

## Technical data sheet

### Inductive switch

Part no.: 50129870

IS 112 MM/4NO-6E0

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For illustration purposes only



## Technical data

### Basic data

|                                   |              |
|-----------------------------------|--------------|
| Series                            | 112          |
| type. operating range limit $S_n$ | 6 mm         |
| Operating range $S_a$             | 0 ... 4.8 mm |

### Electrical data

|                    |                              |
|--------------------|------------------------------|
| Protective circuit | Overload protection          |
|                    | Polarity reversal protection |
|                    | Short circuit protected      |

### Performance data

|                                          |                  |
|------------------------------------------|------------------|
| Supply voltage $U_B$                     | 10 ... 30 V, DC  |
| Residual ripple                          | 10 %, From $U_B$ |
| Open-circuit current                     | 0 ... 10 mA      |
| Temperature drift, max. (in % of $S_r$ ) | 10 %             |
| Repeatability, max. (in % of $S_r$ )     | 1 %              |
| Switching hysteresis                     | 15 %             |

### Outputs

|                                     |            |
|-------------------------------------|------------|
| Number of digital switching outputs | 1 Piece(s) |
|-------------------------------------|------------|

### Switching outputs

|                         |         |
|-------------------------|---------|
| Voltage type            | DC      |
| Switching current, max. | 200 mA  |
| Residual current, max.  | 0.01 mA |
| Voltage drop            | ≤ 2 V   |

### Switching output 1

|                     |                    |
|---------------------|--------------------|
| Switching element   | Transistor, PNP    |
| Switching principle | NO (normally open) |

### Time behavior

|                     |        |
|---------------------|--------|
| Switching frequency | 800 Hz |
|---------------------|--------|

### Connection

|                       |            |
|-----------------------|------------|
| Number of connections | 1 Piece(s) |
|-----------------------|------------|

### Connection 1

|                      |                      |
|----------------------|----------------------|
| Function             | Signal OUT           |
|                      | Voltage supply       |
| Type of connection   | Cable                |
| Cable length         | 2,000 mm             |
| Sheathing material   | PVC                  |
| Cable color          | Black                |
| Number of conductors | 3 -wire              |
| Wire cross section   | 0.35 mm <sup>2</sup> |

### Mechanical data

|                          |                                 |
|--------------------------|---------------------------------|
| Design                   | Cylindrical                     |
| Dimension (Ø x L)        | 12 mm x 50 mm                   |
| Thread size              | M12 x 1 mm                      |
| Type of installation     | Embedded                        |
| Housing material         | Metal                           |
| Metal housing            | Nickel-plated brass             |
| Sensing face material    | Plastic, Polybutylene (PBT)     |
| Housing color            | Red, RAL 3000                   |
|                          | Silver                          |
| Type of fastening        | Mounting thread                 |
| Standard measuring plate | 18 x 18 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         |
| Standards applied    | IEC 60947-5-2 |

### Correction factors

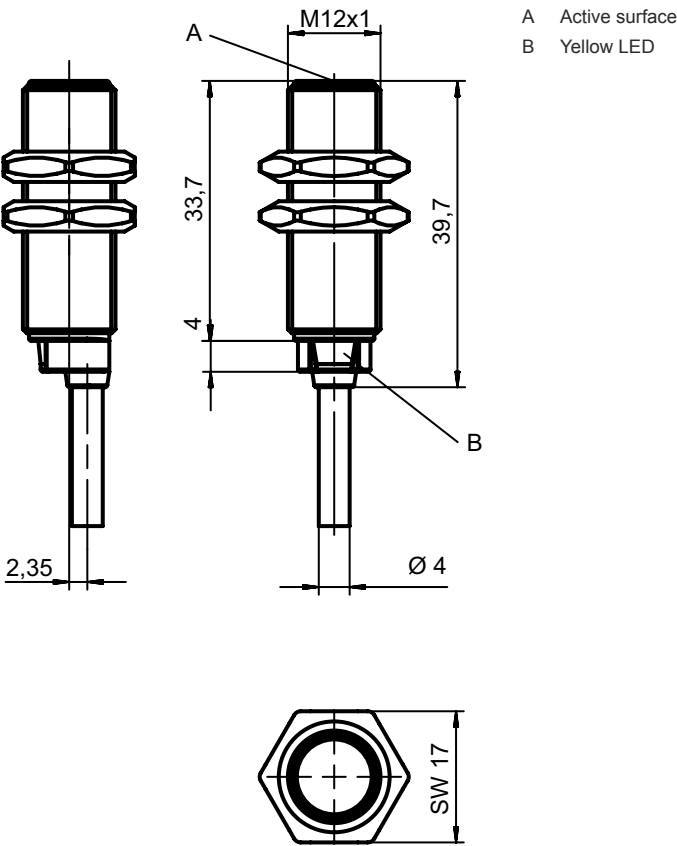
|             |   |
|-------------|---|
| Fe360 steel | 1 |
|-------------|---|

