 mA
- Ci max: 100 nF
- Li max: 100 µH
- Pi max: 200 mW

Use in hazardous area according to instruction manuals

Housing	Flush mounting Non flush mounting	Cable diameter	Female connector Atex	Sensing zone diameter	Nominal sensing distance (S_n) ±10%	Max switching frequency (f)	ORDERING REFERENCES
		mm	n°	mm	mm	KHz	
R - 1	•	5	-	75	55	0,3	**DCR/5800A**
R - 2	•	-	8B - 10	75	55	0,3	**DCR/5300A**

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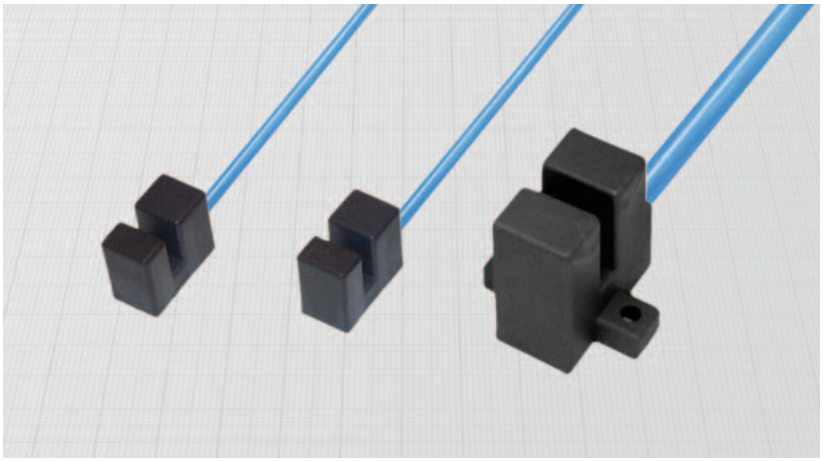
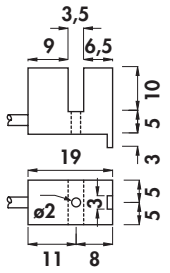
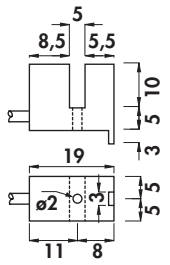
Cable output •



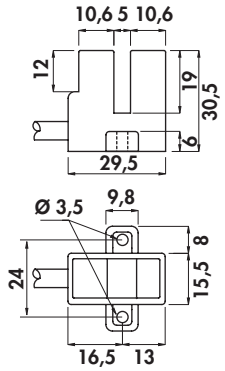
Housing U



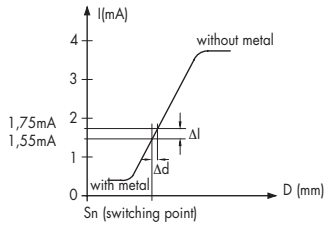
Housing Q



Housing S



Typical curve



Materials:

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

General Features:

These sensors are able to detect the presence of a metal blade into the slot. The switching point of the output happens when about the 70% of internal faces is covered by the blade. The special material of the housing allows the use without additional protections against electrostatic charges.

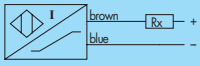
Technical data:

- 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: - 20° ÷ + 60°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Degree of protection according to EN60529: IP67
- Cable conductor cross section: 0,14 mm² on DF3,5/.... and DF5/... 0,75 mm² on DF6/...
- Marking: Ex II 1D IP67 T80°C II 1G EEx ia IIC T6
- Certified CESI 03 ATEX 080
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- According to: EN60947-5-6/EN50014/EN50020/EN50281-1-1/EN50284
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Safety parameters:

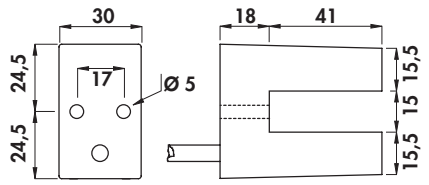
- Vi max: 13,5 V
- Ii max: 60 mA
- Ci max: 100 nF
- Li max: 100 µH
- Pi max: 200 mW

