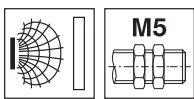


**IS 205**

**Inductive switches**

**Dimensioned drawing**

en 01-2010/05 50112187

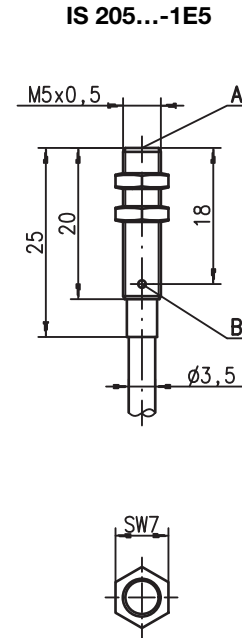
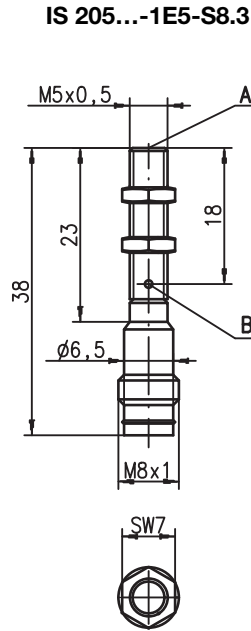


**M5**  
**1,5mm**



**10 - 30 V**  
**DC**  
**Embedded**  
**3 kHz**

- Slim and short cylindrical metal housing M5
- Stainless steel housing
- Built-in short circuit protection, inductive protection and polarity reversal protection
- LED for switching state

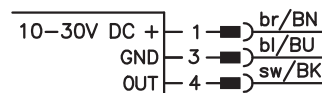


**Tightening torque of the fastening nuts < 1,5Nm !**

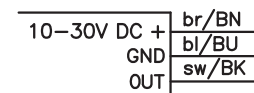
- A** Active surface
- B** Yellow indicator diode

**Electrical connection**

M8 connector



Cable



**Accessories:**

(available separately)

- M8 connectors (D M8...)
- Ready-made cables (K-D ...)

We reserve the right to make changes • DS\_IS205MM\_en.fm

## Specifications

### General specifications

Type of installation  
 Typ. operating range limit  $S_n$   
 Operating range  $S_a$

**IS 205...-1E5...**  
 embedded installation  
 1.5mm  
 0 ... 1.2mm

### Electrical data

Operating voltage  $U_B$  1)  
 Residual ripple  $\sigma$   
 Output current  $I_L$   
 Open-circuit current  $I_0$   
 Residual current  $I_r$   
 Switching output/function

10 ... 30VDC  
 $\leq 20\%$  of  $U_B$   
 $\leq 200$ mA  
 $\leq 10$ mA  
 $\leq 100\mu$ A  
 .../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  $U_d$   
 Hysteresis H of  $S_r$   
 Temperature drift of  $S_r$   
 Repeatability

$\leq 2$ V  
 $\leq 10\%$   
 $\leq 10\%$  2)  
 $\leq 2\%$  3)

### Timing

Switching frequency f  
 Delay before start-up

3kHz  
 $\leq 10$ ms

### Indicators

Yellow LED

switching state

### Mechanical data

Housing  
 Standard surface plate  
 Active surface  
 Weight (M8 plug/cable)  
 Connection type

stainless steel  
 5 x 5mm<sup>2</sup>, Fe360  
 PA66  
 approx. 34g  
 M8 connector 3-pin or  
 cable: 2m, PVC, 3 x 0.14mm<sup>2</sup>,  $\varnothing$  3.5mm

### Environmental data

Ambient temperature  
 Protection class  
 Protective circuit 4)  
 Standards applied  
 Electromagnetic compatibility

-25°C ... +70°C  
 IP 67  
 1, 2, 3  
 IEC/EN 60947-5-2  
 IEC 60255-5  
 IEC 61000-4-2  
 IEC 61000-4-3  
 IEC 61000-4-4  
 1 kV  
 Level 2 air 4kV (ESD)  
 Level 3 10V/m (RFI)  
 Level 3 2kV (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).

$S_n = 1.5$ mm	Designation	Part No.
	IS 205 MM/4NO-1E5	50113213
	IS 205 MM/4NO-1E5-S8.3	50113212

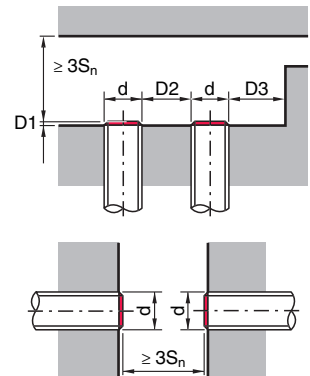
## Tables

Reduction factors:  
 for  $S_n = 1.5$ mm

Steel Fe360	1
Copper	0.40
Aluminum	0.40
Brass	0.50
Stainless steel	0.75

## Mounting

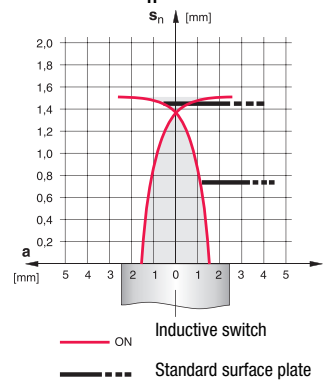
### Embedded installation:



Ferromagnetic and non-ferromagnetic materials			
$S_n$ [mm]	D1 [mm]	D2 [mm]	D3 [mm]
1.5	0	1.0	1.5

## Diagrams

Models with  $s_n = 1.5$ mm



## Type key

I	S	2	0	5	M	M	/	4	N	0	-	1	E	5	-	S	8	.	3
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

**Operating principle / construction**
**IS** Inductive switch / Standard

**Series**
**205** Series with M5 x 0.5 external thread

**Housing / thread**
**MM** Metal housing (active surface: plastic) / metric thread

**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 1.5 mm / embedded installation

**Electrical connection**
**N/A** Cable, PVC, standard length 2000mm

**S8.3** M8 connector, 3-pin, axial

**200-S8.3** Cable, PVC, length 200mm with M8 connector, 3-pin, axial

## 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.

