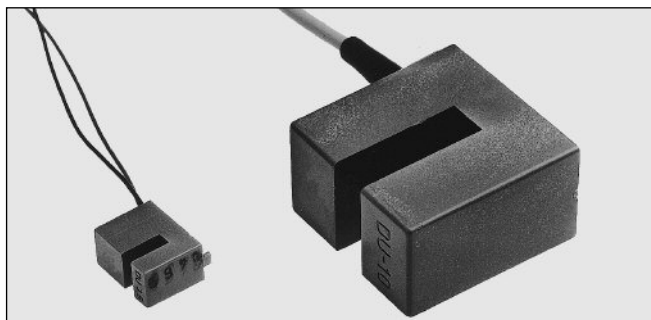


# Proximity Sensors Inductive ABS Housing Type DU, Fork-shaped

CARLO GAVAZZI



- Fork-shaped ABS housing
- Slot sizes: 3.5, 5, 6, 10 mm
- Power supply: 8.2 VDC (NAMUR)  
24 VDC (NPN)
- Output: NAMUR (DIN 19234)  
Transistor NPN, normally open
- Protection: Reverse polarity (NPN version)
- 2 m cable

## Product Description

Special fork-shaped proximity switch. Slot sizes 3.5, 5, 6 or 10 mm. With transistor NPN or made in accordance with NAMUR DIN 19234. Sturdy ABS housing.

## Ordering Key

**DU 10 E**

Type \_\_\_\_\_  
Slot size \_\_\_\_\_  
Output type \_\_\_\_\_

## Type Selection

Slot size mm	Ordering no. NAMUR	Ordering no. Transistor NPN Normally open
3.5	DU 3.5	
5	DU 5	
6	DU 6	DU 6 E
10	DU 10	DU 10 E

## Specifications

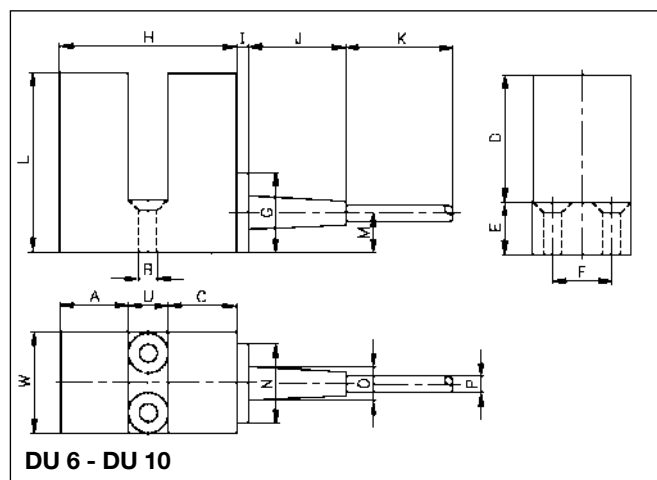
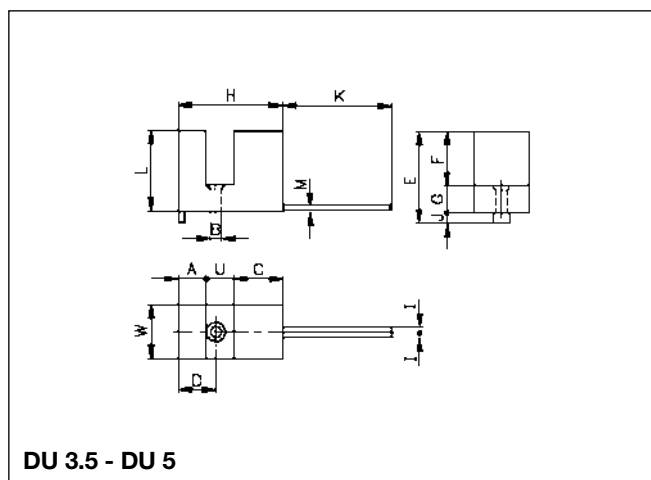
	NAMUR	Transistor NPN
Rated operational volt. ( $U_e$ ) ( $U_B$ )	8.2 VDC 7 to 9 VDC (6 to 35 VDC, all specifications not observed in extended supply range)	24 VDC 21.6 to 26.4 VDC (ripple incl.)
Self-inductance	≤ 500 μH	-
Self-capacitance	≤ 120 nF	-
Ripple	-	≤ 10%
Rated operational current ( $I_e$ )	-	≤ 200 mA
No-load supply current ( $I_o$ )	Activated: ≤ 1 mA Not activated: ≥ 3 mA Max.: 9.35 mA	≤ 15 mA
Voltage drop ( $U_d$ )	-	<b>DU 6 E</b> ≤ 2.0 V at max. load <b>DU 10 E</b> ≤ 1.0 V at max. load
Protection	None	Reverse polarity
Transient voltage	≤ 1 kV/0.5 J (prepared)	≤ 1 kV/0.5 J (prepared)
Power ON delay	None	None
Frequency of operating cycles (f)	<b>DU 3.5</b> 2000 Hz <b>DU 5</b> 1500 Hz	<b>DU 6</b> 2000 Hz <b>DU 10</b> 1000 Hz <b>DU 6 E</b> 2000 Hz <b>DU 10 E</b> 1000 Hz
Size of test object (height x length x width)	<b>DU 3.5</b> 10 x 10 x 0.5 mm <b>DU 5</b> 10 x 10 x 0.5 mm <b>DU 6</b> 16 x 16 x 1 mm <b>DU 10</b> 16 x 20 x 1 mm	<b>DU 6 E</b> 16 x 16 x 1 mm <b>DU 10 E</b> 16 x 20 x 1 mm

