



**Part no.: 50109689**  
**IS 212MM/4NO-10N**  
**Inductive switch**



Figure can vary

## Contents

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

## Technical data

| <b>Basic data</b>                        |   |
|--|---|
| Series                                   | 212   |
| Typ. operating range limit $S_n$         | 10 mm   |
| Operating range $S_a$                    | 0 ... 8.1 mm  |
| <b>Characteristic parameters</b>         |   |
| MTTF                                     | 890 years   |
| <b>Electrical data</b>                   |   |
| Protective circuit                       | Inductive protection<br>Polarity reversal protection<br>Short circuit protected                   |
| <b>Performance data</b>                  |   |
| 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 $U_B = 20 \dots 30$ V DC, ambient temperature<br>$T_a = 23 \text{ °C} \pm 5 \text{ °C}$ |
| Switching hysteresis                     | 10 %  |
| <b>Outputs</b>                           |   |
| Number of digital switching outputs      | 1 Piece(s)  |
| <b>Switching outputs</b>                 |   |
| Voltage type                             | DC  |
| Switching current, max.                  | 200 mA  |
| Residual current, max.                   | 0.1 mA  |
| Voltage drop                             | $\leq 2$ V  |
| <b>Switching output 1</b>                |   |
| Switching element                        | Transistor , PNP  |
| Switching principle                      | NO (normally open)  |
| <b>Timing</b>                            |   |
| Switching frequency                      | 400 Hz  |
| Readiness delay                          | 50 ms   |
| <b>Connection</b>                        |   |
| Number of connections                    | 1 Piece(s)  |
| <b>Connection 1</b>                      |   |
| Type of connection                       | Cable   |
| Function                                 | Signal OUT<br>Voltage supply  |
| Cable length                             | 2,000 mm  |
| Sheathing material                       | PVC   |
| Cable color                              | Gray  |
| Number of conductors                     | 3 -wire   |
| Wire cross section                       | 0.34 mm <sup>2</sup>  |
| <b>Mechanical data</b>                   |   |

**Part no.: 50109689 – IS 212MM/4NO-10N – Inductive switch**

|                          |   |
|--------------------------|---|
| Design                   | Cylindrical                                     |
| Thread size              | M12 x 1 mm                                      |
| Dimension (Ø x L)        | 12 mm x 52 mm                                   |
| Type of installation     | Non-embedded                                    |
| Housing material         | Metal , Chromed brass                           |
| Sensing face material    | Plastic , Polybutylene (PBT)                    |
| Net weight               | 90 g  |
| Housing color            | Red, RAL 3000<br>Silver                         |
| Type of fastening        | Mounting thread<br>Via optional mounting device |
| Standard measuring plate | 30 x 30 mm <sup>2</sup> , 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                                   | II  |
| Certifications                                     | c UL US   |
| Test procedure for EMC in accordance with standard | IEC 61000-4-2<br>IEC 61000-4-3<br>IEC 61000-4-4 |
| Standards applied                                  | IEC 60947-5-2                                   |

**Correction factors**

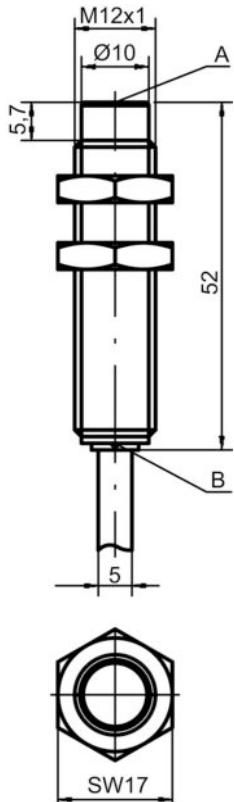
|                 |      |
|-----------------|------|
| Aluminum        | 0.49 |
| Stainless steel | 0.77 |
| Copper          | 0.45 |
| Brass           | 0.56 |
| Fe360 steel     | 1    |

**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

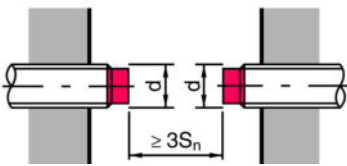
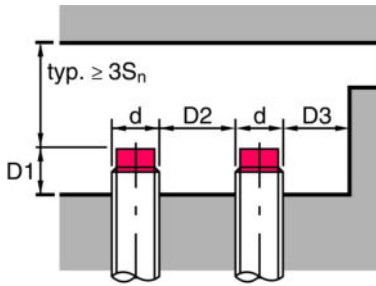
## Electrical connection

| Connection 1         |                              |
|----------------------|------------------------------|
| Type of connection   | Cable                        |
| Function             | Signal OUT<br>Voltage supply |
| Cable length         | 2,000 mm                     |
| Sheathing material   | PVC                          |
| Cable color          | Gray                         |
| Number of conductors | 3 -wire                      |
| Wire cross section   | 0.34 mm <sup>2</sup>         |

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

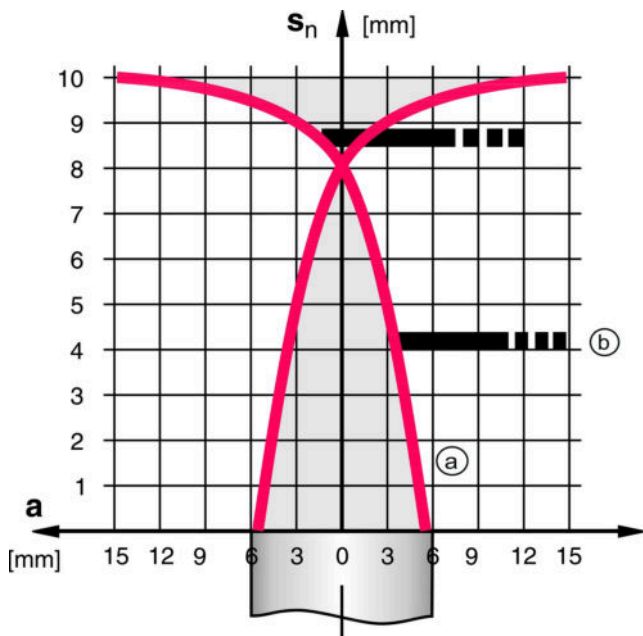
**Diagrams**

Non-embedded installation



|            |    |
|------------|----|
| $S_n$ [mm] | 10 |
| D1 [mm]    | 13 |
| D2 [mm]    | 30 |
| D3 [mm]    | 10 |

