

Proximity Switches Inductive

CARLO GAVAZZI

Product overview



Stainless steel
and polyester
housings

Proximity Switches Inductive

Today's growing automation needs inductive proximity switches to fulfill a wide variety of tasks, i.e.

limit switches for distance, position and speed measuring, counting, quality control, etc.

Within the complete range of Electromatic proximity switches you will find an appropriate sensor for your specific needs:

- Cylindrical housings
- Cable and connector types
- Sensing distances from 0.8 to 40 mm
- Housings in stainless steel and polyester
- Special versions with long sensing distances
- Special housings in fork and ring design
- 2 wire AC-, Namur- and 3 wire DC- versions
- Short circuit protected
- Reverse polarity protected
- LED indication for output ON

Electromatic inductive proximity switches profit from the long experience and the high quality level of a leading Scandinavian manufacturer. For its proximity switches in metal housings Electromatic chose stainless steel as a standard – the best material for arduous applications.

Advanced production facilities with a high share of automation offer more production flexibility with short delivery times for you.

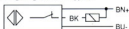
Common Data DC Types

Supply voltage range	10 to 40 VDC
EI types	7 to 30 VDC
ø4, M5	
D types	24 VDC ± 10 %
Ripple	max. 10 %
Output current	200 mA
ø4, M5	150 mA
Current consumption	ca. 7 mA
Voltage drop	ca. 1.5 VDC
Short circuit protection ¹⁾	EI types
Reverse polarity protection	all types
LED indication	EI types
Ambient temperature	-25 to +70 °C
Degree of protection	IP 67

Operating frequency:

	flush mounting	non flush mounting
ø4	1000 Hz	
M5	1000 Hz	
ø6.5	2000 Hz	
M8	2000 Hz	600 Hz
M12	800 Hz	400 Hz
M14	2000 Hz	1000 Hz
M18	500 Hz	200 Hz
M30	300 Hz	100 Hz
PG21	500 Hz	
ø50		200 Hz
ø70		100 Hz
Fork & Ring	1000 to 2000 Hz	

Wiring diagram NPN types



Wiring diagram PNP types



¹⁾ Switches with polyester housings are also available in non short circuit protected version

Common Data AC Types

Supply voltage range	20 to 250 VAC
	45 to 65 Hz
Output current	150 to 250 mA
Minimum load current	ca. 8 mA
Leakage current	ca. 2 mA
Voltage drop	ca. 8.5 VAC
LED indication	all types
Ambient temperature	-25 to +70 °C
Degree of protection	IP 67
Operating frequency	25 Hz

Wiring diagram



Common Data Namur Types

Supply voltage range	6 to 25 VDC
EI types	7.7 to 9 VDC
D types	
Ripple	max. 10 %
Nominal supply voltage	8.2 VDC / 1 kV
Current consumption	
damped	< 1.0 mA
undamped	> 2.2 mA
max.	9.3 mA
Reverse polarity protection	EI types
Ambient temperature	-25 to +70 °C
Degree of protection	IP 67

Operating frequency:

	flush mounting	non flush mounting
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Metal types

ø6.5	2000 Hz	
M8	2000 Hz	1000 Hz
M12	800 Hz	400 Hz
M14	2000 Hz	1000 Hz
M18	500 Hz	200 Hz
M30	300 Hz	100 Hz
PG21	1000 Hz	

Plastic types

ø6.5	2000 Hz	
M12	1500 Hz	1000 Hz
M18	500 Hz	300 Hz
M30	500 Hz	200 Hz
ø50		250 Hz
ø70		100 Hz
Fork & Ring	1000 to 2000 Hz	

Wiring diagram



Housing Materials

Metal housings	Stainless steel or Nickel plated brass
Plastic housings	Polyester

Cables

	Standard execution:
DC types	2m, 3 x 0.30 mm ²
ø4, M5	2m, 3 x 0.14 mm ²
	PVC, oil proof
Namur types	2m, 2 x 0.5 mm ²
	PVC, oil proof
AC types	2m, 2 x 0.5 mm ²
	PVC, oil proof

Note:
Common data may slightly differ for certain items.

For more detailed information please ask for product catalogue "Proximity Switches".

Cylindrical, DC/AC

ø 4 0.8 mm Stainless steel housing

Flush mounting
Cable

Ordering no.

Stainless steel housing

Cable

Ordering no.