Use in hazardous area according to instruction manuals

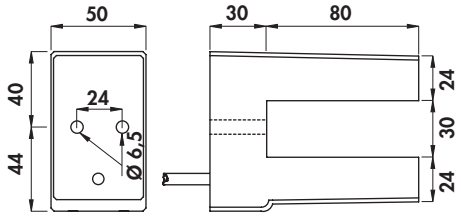
Housing	Cable diameter	Gap width	Max switching frequency (f)	Minimum penetration	ORDERING REFERENCES
	mm	mm	KHz	mm	
U	3	3,5	3	5	**DF3,5/4600A**
Q	3	5	3	5	**DF5/4600A**
S	5	5	1	9	**DF6/4600A**

• NAMUR SERIES
• ATEX certified II 1GD for zone 0;20
• Cable output

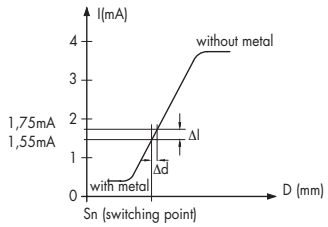
Housing T

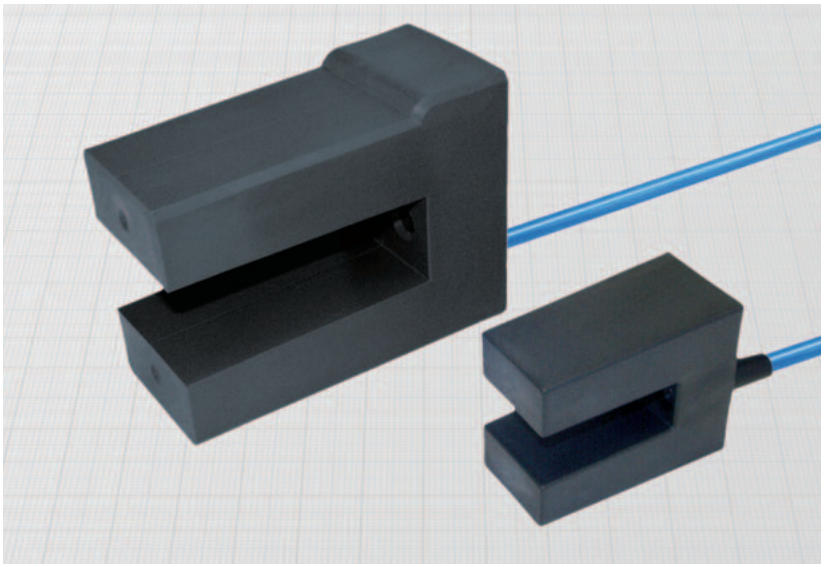


Housing V



Typical curve





Materials:

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

General Features:

These sensors are able to detect the presence of a metal blade into the slot.
The switching point of the output happens when about the 70% of internal faces is covered by the blade. The special material of the housing allows the use without additional protections against electrostatic charges.

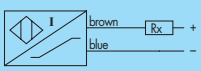
Technical data:

- 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: - 20° ÷ + 60°C
- Max thermal drift of sensing distance S_r: ± 10%
- Repeat accuracy (R): 2%
- Degree of protection according to EN60529: IP67
- Cable conductor cross section: 0,75 mm²
- Marking: II 1D IP67 T80°C
  II 1G EEx ia IIC T6
- Certified CESI 03 ATEX 080
- Electromagnetic compatibility (EMC) according to EN60947-5-2
- According to: EN60947-5-6/EN50014/EN50020/EN50281-1-1/EN50284
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Safety parameters:

- Vi max: 13,5 V
- Ii max: 60 mA
- Ci max: 100 nF
- Li max: 100 µH
- Pi max: 200 mW

Use in hazardous area according to instruction manuals

Housing	Cable diameter	Gap width	Max switching frequency (f)	Minimum penetration	ORDERING REFERENCES
	mm	mm	KHz	mm	
T	5	15	0,8	16	**DF15/4600A**
V	5	30	0,3	30	**DF30/4600A**

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NAMUR SERIES •
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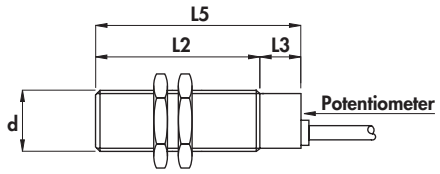
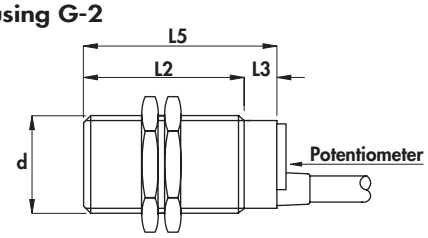
Cable output •