Types with  $S_n = 10.0$  mm



— ON (a)

▬▬▬▬ (b)

- a Inductive switch
- b Standard measuring plate

## 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 | <b>Operating principle / construction:</b><br>IS: inductive switch, standard design<br>ISS: inductive switch, short construction  |
| YYY | <b>Series:</b><br>203: series with Ø 3 mm<br>204: series with Ø 4 mm<br>205: series with M5 x 0.5 external thread<br>206: series with Ø 6.5 mm<br>208: series with M8 x 1 external thread<br>212: series with M12 x 1 external thread<br>218: series with M18 x 1 external thread<br>230: series with M30 x 1.5 external thread<br>240: series in cubic design<br>244: series in cubic design<br>255: series with 5 x 5 mm <sup>2</sup> cross section<br>288: series with 8 x 8 mm <sup>2</sup> cross section   |
| ZZ  | <b>Housing / thread:</b><br>MM: metal housing (active surface: plastic) / metric thread<br>FM: full-metal housing (active surface: stainless steel AISI 316L) / metric thread<br>MP: metal housing (active surface: plastic) / smooth (without thread)  |
| AAA | <b>Output current / supply:</b><br>4NO: PNP transistor, NO contact<br>4NC: PNP transistor, NC contact<br>2NO: NPN transistor, NO contact<br>2NC: NPN transistor, NC contact<br>1NO: relay, NO contact / AC/DC<br>1NC: relay, NC contact / AC/DC<br>44: 2 PNP transistor switching outputs, antivalent (NO + NC)<br>22: 2 NPN transistor switching outputs, antivalent (NO + NC)   |
| BB  | <b>Special equipment:</b><br>n/a: no special equipment<br>5F: food version<br>5: housing material V2A (1.4305, AISI 303)  |
| CCC | <b>Measurement range / type of installation:</b><br>1E0: typ. range limit 1.0 mm / embedded installation<br>1E5: typ. range limit 1.5 mm / embedded installation<br>2E0: typ. range limit 2.0 mm / embedded installation<br>3E0: typ. range limit 3.0 mm / embedded installation<br>4E0: typ. range limit 4.0 mm / embedded installation<br>5E0: typ. range limit 5.0 mm / embedded installation<br>6E0: typ. range limit 6.0 mm / embedded installation<br>8E0: typ. range limit 8.0 mm / embedded installation<br>10E: typ. range limit 10.0 mm / embedded installation<br>12E: typ. range limit 12.0 mm / embedded installation<br>15E: typ. range limit 15.0 mm / embedded installation<br>20E: typ. range limit 20.0 mm / embedded installation<br>22E: typ. range limit 22.0 mm / embedded installation<br>2N5: typ. range limit 2.5 mm / non-embedded installation<br>4N0: typ. range limit 4.0 mm / non-embedded installation<br>8N0: typ. range limit 8.0 mm / non-embedded installation<br>10N: typ. range limit 10.0 mm / non-embedded installation<br>12N: typ. range limit 12.0 mm / non-embedded installation<br>14N: typ. range limit 14.0 mm / non-embedded installation<br>15N: typ. range limit 15.0 mm / non-embedded installation<br>20N: typ. range limit 20.0 mm / non-embedded installation<br>22N: typ. range limit 22.0 mm / non-embedded installation<br>25N: typ. range limit 25.0 mm / non-embedded installation<br>40N: typ. range limit 40.0 mm / non-embedded installation |
| DDD | <b>Electrical connection:</b><br>n/a: cable, standard length 2000 mm<br>S12: M12 connector, 4-pin, axial<br>200-S12: cable, length 200 mm with M12 connector, 4-pin, axial<br>200-S8.3: cable, length 200 mm with M8 connector, 3-pin, axial<br>S8.3: M8 connector, 3-pin, axial<br>005-S8.3: cable, length 500 mm with M8 connector, 3-pin, axial<br>050: cable, standard length 5000 mm, 3-wire   |

## Part no.: 50109689 – IS 212MM/4NO-10N – Inductive switch

### Note

A list with all available device types can be found on the Leuze electronic website at [www.leuze.com](http://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).

## Accessories

### Mounting technology - Other

|   | Part no. | Designation | Article | Description   |
|---|----------|-------------|---------|---|
|  | 50132728 | AC D12M-CS  | Clamp   | Contains: 2x M16 mounting nut<br>Diameter, inner: 12 mm<br>Design of mounting device: Mounting clamp<br>Fastening, at system: Screw type, Through-hole mounting<br>Mounting bracket, at device: insertable, Clampable with limit stop<br>Type of mounting device: Clampable, With limit stop<br>Material: Metal |
|  | 50111499 | MC 012K     | Clamp   | Diameter, inner: 12 mm<br>Design of mounting device: Mounting clamp<br>Fastening, at system: Through-hole mounting<br>Mounting bracket, at device: Clampable<br>Type of mounting device: Rigid<br>Material: Plastic   |

### Note

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