



Part no.: 50113213
IS 205MM/4NO-1E5
Inductive switch



Figure can vary

Contents

- Technical data
- Dimensioned drawings
- Electrical connection
- Diagrams
- Operation and display
- Part number code
- Notes

Technical data

Basic data	
Series	205
Typ. operating range limit S_n	1.5 mm
Operating range S_a	0.9 ... 1.2 mm
Characteristic parameters	
MTTF	870 years
Electrical data	
Protective circuit	Polarity reversal protection Inductive protection Short circuit protected
Performance data	
Supply voltage	10 ... 30 V, DC
Residual ripple	0 ... 20 %, From U_B
Open-circuit current	0 ... 10 mA
Temperature drift, max. (in % of S_r)	10 %, Over the entire operating temperature range
Repeatability, max. (in % of S_r)	5 %, For $U_B = 20 \dots 30$ V DC, ambient temperature $T_a = 23 \text{ °C} \pm 5 \text{ °C}$
Switching hysteresis	10 %
Outputs	
Number of digital switching outputs	1 Piece(s)
Switching outputs	
Voltage type	DC
Switching current, max.	200 mA
Switching voltage	Low: ≤ 2 V
Residual current, max.	0.1 mA
Voltage drop	2 V
Switching output 1	
Switching element	Transistor, PNP
Switching principle	NO (normally open)
Timing	
Switching frequency	3,000 Hz
Readiness delay	10 ms
Connection	
Number of connections	1 Piece(s)
Connection 1	
Type of connection	Cable
Function	Voltage supply Signal OUT
Cable length	2,000 mm
Sheathing material	PVC
Cable color	Gray
Number of conductors	3 -wire
Wire cross section	0.14 mm ²
Mechanical data	

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Design	Cylindrical
Thread size	M5 x 0.5 mm
Dimension (Ø x L)	5 mm x 25 mm
Type of installation	Embedded
Housing material	Stainless steel, V2A
Sensing face material	Plastic, Polyamide (PA 66)
Net weight	35 g
Housing color	Silver Red, RAL 3000
Type of fastening	Mounting thread
Standard measuring plate	5 x 5 mm ² , Fe360

Operation and display

Type of display	LED
Number of LEDs	1 Piece(s)

Environmental data

Ambient temperature, operation	-25 ... 70 °C
Ambient temperature, storage	-25 ... 70 °C

Certifications

Degree of protection	IP 67
Protection class	III
Certifications	c UL US
Test procedure for EMC in accordance with standard	IEC 61000-4-3 IEC 61000-4-4 IEC 61000-4-2
Standards applied	IEC 60947-5-2

Correction factors

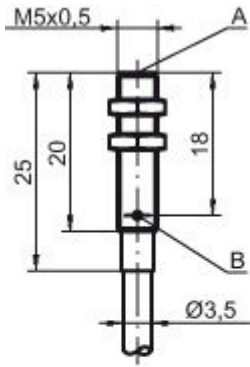
Aluminum	0.4
Stainless steel	0.75
Copper	0.4
Brass	0.5
Fe360 steel	1

Classification

eCl@ss 8.0	27270101
eCl@ss 9.0	27270101
ETIM 5.0	EC002714

Dimensioned drawings

All dimensions in millimeters



A Active surface
B Yellow LED

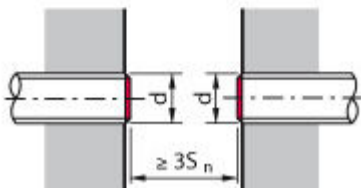
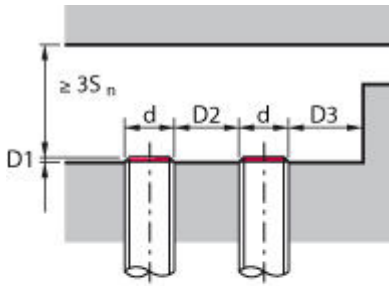
Electrical connection

Connection 1	
Type of connection	Cable
Function	Voltage supply Signal OUT
Cable length	2,000 mm
Sheathing material	PVC
Cable color	Gray
Number of conductors	3 -wire
Wire cross section	0.14 mm ²