DC	pnp		EI 0401 PPOS	●
DC	pnp		EI 0401 PPCS	
DC	npn		EI 0401 NPOS	
DC	npn		EI 0401 NPCS	



AC	SCR		EI 1202 TBOS	●
AC	SCR		EI 1202 TBOS	

EI 1202 TBOS	●
EI 1202 TBOS	

M5 0.8 mm Stainless steel housing

Flush mounting
Cable

DC	pnp		EI 0501 PPOS	●
DC	pnp		EI 0501 PPCS	
DC	npn		EI 0501 NPOS	
DC	npn		EI 0501 NPCS	

Stainless steel housing

Plug

EI 1202 PPOS-1	●
EI 1202 PPCS-1	
EI 1202 NPOS-1	●
EI 1202 NPCS-1	



DC	pnp		EI 1202 PPOS-1	●
DC	pnp		EI 1202 PPCS-1	
DC	npn		EI 1202 NPOS-1	●
DC	npn		EI 1202 NPCS-1	

ø 6.5 1 mm Stainless steel housing

Flush mounting
Cable

DC	pnp		EI 0601 PPOS	●
DC	pnp		EI 0601 PPCS	
DC	npn		EI 0601 NPOS	
DC	npn		EI 0601 NPCS	

M12 4 mm

Stainless steel housing

Non flush mounting
Cable

EI 1204 PPOS	●
EI 1204 PPCS	
EI 1204 NPOS	●
EI 1204 NPCS	



DC	pnp		EI 1204 PPOS	●
DC	pnp		EI 1204 PPCS	
DC	npn		EI 1204 NPOS	●
DC	npn		EI 1204 NPCS	

M8 1 mm Stainless steel housing

Flush mounting
Cable

DC	pnp		EI 0801 PPOS	●
DC	pnp		EI 0801 PPCS	
DC	npn		EI 0801 NPOS	●
DC	npn		EI 0801 NPCS	

Stainless steel housing

Plug

EI 1204 TBOS	●
EI 1204 TBOS	



AC	SCR		EI 1204 TBOS	●
AC	SCR		EI 1204 TBOS	

Stainless steel housing

Plug

DC	pnp		EI 0801 PPOS-1	●
DC	pnp		EI 0801 PPCS-1	
DC	npn		EI 0801 NPOS-1	●
DC	npn		EI 0801 NPCS-1	

Stainless steel housing

Plug

EI 1204 PPOS-1	●
EI 1204 PPCS-1	
EI 1204 NPOS-1	●
EI 1204 NPCS-1	



DC	pnp		EI 1204 PPOS-1	●
DC	pnp		EI 1204 PPCS-1	
DC	npn		EI 1204 NPOS-1	●
DC	npn		EI 1204 NPCS-1	

M8 2 mm Stainless steel housing

Non flush mounting
Cable

DC	pnp		EI 0802 PPOS	●
DC	pnp		EI 0802 PPCS	
DC	npn		EI 0802 NPOS	●
DC	npn		EI 0802 NPCS	

Polyester housing ¹⁾

Cable

EI 1204 PPOP	
EI 1204 PPCP	
EI 1204 NPOP	
EI 1204 NPCP	



DC	pnp		EI 1204 PPOP	
DC	pnp		EI 1204 PPCP	
DC	npn		EI 1204 NPOP	
DC	npn		EI 1204 NPCP	

Stainless steel housing

Plug

DC	pnp		EI 0802 PPOS-1	●
DC	pnp		EI 0802 PPCS-1	
DC	npn		EI 0802 NPOS-1	●
DC	npn		EI 0802 NPCS-1	

M14 2 mm
Nickel plated brass
housing

Flush mounting
Cable

DJ 2 GE



DC	npn		DJ 2 GE	
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M12 2 mm Stainless steel housing

Flush mounting
Cable

DC	pnp		EI 1202 PPOS	●
DC	pnp		EI 1202 PPCS	
DC	npn		EI 1202 NPOS	●
DC	npn		EI 1202 NPCS	

M14 5 mm
Nickel plated brass
housing

Non flush mounting
Cable

DJ 5 GE



DC	npn		DJ 5 GE	
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¹⁾ Non short circuit protected version also available

Proximity Switches Inductive



Cylindrical, DC/AC (cont.)

M18 5 mm

Stainless steel housing



Flush mounting Cable		Ordering no.	
DC	pnp	EI 1805 PPOS	●
DC	pnp	EI 1805 PPCS	●
DC	npn	EI 1805 NPOS	●
DC	npn	EI 1805 NPCS	●
AC	SCR	EI 1805 TBOS	●
AC	SCR	EI 1805 TBCS	●

Stainless steel housing

Plug



DC	pnp	EI 1805 PPOS-1	●
DC	pnp	EI 1805 PPCS-1	●
DC	npn	EI 1805 NPOS-1	●
DC	npn	EI 1805 NPCS-1	●

