

## Technical data sheet

### Inductive switch

Part no.: 50144726

ISS 118MM/4NC-8E0-M12

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For illustration purposes only



## Technical data

### Basic data

|                                   |               |
|-----------------------------------|---------------|
| Series                            | 118           |
| type. operating range limit $S_n$ | 8 mm          |
| Operating range $S_a$             | 0 ... 6.48 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                          | 0 ... 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 | NC (normally closed) |

### Time behavior

|                     |          |
|---------------------|----------|
| Switching frequency | 3,000 Hz |
| Readiness delay     | 25 ms    |

### Connection

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

### Connection 1

|                    |                |
|--------------------|----------------|
| Function           | Signal OUT     |
|                    | Voltage supply |
| Type of connection | Connector      |
| Thread size        | M12            |
| Type               | Male           |
| Material           | Metal          |
| No. of pins        | 4 -pin         |
| Encoding           | A-coded        |

### Mechanical data

|                          |                             |
|--------------------------|-----------------------------|
| Design                   | Cylindrical                 |
| Dimension (Ø x L)        | 18 mm x 48 mm               |
| Thread size              | M18 x 1 mm                  |
| Type of installation     | Embedded/flush              |
| Housing material         | Metal                       |
| Metal housing            | Nickel-plated brass         |
| Sensing face material    | Plastic, Polybutylene (PBT) |
| Net weight               | 43 g                        |
| Housing color            | Red, RAL 3000               |
|                          | Silver                      |
| Type of fastening        | Mounting thread             |
| Standard measuring plate | 24 x 24 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         |
| Standards applied    | IEC 60947-5-2 |

### Correction factors

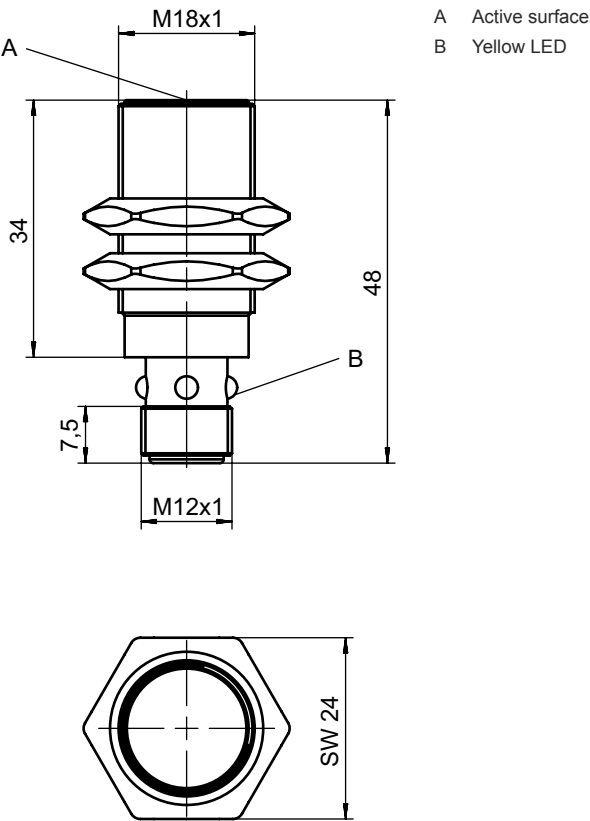
|             |   |
|-------------|---|
| Fe360 steel | 1 |
|-------------|---|

### 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 |
| ECLASS 16.0           | 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

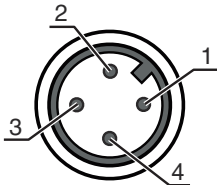


Electrical connection

Connection 1

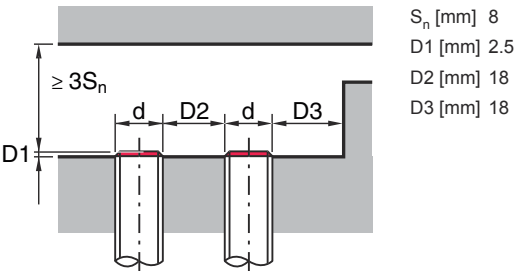
|                    |                |
|--------------------|----------------|
| Function           | Signal OUT     |
|                    | Voltage supply |
| Type of connection | Connector      |
| Thread size        | M12            |
| Type               | Male           |
| Material           | Metal          |
| No. of pins        | 4 -pin         |
| Encoding           | A-coded        |

| Pin | Pin assignment |
|-----|----------------|
| 1   | V+             |
| 2   | OUT 1          |
| 3   | GND            |
| 4   | n.c.           |



