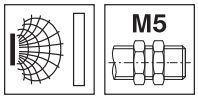
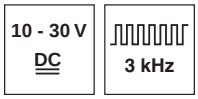
IS 205

Inductive switches

en 01-2010/05 50112187

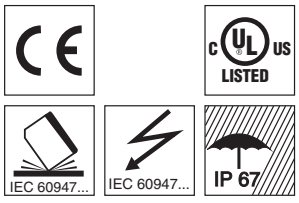


1,5mm



Embedded

- 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



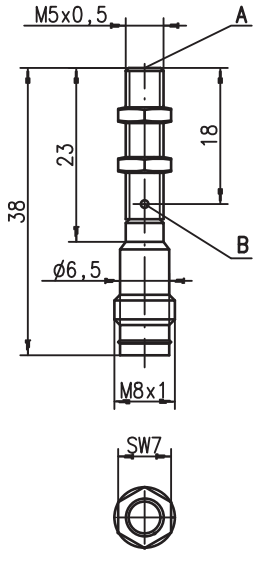
Accessories:

(available separately)

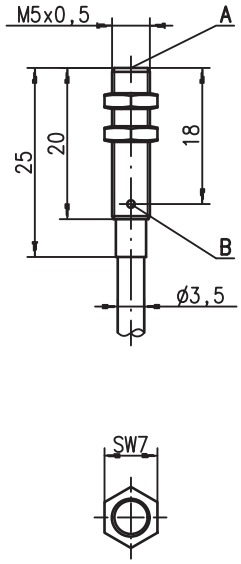
- M8 connectors (D M8…)
- Ready-made cables (K-D …)

Dimensioned drawing

IS 205…-1E5-S8.3



IS 205…-1E5

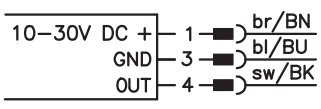


Tightening torque of the fastening nuts < 1,5Nm !

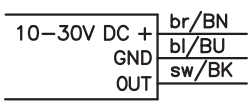
A Active surface
B Yellow indicator diode

Electrical connection

M8 connector



Cable



Specifications

General specifications		**IS 205…-1E5…**
Type of installation		embedded installation
Typ. operating range limit S_n		1.5mm
Operating range S_a		0 … 1.2mm
Electrical data		
Operating voltage U_B [1]		10 … 30VDC
Residual ripple σ		≤ 20% of U_B
Output current I_L		≤ 200mA
Open-circuit current I_0		≤ 10mA
Residual current I_r		≤ 100µA
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		≤ 2V
Hysteresis H of S_r		≤ 10%
Temperature drift of S_r		≤ 10% [2]
Repeatability		≤ 2% [3]
Timing		
Switching frequency f		3kHz
Delay before start-up		≤ 10ms
Indicators		
Yellow LED		switching state
Mechanical data		
Housing		stainless steel
Standard surface plate		5 x 5mm², Fe360
Active surface		PA66
Weight (M8 plug/cable)		approx. 34g
Connection type		M8 connector 3-pin or cable: 2m, PVC, 3 x 0.14mm², Ø 3.5mm
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 — 1kV IEC 61000-4-2 — Level 2 air 4kV (ESD) IEC 61000-4-3 — Level 3 10V/m (RFI) IEC 61000-4-4 — 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 … 30VDC, ambient temperature T_a = 23°C ± 5°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.

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

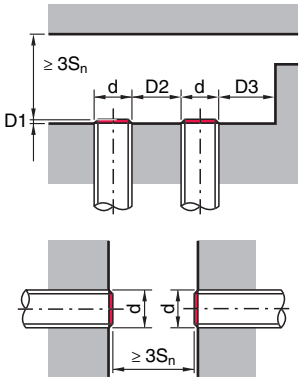
Tables

Reduction factors: for S_n = 1.5mm

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

Mounting

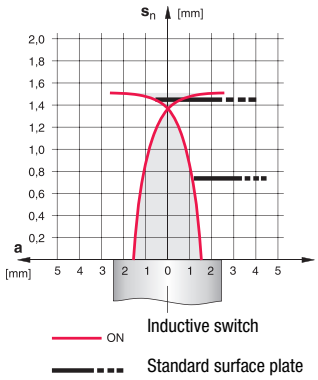
Embedded installation:



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 = 1.5mm**



Type key

I	S		2	0	5		M	M	/	4	N	O	-	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 2000 mm
S8.3	M8 connector, 3-pin, axial
200-S8.3	Cable, PVC, length 200 mm 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.