

## Technical data sheet

### Inductive switch

Part no.: 50141484

ISS 218MM/44-14N

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Figure can vary



## Technical data

### Basic data

|                                  |                |
|----------------------------------|----------------|
| Series                           | 218            |
| Typ. operating range limit $S_n$ | 14 mm          |
| Operating range $S_a$            | 0 ... 11.34 mm |

### Special version

|                 |            |
|-----------------|------------|
| Special version | Antivalent |
|-----------------|------------|

### Characteristic parameters

|      |           |
|------|-----------|
| MTTF | 850 years |
|------|-----------|

### Electrical data

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

### Performance data

|  |                        |
|--|------------------------|
| Supply voltage $U_B$                     | 10 ... 36 V, DC        |
| Residual ripple                          | 0 ... 10 %, From $U_B$ |
| Open-circuit current                     | 0 ... 16 mA            |
| Temperature drift, max. (in % of $S_r$ ) | 19 %                   |
| Repeatability, max. (in % of $S_r$ )     | 10 %                   |
| Switching hysteresis                     | 20 %                   |

### Outputs

|                                     |            |
|-------------------------------------|------------|
| Number of digital switching outputs | 2 Piece(s) |
|-------------------------------------|------------|

### Switching outputs

|                         |            |
|-------------------------|------------|
| Voltage type            | DC         |
| Switching current, max. | 200 mA     |
| Residual current, max.  | 0.05 mA    |
| Voltage drop            | $\leq 2$ V |

### Switching output 1

|                     |                         |
|---------------------|-------------------------|
| Switching element   | Transistor, PNP         |
| Switching principle | NO contact – Antivalent |

### Switching output 2

|                     |                         |
|---------------------|-------------------------|
| Switching element   | Transistor, PNP         |
| Switching principle | NC contact – Antivalent |

### Timing

|                     |          |
|---------------------|----------|
| Switching frequency | 1,500 Hz |
| Readiness delay     | 50 ms    |

### 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          | Gray                 |
| Number of conductors | 4 -wire              |
| Wire cross section   | 0.25 mm <sup>2</sup> |

### Mechanical data

|                                |                                 |
|--------------------------------|---------------------------------|
| Design                         | Cylindrical                     |
| Thread size                    | M18 x 1 mm                      |
| Dimension ( $\varnothing$ x L) | 18 mm x 63 mm                   |
| Type of installation           | Non-embedded                    |
| Housing material               | Metal                           |
| Metal housing                  | Nickel-plated brass             |
| Sensing face material          | Plastic, Polybutylene (PBT)     |
| Net weight                     | 85 g                            |
| Housing color                  | Gray                            |
|                                | Silver                          |
| Type of fastening              | Mounting thread                 |
| Standard measuring plate       | 42 x 42 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   | -30 ... 80 °C |

### Certifications

|  |                          |
|--|--------------------------|
| Degree of protection                               | IP 67                    |
| Protection class                                   | II                       |
| Certifications                                     | c UL US                  |
| Test procedure for EMC in accordance with standard | EN 61000-4-2, -3, -4, -8 |

### Correction factors

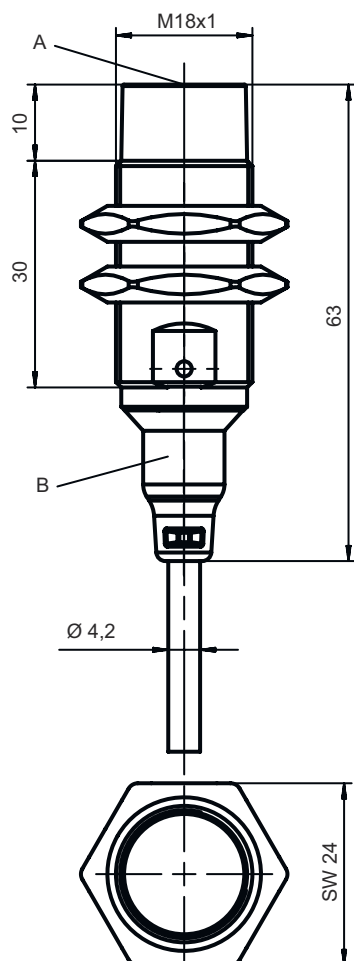
|                 |     |
|-----------------|-----|
| Aluminum        | 0.5 |
| Stainless steel | 0.7 |
| Copper          | 0.3 |
| Brass           | 0.5 |
| Fe360 steel     | 1   |

