Technical data sheet

Inductive switch

Part no.: 50109646

IS 208MM/4NO-2N5-S8.3

Figure can vary

Contents

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

The Sensor People

Leuze electronic GmbH + Co. KG
In der Braike 1, 73277 Owen

info@leuze.com • www.leuze.com
Phone: +49 7021 573-0 • Fax: +49 7021 573-199

We reserve the right to make technical changes
eng • 2020-06-17

1/7

Technical data

Leuze

Basic data

Series	208
Typ. operating range limit S_n	2.5 mm
Operating range S_a	0 ... 2 mm

Characteristic parameters

MTTF	900 years

Electrical data

Protective circuit	Inductive protection
	Polarity reversal protection
	Short circuit protected

Performance data

Supply voltage U_B	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 … 30 V DC, ambient temperature T_a = 23 °C ± 5 °C
Switching hysteresis	10 %

Outputs

Number of digital switching outputs	1 Piece(s)

Switching outputs

Voltage type	DC
Switching current, max.	200 mA
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	4,500 Hz
Readiness delay	60 ms

Connection

Number of connections	1 Piece(s)

Connection 1

Function	Signal OUT
	Voltage supply
Type of connection	Connector
Thread size	M8
Type	Male
Material	Stainless steel
No. of pins	3 -pin

Mechanical data

Design	Cylindrical
Thread size	M8 x 1 mm
Dimension (Ø x L)	8 mm x 45 mm
Type of installation	Non-embedded
Housing material	Stainless steel, V2A
Sensing face material	Plastic, Polybutylene (PBT)
Net weight	12 g
Housing color	Red, RAL 3000
	Silver
Type of fastening	Mounting thread
	Via optional mounting device
Standard measuring plate	8 x 8 mm², 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 61000-4-2
	IEC 61000-4-3
	IEC 61000-4-4
Standards applied	IEC 60947-5-2

Correction factors

Aluminum	0.5
Stainless steel	0.8
Copper	0.5
Brass	0.6
Fe360 steel	1

Classification

Customs tariff number	85365019
eCl@ss 8.0	27270101
eCl@ss 9.0	27270101
ETIM 5.0	EC002714
ETIM 6.0	EC002714

Dimensioned drawings

All dimensions in millimeters

A Active surface
B Yellow LED
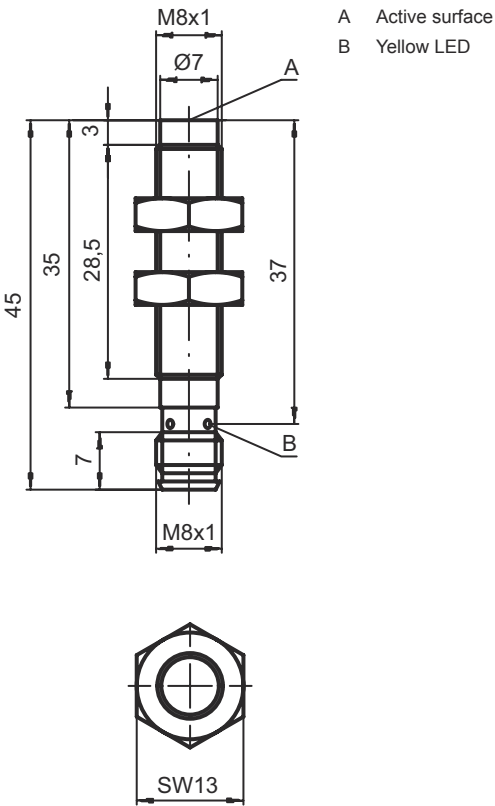
Electrical connection

Connection 1

Function	Signal OUT
	Voltage supply
Type of connection	Connector
Thread size	M8
Type	Male
Material	Stainless steel
No. of pins	3 -pin