Conductor color	Conductor assignment
Brown	V+
Blue	GND
Black	OUT 1

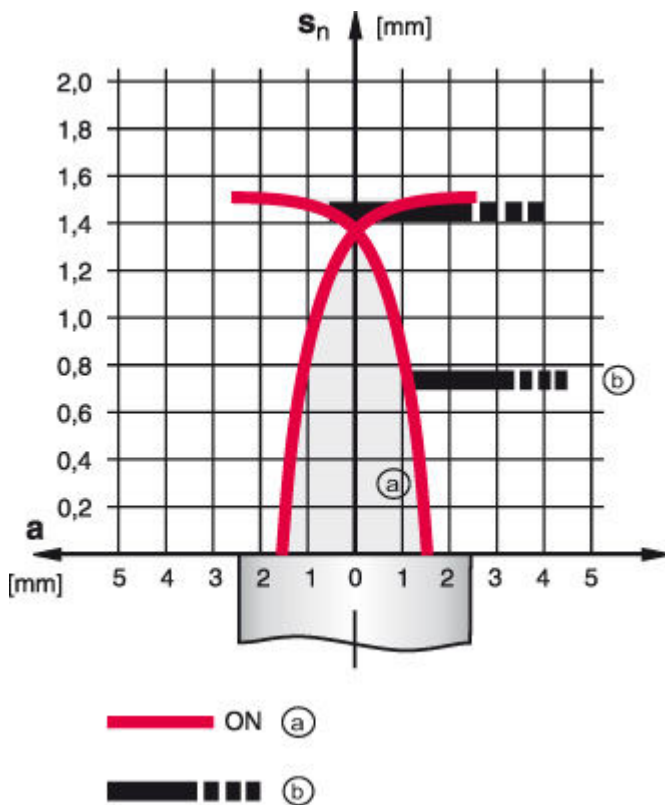
Diagrams

Embedded installation



S_n [mm]	1.5
$D1$ [mm]	0
$D2$ [mm]	1
$D3$ [mm]	1.5

Types with $S_n = 1.5$ mm



- a Inductive switch
- b Standard measuring plate

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Operation and display

LEDs

LED	Display	Meaning
1	Yellow, continuous light	Switching output/switching state

Part number code

Part designation: ISX YYY ZZ/AAA.BB-CCC-DDD-DDD

ISX	Operating principle / construction: IS: inductive switch, standard design ISS: inductive switch, short construction
YYY	Series: 203: series with Ø 3 mm 204: series with Ø 4 mm 205: series with M5 x 0.5 external thread 206: series with Ø 6.5 mm 208: series with M8 x 1 external thread 212: series with M12 x 1 external thread 218: series with M18 x 1 external thread 230: series with M30 x 1.5 external thread 240: series in cubic design 244: series in cubic design 255: series with 5 x 5 mm ² cross section 288: series with 8 x 8 mm ² cross section
ZZ	Housing / thread: MM: metal housing (active surface: plastic) / metric thread FM: full-metal housing (active surface: stainless steel AISI 316L) / metric thread
AAA	Output current / supply: 4NO: PNP transistor, NO contact 4NC: PNP transistor, NC contact 2NO: NPN transistor, NO contact 2NC: NPN transistor, NC contact 1NO: relay, NO contact / AC/DC 1NC: relay, NC contact / AC/DC
BB	Special equipment: n/a: no special equipment 5F: food version 5: housing material V2A (1.4305, AISI 303)
CCC	Measurement range / type of installation: 1E0: typ. scanning range limit 1.0 mm / embedded installation 1E5: typ. scanning range limit 1.5 mm / embedded installation 2E0: typ. scanning range limit 2.0 mm / embedded installation 3E0: typ. scanning range limit 3.0 mm / embedded installation 4E0: typ. scanning range limit 4.0 mm / embedded installation 5E0: typ. scanning range limit 5.0 mm / embedded installation 6E0: typ. scanning range limit 6.0 mm / embedded installation 8E0: typ. scanning range limit 8.0 mm / embedded installation 10E: typ. scanning range limit 10.0 mm / embedded installation 12E: typ. scanning range limit 12.0 mm / embedded installation 20E: typ. scanning range limit 20.0 mm / embedded installation 22E: typ. scanning range limit 22.0 mm / embedded installation 2N5: typ. scanning range limit 2.5 mm / non-embedded installation 4N0: typ. scanning range limit 4.0 mm / non-embedded installation 8N0: typ. scanning range limit 8.0 mm / non-embedded installation 10N: typ. scanning range limit 10.0 mm / non-embedded installation 12N: typ. scanning range limit 12.0 mm / non-embedded installation 15N: typ. scanning range limit 15.0 mm / non-embedded installation 20N: typ. scanning range limit 20.0 mm / non-embedded installation 25N: typ. scanning range limit 25.0 mm / non-embedded installation 40N: typ. scanning range limit 40.0 mm / non-embedded installation
DDD	Electrical connection: n/a: cable, PVC, standard length 2000 mm S12: M12 connector, 4-pin, axial 200-S12: cable, PVC, length 200 mm with M12 connector, 4-pin, axial

Note

A list with all available device types can be found on the Leuze electronic website at www.leuze.com.

Notes

Observe intended use!

- This product is not a safety sensor and is not intended as personnel protection.
- The product may only be put into operation by competent persons.
- Only use the product in accordance with its intended use.

For UL applications:

- For UL applications, use is only permitted in Class 2 circuits in accordance with the NEC (National Electric Code).