

## Technical data sheet

### Inductive switch

Part no.: 50154059

IS D30MM/2NC-15E-M12

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For illustration purposes only



## Technical data

### Basic data

|                                   |               |
|-----------------------------------|---------------|
| Series                            | D30           |
| type. operating range limit $S_n$ | 15 mm         |
| Operating range $S_a$             | 0 ... 12.1 mm |

### Characteristic parameters

|      |           |
|------|-----------|
| MTTF | 280 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 ... 10 %, From $U_B$                                                                           |
| Open-circuit current                     | 0 ... 15 mA                                                                                      |
| Temperature drift, max. (in % of $S_r$ ) | 15 %, Over the entire operating temperature range                                                |
| Repeatability, max. (in % of $S_r$ )     | 5 %, For $U_B = 20 ... 30$ VDC, ambient temperature $T_a = 23^\circ\text{C} \pm 5^\circ\text{C}$ |
| 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.  | 0.1 mA       |
| Voltage drop            | $\leq 2.5$ V |

### Switching output 1

|                     |                      |
|---------------------|----------------------|
| Switching element   | Transistor, NPN      |
| Switching principle | NC (normally closed) |

### Time behavior

|                     |        |
|---------------------|--------|
| Switching frequency | 250 Hz |
| Readiness delay     | 100 ms |

### Connection

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

### Connection 1

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

### Mechanical data

|                                      |                                 |
|--------------------------------------|---------------------------------|
| Design                               | Cylindrical                     |
| Dimension ( $\varnothing \times L$ ) | 30 mm x 65 mm                   |
| Thread size                          | M30 x 1.5 mm                    |
| Type of installation                 | Embedded                        |
| Housing material                     | Metal                           |
| Metal housing                        | Copper-nickel alloy             |
| Sensing face material                | Plastic, Polybutylene (PBT)     |
| Net weight                           | 188 g                           |
| Housing color                        | Red, RAL 3000                   |
|                                      | Silver                          |
| Type of fastening                    | Mounting thread                 |
| Standard measuring plate             | 45 x 45 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            |
| 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

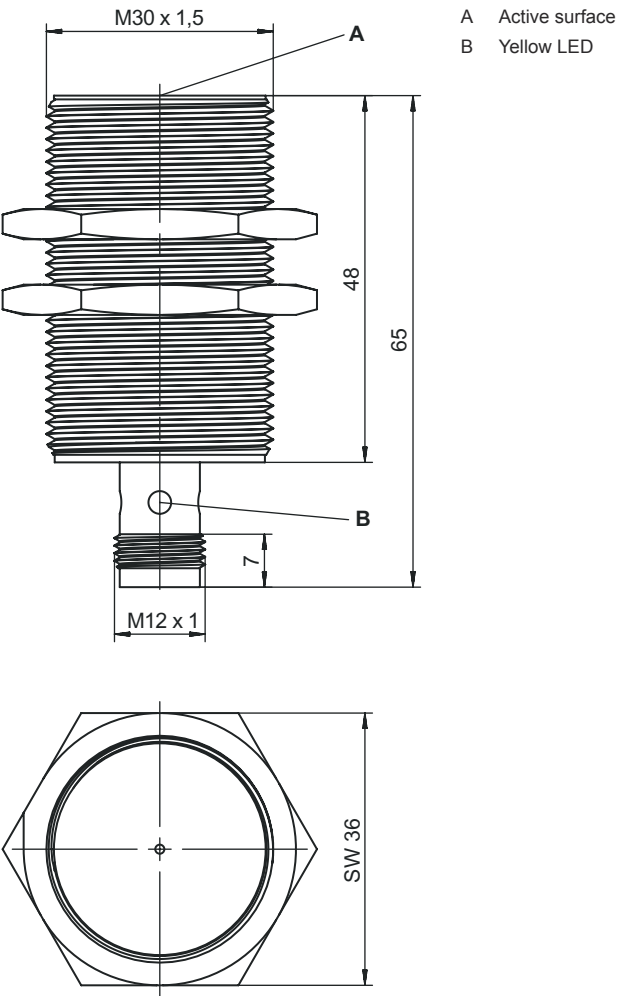
|                 |      |
|-----------------|------|
| Aluminum        | 0.42 |
| Stainless steel | 0.75 |
| Copper          | 0.35 |
| Brass           | 0.45 |
| Fe360 steel     | 1    |