Pin	Pin assignment
1	V+
3	GND
4	OUT 1

Diagrams

Leuze

Non-embedded installation

S_n [mm] 2.5
D1 [mm] 8
D2 [mm] 10
D3 [mm] 4

ON ⓐ

⬛▪▪ ⓑ

Types with S_n = 2.5 mm

a   Inductive switch
b   Standard measuring plate
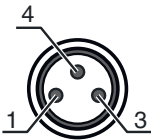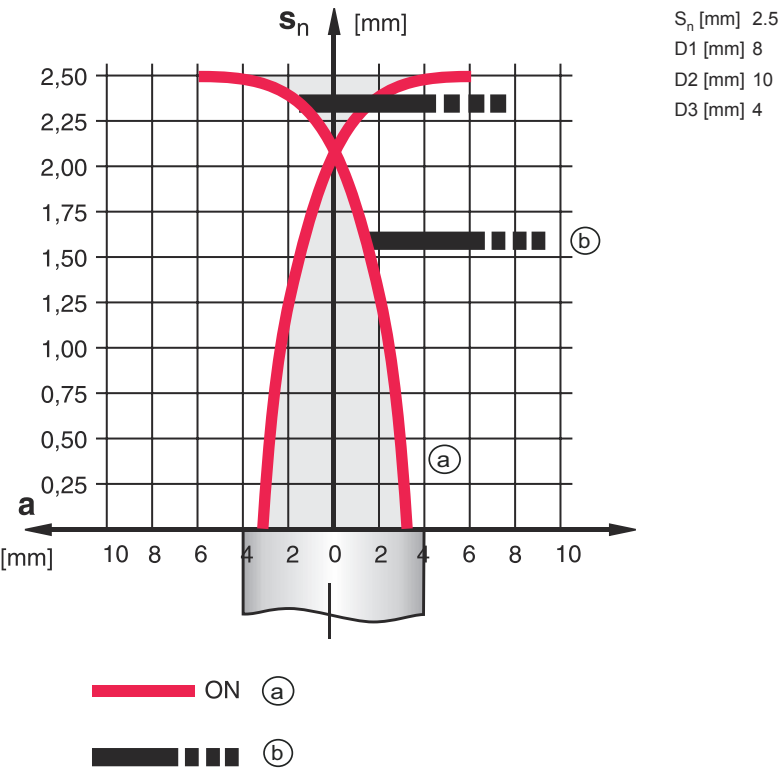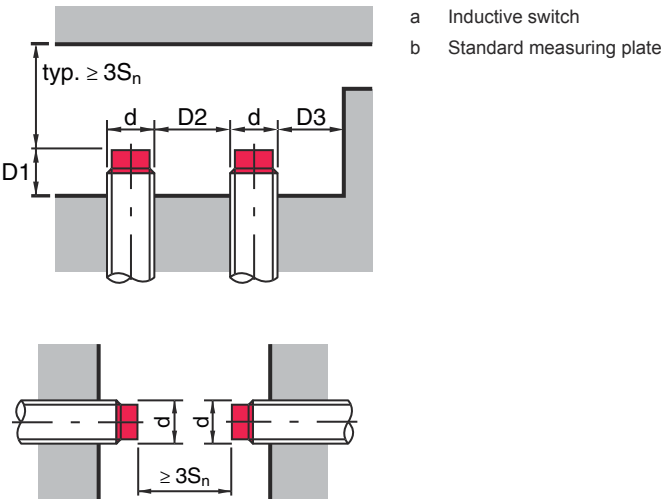
Operation and display

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

Part number code

Leuze

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 mm² cross section	
	288: series with 8 x 8 mm² 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	
	MP: metal housing (active surface: plastic) / smooth (without 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	
	44: 2 PNP transistor switching outputs, antivalent (NO + NC)	
	22: 2 NPN transistor switching outputs, antivalent (NO + NC)	
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. range limit 1.0 mm / embedded installation	
	1E5: typ. range limit 1.5 mm / embedded installation	
	2E0: typ. range limit 2.0 mm / embedded installation	
	3E0: typ. range limit 3.0 mm / embedded installation	
	4E0: typ. range limit 4.0 mm / embedded installation	
	5E0: typ. range limit 5.0 mm / embedded installation	
	6E0: typ. range limit 6.0 mm / embedded installation	
	8E0: typ. range limit 8.0 mm / embedded installation	
	10E: typ. range limit 10.0 mm / embedded installation	
	12E: typ. range limit 12.0 mm / embedded installation	
	15E: typ. range limit 15.0 mm / embedded installation	
	20E: typ. range limit 20.0 mm / embedded installation	
	22E: typ. range limit 22.0 mm / embedded installation	
	2N5: typ. range limit 2.5 mm / non-embedded installation	
	4N0: typ. range limit 4.0 mm / non-embedded installation	
	8N0: typ. range limit 8.0 mm / non-embedded installation	
	10N: typ. range limit 10.0 mm / non-embedded installation	
	12N: typ. range limit 12.0 mm / non-embedded installation	
	14N: typ. range limit 14.0 mm / non-embedded installation	
	15N: typ. range limit 15.0 mm / non-embedded installation	
	20N: typ. range limit 20.0 mm / non-embedded installation	
	22N: typ. range limit 22.0 mm / non-embedded installation	
	25N: typ. range limit 25.0 mm / non-embedded installation	
	40N: typ. range limit 40.0 mm / non-embedded installation	
DDD	**Electrical connection**	
	n/a: cable, standard length 2000 mm	
	S12: M12 connector, 4-pin, axial	
	200-S12: cable, length 200 mm with M12 connector, 4-pin, axial	
	200-S8.3: cable, length 200 mm with M8 connector, 3-pin, axial	
	S8.3: M8 connector, 3-pin, axial	
	005-S8.3: cable, length 500 mm with M8 connector, 3-pin, axial	
	050: cable, standard length 5000 mm, 3-wire	

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

Notes

Leuze

	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).

Accessories

Connection technology - Connection cables

	Part no.	Designation	Article	Description
	50130842	KD U-M8-3A-P1-020	Connection cable	Connection 1: Connector, M8, Axial, Female, 3 -pin Connection 2: Open end Shielded: No Cable length: 2,000 mm Sheathing material: PUR
	50130844	KD U-M8-3A-P1-050	Connection cable	Connection 1: Connector, M8, Axial, Female, 3 -pin Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: PUR
	50130837	KD U-M8-3A-V1-020	Connection cable	Connection 1: Connector, M8, Axial, Female, 3 -pin Connection 2: Open end Shielded: No Cable length: 2,000 mm Sheathing material: PVC
	50130860	KD U-M8-3W-V1-020	Connection cable	Connection 1: Connector, M8, Angled, Female, 3 -pin Connection 2: Open end Shielded: No Cable length: 2,000 mm Sheathing material: PVC

Accessories

Leuze

Mounting technology - Other

	Part no.	Designation	Article	Description
	50132727	AC D08M-CS	Clamp	Diameter, inner: 8 mm Design of mounting device: Mounting clamp Fastening, at system: Screw type, Through-hole mounting Mounting bracket, at device: insertable, Clampable with limit stop Type of mounting device: Clampable, With limit stop Material: Metal
	50111497	MC 008K	Clamp	Diameter, inner: 8 mm Design of mounting device: Mounting clamp Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Rigid Material: Plastic

	Note
	✎ A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.