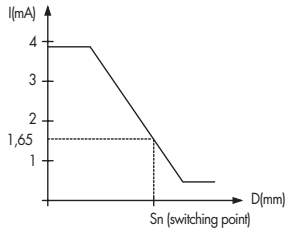
Housing C-1



Housing G-2



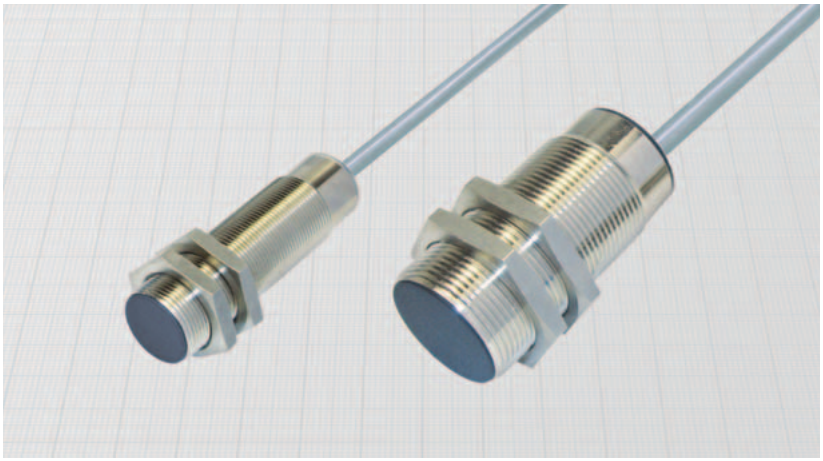
Typical curve



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:

The capacitive sensors are used for detecting any material. Some materials, especially if liquid or metallic, can be detected also through plastic or glass walls. They can be used for various applications: level control in storage bins or tanks; survey filling bottles; rain sensor; anti-vandalism tab; etc. The adjustment of sensing distance is made by a potentiometer at the back of the housing.

Technical data:

- Supply voltage according to NAMUR: 7,7 ÷ 9 Vdc
- Max ripple: 10%
- Consumption at 8,2 V with Rx = 1000 Ω
  - with metal: ≥ 3 mA
  - without metal: ≤ 1 mA
- Temperature range: - 20° ÷ + 60°C
- Max thermal drift of sensing distance S_r: ± 20%
- Repeat accuracy (R): 4%
- Degree of protection: IP65
- Cable conductor cross section: 0,75 mm²
- Marking: II 1D IP67 T80°C
  II 1G EEx ia IIC T6

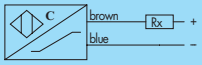
- Certified CESI 03 ATEX 080
- Electromagnetic compatibility (EMC) according to EN60947-5-2 CE
- According to: EN60947-5-6/EN50014/EN50020/EN50281-1-1/EN50284
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Safety parameters:

- Vi max: 13,5 V
- Ii max: 60 mA
- Ci max: 100 nF
- Li max: 100 µH
- Pi max: 200 mW

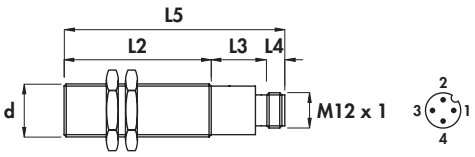
Use in hazardous area according to instruction manuals

Reduction factor of the sensing distance for different target materials (T amb = 25°C)						
Steel	Glass	PVC	Cloth	Paper	Wood	Water
1	0,5	0,5	0,15	0,1	0,25	1

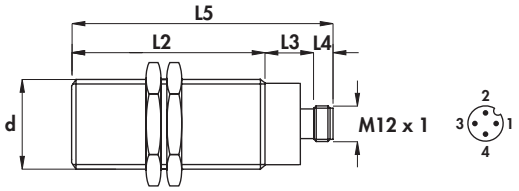
Housing	Flush mounting Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Nominal sensing distance (S_n) ±10% (trimmable)	Max switching frequency (f)	ORDERING REFERENCES
		mm	mm	mm	mm	mm	mm	mm	mm	Hz	
C	•	-	50	10	-	60	5	M18 x 1	2 ÷ 5	100	**NKS18/4600A**
G	•	-	50	10	-	60	5	M30 x 1,5	4 ÷ 10	100	**NKS30/4600A**

