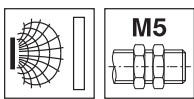


IS 205

Inductive switches

en 01-2010/05 50112187



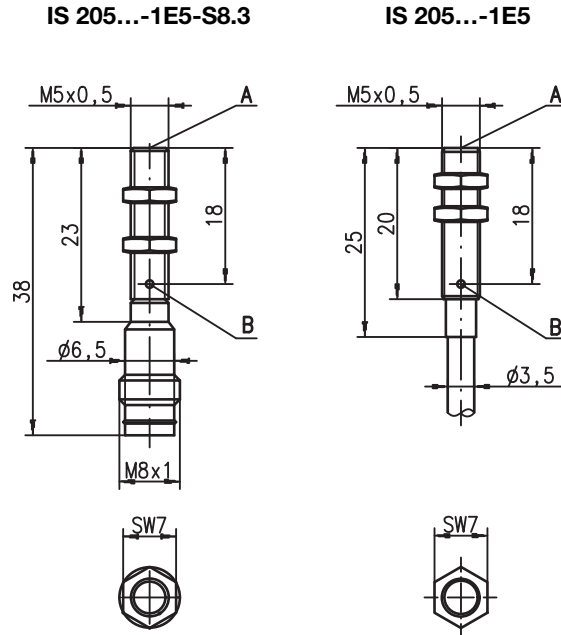
M5
1,5mm



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

Dimensioned drawing

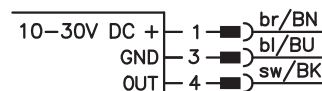


Tightening torque of the fastening nuts < 1,5Nm !

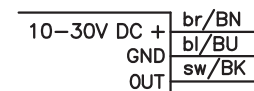
- A** Active surface
- B** Yellow indicator diode

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 σ
Output current I_L
Open-circuit current I_0
Residual current I_r
Switching output/function

10 ... 30VDC
 $\leq 20\%$ of U_B
 ≤ 200 mA
 ≤ 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

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

Timing

Switching frequency f
Delay before start-up

3kHz
 ≤ 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 5mm², Fe360
PA66
approx. 34g
M8 connector 3-pin or
cable: 2m, PVC, 3 x 0.14mm², \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.

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

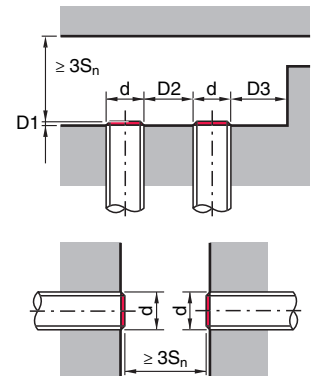
Tables

Reduction factors:
for $S_n = 1.5\text{mm}$

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

Mounting

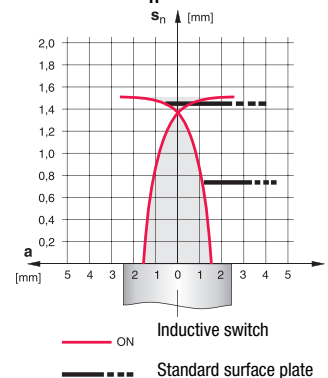
Embedded installation:



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

Diagrams

Models with $s_n = 1.5\text{mm}$



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 1.5mm / 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.

