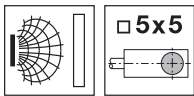


IS 255

Inductive switches

en 01-2010/05 50112188



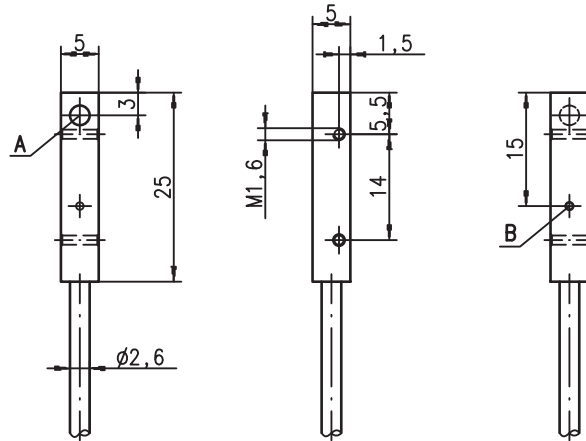
1,5mm



Embedded

- Slim and short 5x5mm cubical metal housing
- Chromium-plated brass housing
- Built-in short circuit protection, inductive protection and polarity reversal protection
- LED for switching state

Dimensioned drawing

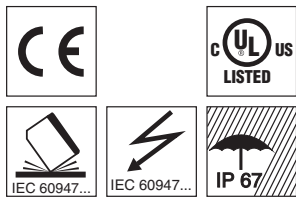


- A** Active surface
- B** Yellow indicator diode

Electrical connection

Cable

10-30V DC +	br/BN
GND	bl/BU
OUT	sw/BK



Accessories:

(available separately)

We reserve the right to make changes • DS_IS255MP_en.fm

Specifications

General specifications

Type of installation	IS 255...-1E5... embedded installation
Typ. operating range limit S_n	1.5 mm
Operating range S_a	0 ... 1.2 mm

Electrical data

Operating voltage U_B 1)	10 ... 30VDC
Residual ripple σ	$\leq 20\%$ of U_B
Output current I_L	≤ 200 mA
Open-circuit current I_0	≤ 10 mA
Residual current I_r	≤ 100 μ A
Switching output/function	.../4NO... PNP transistor, make-contact (NO)
	.../4NC... PNP transistor, break-contact (NC)
	.../2NO... NPN transistor, make-contact (NO)
	.../2NC... NPN transistor, break-contact (NC)

Voltage drop U_d	≤ 2 V
Hysteresis H of S_r	$\leq 10\%$
Temperature drift of S_r	$\leq 10\%$ 2)
Repeatability	$\leq 2\%$ 3)

Timing

Switching frequency f	3 kHz
Delay before start-up	≤ 10 ms

Indicators

Yellow LED	switching state
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Mechanical data

Housing	chromium-plated brass
Standard surface plate	5 x 5 mm ² , Fe360
Active surface	PA66
Weight (M8 plug/cable)	approx. 34 g
Connection type	cable: 2 m, PUR, 3 x 0.055 mm ² , \varnothing 2.6 mm

Environmental data

Ambient temperature	-25°C ... +70°C
Protection class	IP 67
Protective circuit 4)	1, 2, 3
Standards applied	IEC/EN 60947-5-2
Electromagnetic compatibility	IEC 60255-5 1 kV
	IEC 61000-4-2 Level 2 air 4 kV (ESD)
	IEC 61000-4-3 Level 3 10V/m (RFI)
	IEC 61000-4-4 Level 3 2 kV (Burst)

- 1) Observe the safety regulations and installation instructions regarding power supply and wiring; for UL applications: only for use in "Class 2" circuits acc. to NEC
- 2) Over the entire operating temperature range
- 3) For $U_B = 20 \dots 30$ VDC, ambient temperature $T_a = 23^\circ\text{C} \pm 5^\circ\text{C}$
- 4) 1=polarity reversal protection, 2=short circuit protection, 3=inductive protection for all outputs

Order guide

The sensors listed here are preferred types; current information at www.leuze.com.

$S_n = 1.5$ mm	Designation	Part No.
	IS 255 MP/4NO-1E5	50113209
	IS 255 MP/2NO-1E5	50113210

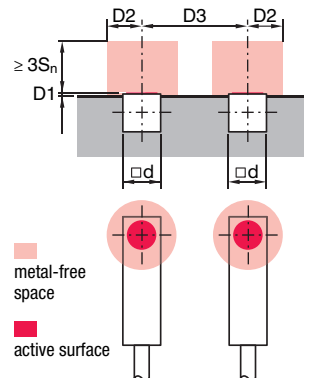
Tables

Reduction factors:
for $S_n = 1.5$ mm

Steel Fe360	1
Copper	0.60
Aluminum	0.60
Brass	0.70
Stainless steel	0.85

Mounting

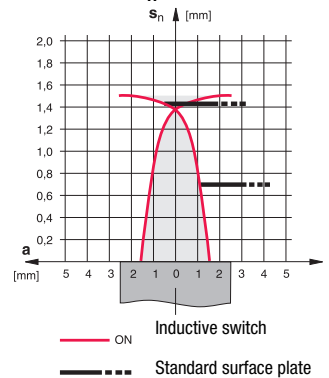
Embedded installation:



Ferromagnetic and non-ferromagnetic materials			
S_n [mm]	D1 [mm]	D2 [mm]	D3 [mm]
1.5	0	4	6

Diagrams

Models with $s_n = 1.5$ mm



Type key

I	S	2	5	5	MP	/	4	N	O	-	1	E	5						
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Operating principle / construction

IS Inductive switch / Standard

Series

255 Cubic series with 5 x 5mm² cross section

Housing / thread

MP Metal housing (active surface: plastic) / smooth

Output function

4NO PNP transistor, make-contact (NO)

4NC PNP transistor, break-contact (NC)

2NO NPN transistor, make-contact (NO)

2NC NPN transistor, break-contact (NC)

Measurement range / type of installation

1E5 Typ. scan range limit 1.5mm / embedded installation

Electrical connection

N/A Cable, PUR, standard length 2000mm

Remarks

● **Approved purpose:**

The inductive switches are electronic sensors for the inductive, contactless detection of objects.

This product may only be used by qualified personnel and must only be used for the approved purpose. This sensor is not a safety sensor and is not to be used for the protection of persons.