• NAMUR SERIES
• ATEX certified II 1GD for zone 0;20
• Connector output

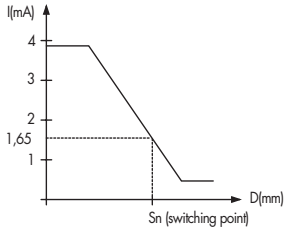
Housing I-13



Housing A-5



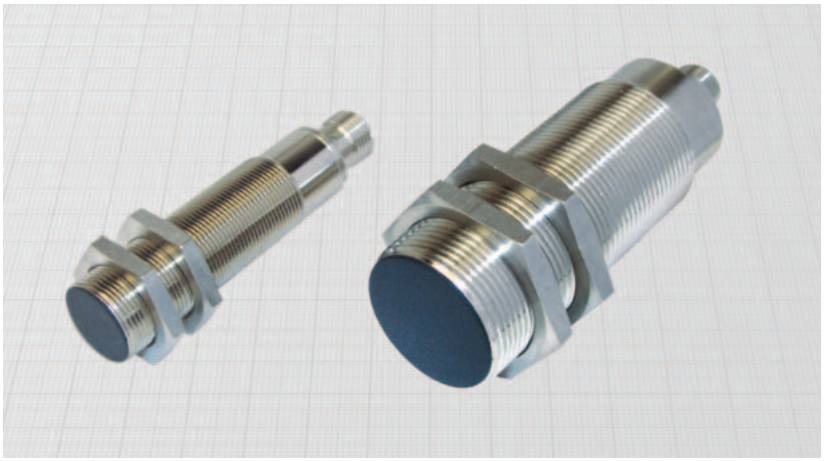
Typical curve



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:

The capacitive sensors are used for detecting any material. Some materials, especially if liquid or metallic, can be detected also through plastic or glass walls. They can be used for various applications: level control in storage bins or tanks; survey filling bottles; rain sensor; anti-vandalism tab; etc.

Technical data:

- Supply voltage according to NAMUR: 7,7 ÷ 9 Vdc
- Max ripple: 10%
- Consumption at 8,2 V with Rx = 1000 Ω
  - with metal: ≥ 3 mA
  - without metal: ≤ 1 mA
- Temperature range: - 20° ÷ + 60°C
- Max thermal drift of sensing distance S_r: ± 20%
- Repeat accuracy (R): 4%
- Degree of protection according to EN60529: IP67
- Marking: II 1D IP67 T80°C
  II 1G EEx ia IIC T6

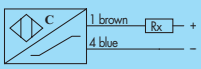
- Certified CESI 03 ATEX 080
- Electromagnetic compatibility (EMC) according to EN60947-5-2
- According to: EN60947-5-6/EN50014/EN50020/EN50281-1-1
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Safety parameters:

- Vi max: 13,5 V
- Ii max: 60 mA
- Ci max: 100 nF
- Li max: 100 µH
- Pi max: 200 mW

Use in hazardous area according to instruction manuals

Reduction factor of the sensing distance for different target materials (T amb = 25°C)						
Steel	Glass	PVC	Cloth	Paper	Wood	Water
1	0,5	0,5	0,15	0,1	0,25	1

Housing	Flush mounting Non flush mounting	L1	L2	L3	L4	L5	Female connector Atex	Body diameter (d)	Nominal sensing distance (S_n) ±10%	Max switching frequency (f)	ORDERING REFERENCES
		mm	mm	mm	mm	mm	n°	mm	mm	Hz	
I - 13	•	-	50	14	10	74	8B - 10	M18 x 1	5	100	**NKS18/4300A**
A - 5	•	-	65	15	8	88	8B - 10	M30 x 1,5	10	100	**NKS30/4300A**