Diagrams

Embedded/flush 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<br>1NO: relay, NO contact / AC/DC<br>1NC: Relay, NC contact / AC/DC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| AAA | <b>Measurement range / type of installation</b><br>1E2: typ. range limit 1.2 mm / embedded/flush installation<br>2E0: typ. range limit 2.0 mm / embedded/flush installation<br>4E0: typ. range limit 4.0 mm / embedded/flush installation<br>4N0: typ. range limit 4.0 mm / non-embedded/non-flush installation<br>5E0: typ. range limit 5.0 mm / embedded/flush installation<br>6E0: typ. range limit 6.0 mm / embedded/flush installation<br>8E0: typ. range limit 8.0 mm / embedded/flush installation<br>8N0: typ. range limit 8.0 mm / non-embedded/non-flush installation<br>10E: typ. range limit 10.0 mm / embedded/flush installation<br>15N: typ. range limit 15.0 mm / non-embedded/non-flush installation<br>16E: typ. range limit 16.0 mm / embedded/flush installation<br>16N: typ. range limit 16.0 mm / non-embedded/non-flush installation<br>20E: typ. range limit 20.0 mm / embedded/flush installation<br>25N: typ. range limit 25.0 mm / non-embedded/non-flush installation<br>30N: typ. range limit 30.0 mm / non-embedded/non-flush installation<br>40N: typ. range limit 40.0 mm / non-embedded/non-flush installation<br>50N: typ. range limit 50.0 mm / non-embedded/non-flush installation<br>2E5: Typ. range limit 2.5 mm / embedded/flush 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 |
| <b>Note</b><br> 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

|                                                                                                                |                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <b>Observe intended use!</b> |                                                                                                                                                                                                                                                                                 |
|                                | <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> |

## Accessories

### Connection technology - Connection cables

|                                                                                                                                                                                                                                                             | Part no. | Designation        | Article          | Description                                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | 50130654 | KD U-M12-4A-P1-020 | Connection cable | Application: Oil and lubricant resistant<br>Connection 1: Connector, M12, Axial, Female, A-coded, 4 -pin<br>Connector, LED: No<br>Connection 2: Open end<br>Shielded: No<br>Cable length: 2,000 mm<br>Sheathing material: PUR |
|    | 50130657 | KD U-M12-4A-P1-050 | Connection cable | Application: Oil and lubricant resistant<br>Connection 1: Connector, M12, Axial, Female, A-coded, 4 -pin<br>Connector, LED: No<br>Connection 2: Open end<br>Shielded: No<br>Cable length: 5,000 mm<br>Sheathing material: PUR |
|    | 50130648 | KD U-M12-4A-V1-020 | Connection cable | Application: Chemical resistant<br>Connection 1: Connector, M12, Axial, Female, A-coded, 4 -pin<br>Connector, LED: No<br>Connection 2: Open end<br>Shielded: No<br>Cable length: 2,000 mm<br>Sheathing material: PVC          |
|    | 50130688 | KD U-M12-4W-V1-020 | Connection cable | Application: Chemical resistant<br>Connection 1: Connector, M12, Angled, Female, A-coded, 4 -pin<br>Connector, LED: No<br>Connection 2: Open end<br>Shielded: No<br>Cable length: 2,000 mm<br>Sheathing material: PVC         |

Accessories

Mounting technology - Other

|                                                                                  | Part no. | Designation | Article | Description                                                                                                                                                                                                         |
|----------------------------------------------------------------------------------|----------|-------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50111501 | MC 018K     | Clamp   | Diameter, inner: 18 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                                                                             |                                                                                                                                  |
|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
|  | <p>A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.</p> |