### Classification

|                       |          |
|-----------------------|----------|
| Customs tariff number | 85365019 |
| ECLASS 5.1.4          | 27270101 |
| ECLASS 8.0            | 27270101 |
| ECLASS 9.0            | 27270101 |
| ECLASS 10.0           | 27270101 |
| ECLASS 11.0           | 27270101 |
| ECLASS 12.0           | 27274001 |
| ECLASS 13.0           | 27274001 |
| ECLASS 14.0           | 27274001 |
| ECLASS 15.0           | 27274001 |
| ETIM 5.0              | EC002714 |
| ETIM 6.0              | EC002714 |
| ETIM 7.0              | EC002714 |
| ETIM 8.0              | EC002714 |
| ETIM 9.0              | EC002714 |
| ETIM 10.0             | EC002714 |

Dimensioned drawings

All dimensions in millimeters



Electrical connection

Connection 1

|                      |                |
|----------------------|----------------|
| Function             | Signal OUT     |
|                      | Voltage supply |
| Type of connection   | Cable          |
| Cable length         | 2,000 mm       |
| Sheathing material   | PVC            |
| Cable color          | Black          |
| Number of conductors | 3 -wire        |
| Wire cross section   | 0.35 mm²       |

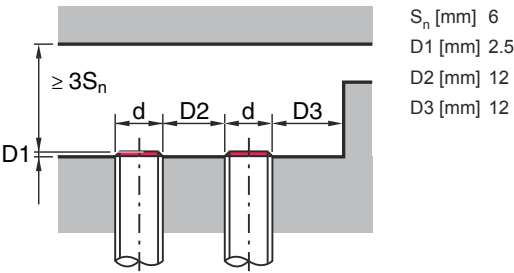
Conductor color

Conductor assignment

|       |       |
|-------|-------|
| Brown | V+    |
| Blue  | GND   |
| Black | OUT 1 |

Diagrams

Embedded installation



Operation and display

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

Part number code

Part designation: ISX YYY XX/ZZZ-AAA-BBBB

|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ISX | <b>Operating principle / construction</b><br>IS: inductive switch, standard design<br>ISS: inductive switch, short construction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| YYY | <b>Series</b><br>104: series with Ø 4.0 mm<br>108: series with M8 x 1 external thread<br>112: series with M12 x 1 external thread<br>118: series with M18 x 1 external thread<br>122: series in cubic design with 18 x 18 mm<br>130: series with M30 x 1.5 external thread<br>144: series in cubic design with 40 x 40 mm<br>180: series in cubic design with 80 x 80 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| XX  | <b>Housing</b><br>MM: metal housing (active surface: plastic) / metric thread<br>PP: Plastic housing<br>MP: metal housing (active surface: plastic) / smooth (without thread)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ZZZ | <b>Switching output</b><br>4NO: PNP transistor, NO contact<br>4NC: PNP transistor, NC contact<br>44: PNP transistor, NO contact / NC contact<br>2NO: NPN transistor, NO contact<br>2NC: NPN transistor, NC contact<br>22: NPN transistor, NO contact / NC contact                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| AAA | <b>Measurement range / type of installation</b><br>1E2: typ. range limit 1.2 mm / embedded installation<br>2E0: typ. range limit 2.0 mm / embedded installation<br>4E0: typ. range limit 4.0 mm / embedded installation<br>4N0: typ. range limit 4.0 mm / non-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>8N0: typ. range limit 8.0 mm / non-embedded installation<br>10E: typ. range limit 10.0 mm / embedded installation<br>15N: typ. range limit 15.0 mm / non-embedded installation<br>16E: typ. range limit 16.0 mm / embedded installation<br>16N: typ. range limit 16.0 mm / non-embedded installation<br>20E: typ. range limit 20.0 mm / embedded installation<br>25N: typ. range limit 25.0 mm / non-embedded installation<br>30N: typ. range limit 30.0 mm / non-embedded installation<br>40N: typ. range limit 40.0 mm / non-embedded installation<br>50N: typ. range limit 50.0 mm / non-embedded installation |

Part number code

|     |                                                                                                                                                                                                                              |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DDD | <b>Electrical connection</b><br>n/a: cable, standard length 2000 mm, 3-wire<br>M8.3: M8 connector, 3-pin (plug)<br>M12: M12 connector, 4-pin (plug)<br>TB.4: terminals, 4-pin<br>050: cable, standard length 5000 mm, 3-wire |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Note                                                                             |                                                                                                                                |
|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
|  | A list with all available device types can be found on the Leuze website at <a href="http://www.leuze.com">www.leuze.com</a> . |

Notes

|  Observe intended use! |                                                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | <ul style="list-style-type: none"><li>This product is not a safety sensor and is not intended as personnel protection.</li><li>The product may only be put into operation by competent persons.</li><li>Only use the product in accordance with its intended use.</li></ul> |