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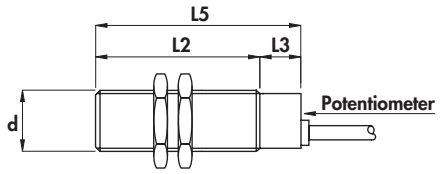
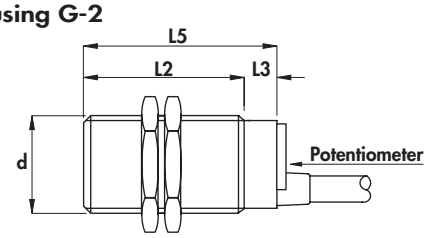
ATEX certified II 1GD for zone 0;20 •
Cable output •

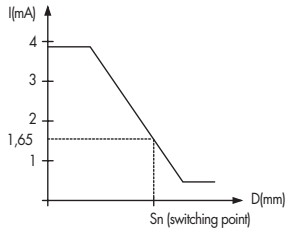
Housing C-1



Housing G-2



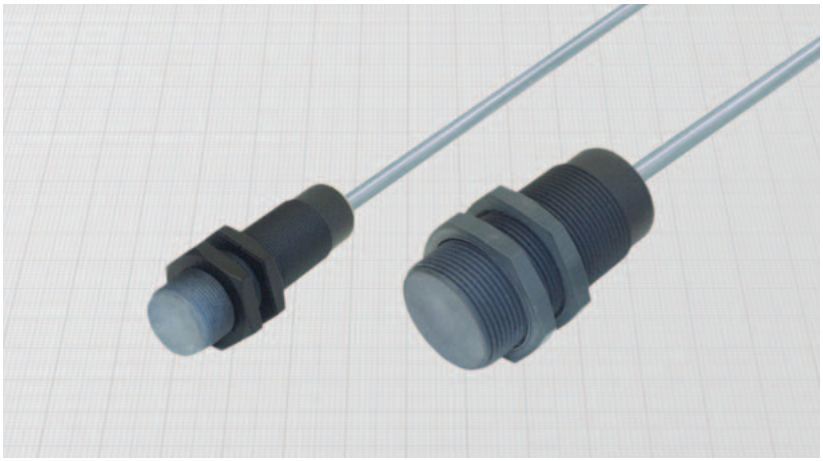
Typical curve



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

Materials:

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



General Features:

The capacitive sensors are used for detecting any material. Some materials, especially if liquid or metallic, can be detected also through plastic or glass walls. They can be used for various applications: level control in storage bins or tanks; survey filling bottles; rain sensor; anti-vandalism tab; etc. The adjustment of sensing distance is made by a potentiometer at the back of the housing.

Technical data:

- Supply voltage according to NAMUR: 7,7 ÷ 9 Vdc
- Max ripple: 10%
- Consumption at 8,2 V with Rx = 1000 Ω
  - with metal: ≥ 3 mA
  - without metal: ≤ 1 mA
- Temperature range: - 20° ÷ + 60°C
- Max thermal drift of sensing distance S_r: ± 20%
- Repeat accuracy (R): 4%
- Degree of protection: IP65
- Cable conductor cross section: 0,75 mm²
- Marking: II 1D IP67 T80°C
  II 1G EEx ia IIC T6

- Certified CESI 03 ATEX 080
- Electromagnetic compatibility (EMC) according to EN60947-5-2
- According to: EN60947-5-6/EN50014/EN50020/EN50281-1-1
- Shock and vibration resistance according to EN60068-2-27 EN60068-2-6

Safety parameters:

- Vi max: 13,5 V
- Ii max: 60 mA
- Ci max: 100 nF
- Li max: 100 µH
- Pi max: 200 mW

Use in hazardous area according to instruction manuals

Reduction factor of the sensing distance for different target materials (T amb = 25°C)						
Steel	Glass	PVC	Cloth	Paper	Wood	Water
1	0,5	0,5	0,15	0,1	0,25	1

Housing	Flush mounting Non flush mounting	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Nominal sensing distance (S_n) ±10% (trimmable)	Max switching frequency (f)	ORDERING REFERENCES
		mm	mm	mm	mm	mm	mm	mm	mm	Hz	brown Rx + blue -
C - 1	•	-	50	10	-	60	5	M18 x 1	2 ÷ 5	100	**NKS18P/4600A**
G - 2	•	-	50	10	-	60	5	M30 x 1,5	4 ÷ 10	100	**NKS30P/4600A**

The real appearance of the devices may be different from the parts showed on the pictures.

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