Polyester housing ¹⁾

Cable



DC	pnp	EI 1805 PPOP	●
DC	pnp	EI 1805 PPCP	●
DC	npn	EI 1805 NPOP	●
DC	npn	EI 1805 NPCP	●
AC	SCR	EI 1805 TBOP	●
AC	SCR	EI 1805 TBCP	●

M18 8 mm

Stainless steel housing

Non flush mounting Cable



DC	pnp	EI 1808 PPOS	●
DC	pnp	EI 1808 PPCS	●
DC	npn	EI 1808 NPOS	●
DC	npn	EI 1808 NPCS	●
AC	SCR	EI 1808 TBOS	●
AC	SCR	EI 1808 TBCS	●

Stainless steel housing

Plug



DC	pnp	EI 1808 PPOS-1	●
DC	pnp	EI 1808 PPCS-1	●
DC	npn	EI 1808 NPOS-1	●
DC	npn	EI 1808 NPCS-1	●

Polyester housing ¹⁾

Cable



DC	pnp	EI 1808 PPOP	●
DC	pnp	EI 1808 PPCP	●
DC	npn	EI 1808 NPOP	●
DC	npn	EI 1808 NPCP	●
AC	SCR	EI 1808 TBOP	●
AC	SCR	EI 1808 TBCP	●

M30 10 mm

Stainless steel housing

Flush mounting Cable



DC	pnp	EI 3010 PPOS	●
DC	pnp	EI 3010 PPCS	●
DC	npn	EI 3010 NPOS	●
DC	npn	EI 3010 NPCS	●
AC	SCR	EI 3010 TBOS	●
AC	SCR	EI 3010 TBCS	●

Stainless steel housing

Plug



DC	pnp	EI 3010 PPOS-1	●
DC	pnp	EI 3010 PPCS-1	●
DC	npn	EI 3010 NPOS-1	●
DC	npn	EI 3010 NPCS-1	●

Polyester housing ¹⁾

Cable



DC	pnp	EI 3010 PPOP	●
DC	pnp	EI 3010 PPCP	●
DC	npn	EI 3010 NPOP	●
DC	npn	EI 3010 NPCP	●
AC	SCR	EI 3010 TBOP	●
AC	SCR	EI 3010 TBCP	●

Relay

12 VAC/DC		EI 3010 RNAP 912	●
Relay			
24 VAC/DC		EI 3010 RNAP 924	●
Relay			
115 VAC		EI 3010 RNAP 115	●
Relay			
230 VAC		EI 3010 RNAP 230	●

M30 15 mm

Stainless steel housing

Non flush mounting Cable



DC	pnp	EI 3015 PPOS	●
DC	pnp	EI 3015 PPCS	●
DC	npn	EI 3015 NPOS	●
DC	npn	EI 3015 NPCS	●
AC	SCR	EI 3015 TBOS	●
AC	SCR	EI 3015 TBCS	●

Stainless steel housing

Plug



DC	pnp	EI 3015 PPOS-1	●
DC	pnp	EI 3015 PPCS-1	●
DC	npn	EI 3015 NPOS-1	●
DC	npn	EI 3015 NPCS-1	●

Polyester housing ¹⁾

Cable



DC	pnp	EI 3015 PPOP	●
DC	pnp	EI 3015 PPCP	●
DC	npn	EI 3015 NPOP	●
DC	npn	EI 3015 NPCP	●
AC	SCR	EI 3015 TBOP	●
AC	SCR	EI 3015 TBCP	●

















Relay

12 VAC/DC		EI 3015 RNAP 912	●
Relay			
24 VAC/DC		EI 3015 RNAP 924	●
Relay			
115 VAC		EI 3015 RNAP 115	●
Relay			
230 VAC		EI 3015 RNAP 230	●

¹⁾ Non short circuit protected version also available

Cylindrical, DC/AC (cont.)



		Ordering no.			Ordering no.
PG21 6 mm Nickel plated brass housing 	Flush mounting Cable	DJ 6 GE	M12 4 mm Stainless steel housing 	Non flush mounting Cable	EI 1204 NACS ●
DC npn 			Polyester housing 	Cable	
Cylindrical, Namur					
ø 6.5 1 mm Stainless steel housing 	Flush mounting Cable	EI 0601 NACS ●	M14 2 mm Nickel plated brass housing 	Flush mounting Cable	DJ 2 G
Polyester housing 	Cable		DJ 05	M14 5 mm Nickel plated brass housing 	
M8 1 mm Stainless steel housing 	Flush mounting Cable	EI 0801 NACS	M18 5 mm Stainless steel housing 	Flush mounting Cable	EI 1805 NACS ●
Polyester housing 	Cable		EI 0802 NACS	Polyester housing 	
M8 2 mm Stainless steel housing 	Non flush mounting Cable	EI 1202 NACS ●	M18 8 mm Stainless steel housing 	Non flush mounting Cable	EI 1808 NACS ●
Polyester housing 	Cable		EI 1202 NACP ●	Polyester housing 	

● in preparation

● stock item

Proximity Switches Inductive



Cylindrical, Namur (cont.)