## Specifications (cont.)

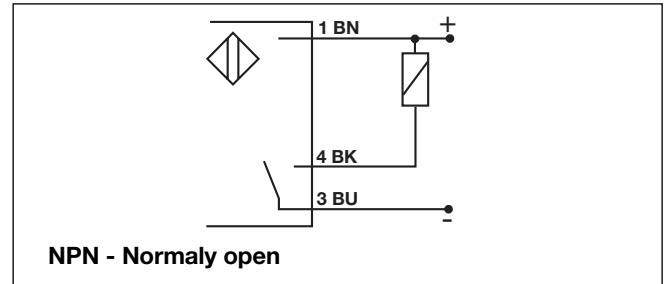
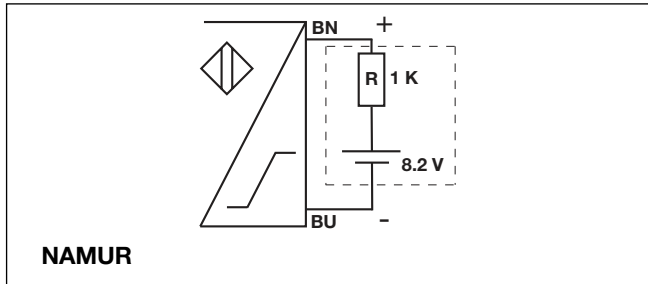
	NAMUR	Transistor NPN
Repeat accuracy (R)	≤ 10%	≤ 10%
Effective operating dist. (S <sub>r</sub> )	0.9 x S <sub>n</sub> ≤ S <sub>r</sub> ≤ 1.1 x S <sub>n</sub>	0.9 x S <sub>n</sub> ≤ S <sub>r</sub> ≤ 1.1 x S <sub>n</sub>
Usable operating dist. (S <sub>u</sub> )	0.8 x S <sub>r</sub> ≤ S <sub>u</sub> ≤ 1.2 x S <sub>r</sub>	0.8 x S <sub>r</sub> ≤ S <sub>u</sub> ≤ 1.2 x S <sub>r</sub>
Ambient temperature		
Operating	-20° to +60°C (-4° to +140°F)	-20° to +60°C (-4° to +140°F)
Storage	-25° to +70°C (-13° to +158°F)	-25° to +70°C (-13° to +158°F)
Degree of protection	IP 67 (Nema 1, 3, 4, 6, 13)	IP 67 (Nema 1, 3, 4, 6, 13)
Housing material	Blue ABS	Blue ABS
Cable	<b>DU 3.5</b> 2 m, 2 x 0.1 mm <sup>2</sup> (2 wires) <b>DU 5</b> 2 m, 2 x 0.1 mm <sup>2</sup> (2 wires) <b>DU 6</b> 2 m, 2 x 0.25 mm <sup>2</sup> <b>DU 10</b> 2 m, 2 x 0.25 mm <sup>2</sup> grey PVC, oil proof	<b>DU 6 E</b> 2 m, 3 x 0.25 mm <sup>2</sup> <b>DU 10 E</b> 2 m, 3 x 0.25 mm <sup>2</sup> grey PVC, oil proof
Weight (cable included)	<b>DU 3.5</b> 17 g <b>DU 6</b> 72 g <b>DU 5</b> 17 g <b>DU 10</b> 116 g	<b>DU 6 E</b> 72 g <b>DU 10 E</b> 116 g
CE-marking	Yes	Yes

## Dimensions

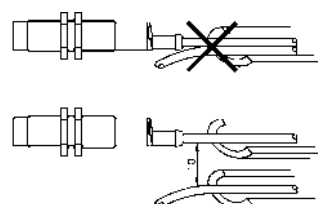
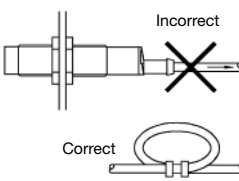
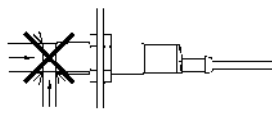
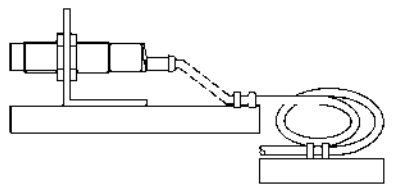
Type	U mm	L mm	H mm	W mm	A mm	B Ø mm	C mm	D mm	E mm	F mm	G mm	I mm	J mm	K mm	M mm	N mm	O Ø mm	P Ø mm
<b>DU 3.5</b>	3.5	15	19.2	10.2	5	2	10.5	6.85	17	10	5	Ø 1.1	2	2000	1			
<b>DU 5</b>	5	15	19.2	10.2	5	2	9	6.85	17	10	5	Ø 1.1	2	2000	1			
<b>DU 6</b>	6	30	26.8	16.4	10	2.3	10.1	20	10	11	15.25	2.2	17	2000	9	12.5	6.5	4.2
<b>DU 10</b>	10	45	44.5	25.6	17	4.5	17	32	13	15	20	2.95	24	2000	10	20	8.5	4.1



## Wiring Diagrams



## Installation Hints

<p>To avoid interference from inductive voltage/current peaks, separate the prox. switch power cables from any other power cables, e.g. motor, contactor or solenoid cables</p> 	<p>Relief of cable strain</p>  <p><b>Incorrect</b></p> <p><b>Correct</b></p> <p>The cable should not be pulled</p>	<p>Protection of the sensing face</p>  <p>A proximity switch should not serve as mechanical stop</p>	<p>Switch mounted on mobile carrier</p>  <p>Any repetitive flexing of the cable should be avoided</p>
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## Power Supplies

Power supplies VAC: > SS 110.  
 Power supplies VDC: > SS 130/140.

## NAMUR, Amplifier Relay

> SD 110/210.  
 > SD 170/270. Refer to Technical Information.