### Classification

|                       |          |
|-----------------------|----------|
| Customs tariff number | 85365019 |
| eCl@ss 5.1.4          | 27270101 |
| eCl@ss 8.0            | 27270101 |
| eCl@ss 9.0            | 27270101 |
| eCl@ss 10.0           | 27270101 |
| eCl@ss 11.0           | 27270101 |
| ETIM 5.0              | EC002714 |
| ETIM 6.0              | EC002714 |
| ETIM 7.0              | 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          | Gray                 |
| Number of conductors | 4 -wire              |
| Wire cross section   | 0.25 mm <sup>2</sup> |

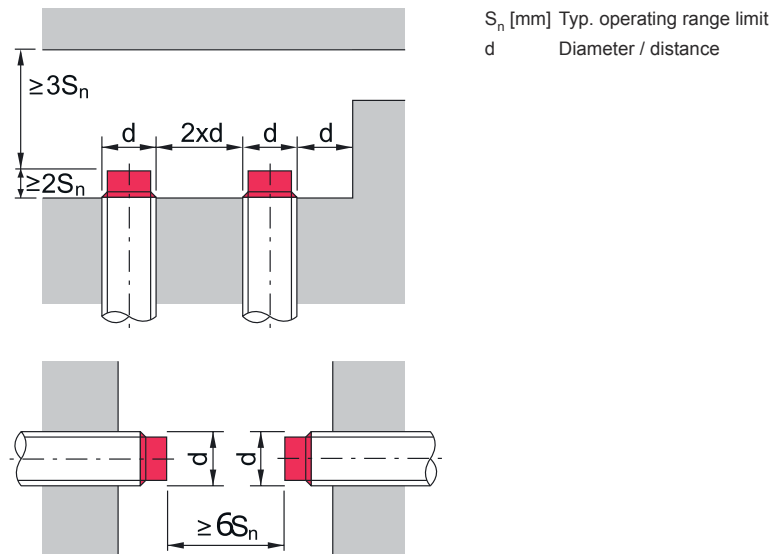
### Conductor color

### Conductor assignment

|       |       |
|-------|-------|
| Brown | V+    |
| White | OUT 2 |
| Blue  | GND   |
| Black | OUT 1 |

# Diagrams

## Non-embedded installation



## Operation and display

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

## Part number code

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

|            |  |
|------------|--|
| <b>ISX</b> | <b>Operating principle / construction</b><br>IS: inductive switch, standard design<br>ISS: inductive switch, short construction  |
| <b>YYY</b> | <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 |
| <b>ZZ</b>  | <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)  |
| <b>AAA</b> | <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)   |
| <b>BB</b>  | <b>Special equipment</b><br>n/a: no special equipment<br>5F: food version<br>5: housing material V2A (1.4305, AISI 303)  |

## Part number code

|            |   |
|------------|---|
| <b>CCC</b> | <p><b>Measurement range / type of installation</b></p> <p>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</p> |
| <b>DDD</b> | <p><b>Electrical connection</b></p> <p>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</p>   |


## 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> |


|                             |   |
|-----------------------------|---|
| <b>For UL applications:</b> |   |
|                             | <ul style="list-style-type: none"> <li>⚠ For UL applications, use is only permitted in Class 2 circuits in accordance with the NEC (National Electric Code).</li> </ul> |

## Accessories




### Mounting technology - Mounting brackets

|  | Part no. | Designation | Article          | Description  |
|--|----------|-------------|------------------|--|
|  | 50113548 | BT D18M.5   | Mounting bracket | Diameter, inner: 18 mm<br>Design of mounting device: Angle, L-shape<br>Fastening, at system: Through-hole mounting<br>Mounting bracket, at device: Screw type<br>Type of mounting device: Rigid<br>Material: Stainless steel |

### Mounting technology - Rod mounts

|  | Part no. | Designation  | Article         | Description  |
|--|----------|--------------|-----------------|--|
|  | 50117490 | BTU D18M-D12 | Mounting system | Design of mounting device: Mounting system<br>Fastening, at system: Through-hole mounting<br>Mounting bracket, at device: Screw type<br>Type of mounting device: Clampable, Adjustable, Turning, 360°<br>Material: Metal |

### Mounting technology - Other

|  | Part no. | Designation | Article | Description  |
|--|----------|-------------|---------|--|
|  | 50132729 | AC D18M-CS  | Clamp   | Diameter, inner: 18 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 |
|  | 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  |
|  | 50111502 | MC 018K-LS  | 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 with limit stop<br>Type of mounting device: Rigid<br>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.