M30 10 mm
Stainless steel housing
Flush mounting
Cable



Polyester housing
Cable



M30 15 mm
Stainless steel housing
Non flush mounting
Cable



Polyester housing
Cable



PG21 6 mm
Nickel plated brass housing
Flush mounting
Cable



Ordering no.

EI 3010 NACS

EI 3010 NACP

EI 3015 NACS

EI 3015 NACP

DJ 6 G

Long Sensing Distance, DC/Namur

ø 50 25 mm
Polyester housing
Non flush mounting
Cable



DC npn

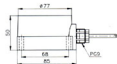
Ordering no.

DJ 25 E

Namur

DJ 25

ø 70 40 mm
Polyester housing
Non flush mounting
Cable



DC npn

DJ 40 E

Namur

DJ 40

Fork Housings, DC/Namur

Polyester housing

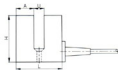
Slot U

3.5 mm
5 mm
6 mm
6 mm
10 mm
10 mm

Namur
Namur
DC npn
Namur
DC npn
Namur

Ordering no.

DU 3.5
DU 5
DU 6 E
DU 6
DU 10 E
DU 10



Type	Dimensions (mm)					
	U	L	A	H	E	B
DU 3.5	3.5	19	5	15	10	10
DU 5	5	19	5	15	10	10
DU 6 E/6	6	26	10	30	20	16
DU 10 E/10	10	44	17	45	32	25



Ring Housings, DC/Namur

Polyester housing

Inner diameter I

ø 11
ø 17
ø 17
ø 34
ø 34
ø 34

Namur
DC npn
Namur
DC npn
Namur

Ordering no.

DO 11
DO 17 E
DO 17
DO 34 E
DO 34



Type	Dimensions (mm)		
	I	D	H
DO 11	11	29	25
DO 17 E/17	17	45	30
DO 34 E/34	34	63	38

Amplifier Relays and Power Supplies



CARLO GAVAZZI

Namur Amplifier Relays (DIN 19234)

Function	Output relay	Housing type	Ordering no. ¹⁾
Namur amplifier	10 A SPDT	S	SD 110 ... ●
Namur amplifier	8 A DPDT	S	SD 210 ...
Namur amplifier	8 A DPDT	H	H 440 166 ...
Set-reset for two Namur proximity switches	10 A SPDT	S	SD 170 ...
	8 A DPDT	S	SD 270 ...

¹⁾ Complete ordering no. by adding supply voltage type:

20 to 28 VAC	... 024
95 to 135 VAC	... 115
195 to 265 VAC	... 230 ●
20 to 28 VDC (SD series only)	... 724

Power Supplies

Function	Output	Housing type	Ordering no.
Power supply	12 VAC / 1 A	S	SS 110 ... 12
Power supply	24 VAC / 0.5 A	S	SS 110 ... 24
Power supply	12 VDC / 1 A	S	SS 120 ... 12
Power supply	24 VDC / 0.5 A	S	SS 120 ... 24
Power supply	12 VDC / 0.5 A	S	SS 130 ... 12
Power supply	24 VDC / 0.3 A	S	SS 130 ... 24
Power supply regulated and short circuit protected	12 VDC / 0.5 A	S	SS 140 ... 12
	24 VDC / 0.3 A	S	SS 140 ... 24

¹⁾ Complete ordering no. by adding supply voltage type:

95 to 135 VAC	... 115 ..
195 to 265 VAC	... 230 ..

Power Supplies with Amplifier Relays

Function	Output relay	Housing type	Ordering no.
Amplifier relay	10 A SPDT	S	SV 190 ... ●
For two npn proximity switches	10 A SPDT	H	H 492 156 ...

¹⁾ Complete ordering no. by adding supply voltage type:

20 to 28 VAC	... 024
95 to 135 VAC	... 115
195 to 265 VAC	... 230 ●
20 to 28 VDC (SV 190 only)	... 724

Ordering no. ¹⁾

Dimensions S-housings

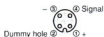


Dimensions H-housings



Accessories

Plugs M12



Plugs M12



Cable PVC
2 m
5 m



2 m
5 m

Ordering no.

E-CON 1S ●

E-CON 1A ●

E-CON 3S2 ●

E-CON 3S5 ●

E-CON 3A2 ●

E-CON 3A5 ●