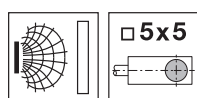
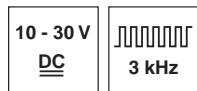


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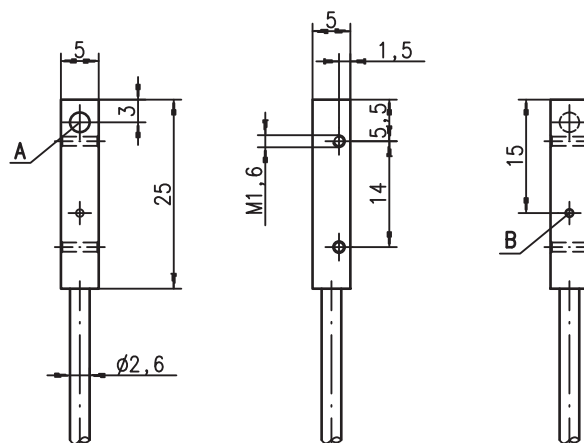
**1,5mm**



**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  
Typ. operating range limit  $S_n$   
Operating range  $S_a$

### IS 255...-1E5...

embedded installation  
1.5 mm  
0 ... 1.2 mm

### Electrical data

Operating voltage  $U_B$  <sup>1)</sup> 10 ... 30VDC  
Residual ripple  $\sigma$   $\leq 20\%$  of  $U_B$   
Output current  $I_L$   $\leq 200$  mA  
Open-circuit current  $I_0$   $\leq 10$  mA  
Residual current  $I_r$   $\leq 100$   $\mu$ 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  $U_d$   $\leq 2$  V  
Hysteresis H of  $S_r$   $\leq 10\%$   
Temperature drift of  $S_r$   $\leq 10\%$  <sup>2)</sup>  
Repeatability  $\leq 2\%$  <sup>3)</sup>

### Timing

Switching frequency  $f$  3 kHz  
Delay before start-up  $\leq 10$  ms

### Indicators

Yellow LED switching state

### Mechanical data

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

### Environmental data

Ambient temperature -25°C ... +70°C  
Protection class IP 67  
Protective circuit <sup>4)</sup> 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 10 V/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](http://www.leuze.com).

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

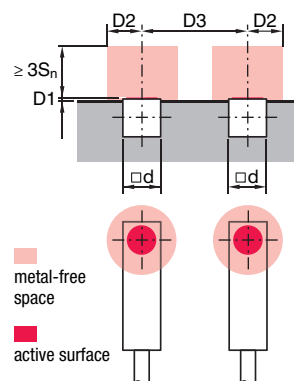
## Tables

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

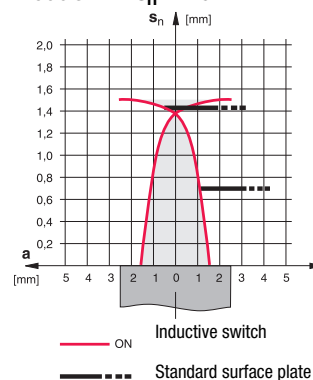
### Embedded installation:



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



## IS 255

## Inductive switches

## Type key

I	S			2	5	5		M	P	/	4	N	O	-	1	E	5				
---	---	--	--	---	---	---	--	---	---	---	---	---	---	---	---	---	---	--	--	--	--

### Operating principle / construction

IS	Inductive switch / Standard
----	-----------------------------

## Series

255 Cubic series with 5 x 5 mm<sup>2</sup> cross section

### Housing / thread

<b>MP</b>	Metal housing (active surface: plastic) / smooth
-----------	--

### Output function

**4NO** PNP transistor, make-contact (NO)

**4NC** PNP transistor, break-contact (NC)

**2N0** NPN transistor, make-contact (NO)

**2NC** NPN transistor, break-contact (NC)

**Measurement range / type of installation**

<b>1E5</b>	Typ. scan range limit 1.5 mm / embedded installation
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### Electrical connection

N/A	Cable, PUR, standard length 2000mm
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### 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.