### 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

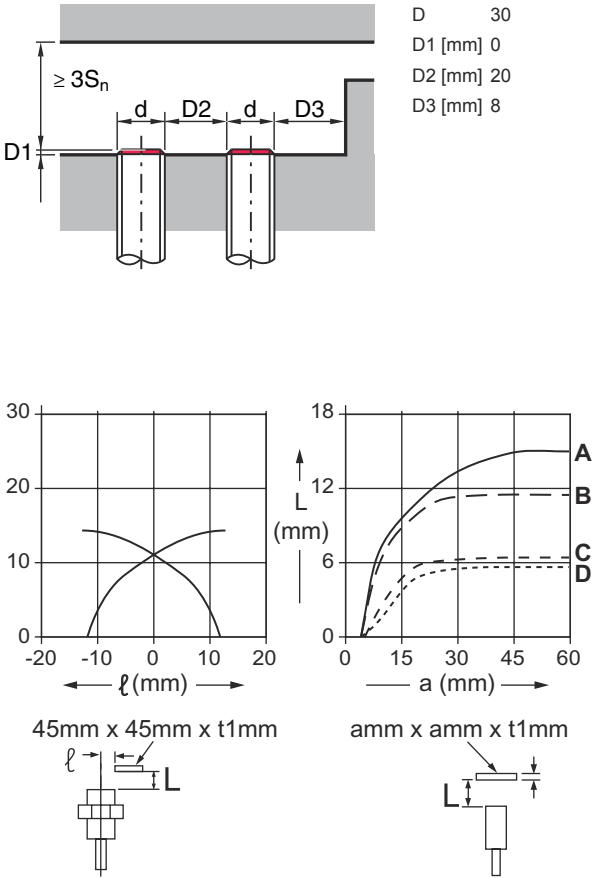
Connection 1

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

| Pin | Pin assignment |
|-----|----------------|
| 1   | V+             |
| 2   | OUT            |
| 3   | GND            |
| 4   | not connected  |

Diagrams

Embedded installation



Operation and display

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

Part number code

Part designation: IS AAABB/CCC-DDD-EEE

|     |                                                                                                                                                                                                                                               |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IS  | <b>Operating principle / construction</b><br>IS: inductive switch, standard design                                                                                                                                                            |
| AAA | <b>Series</b><br>D08: series with M8 x 1 external thread<br>D12: series with M12 x 1 external thread<br>D18: series with M18 x 1 external thread<br>D22: series in cubic design with 18 x 18 mm<br>D30: series with M30 x 1.5 external thread |
| BB  | <b>Housing</b><br>MM: metal housing (active surface: plastic) / metric thread<br>PP: Plastic housing                                                                                                                                          |
| CCC | <b>Output current / supply</b><br>2NC: NPN transistor, NC contact<br>2NO: NPN transistor, NO contact<br>4NC: PNP transistor, NC contact<br>4NO: PNP transistor, NO contact                                                                    |

Part number code

|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DDD | <b>Measurement range / type of installation</b><br>2E0: typ. range limit 2.0 mm / embedded installation<br>2N5: typ. range limit 2.5 mm / non-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>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>12N: typ. range limit 12.0 mm / non-embedded installation<br>15E: typ. range limit 15.0 mm / embedded installation<br>15N: typ. range limit 15.0 mm / non-embedded installation<br>16N: typ. range limit 16.0 mm / non-embedded installation<br>30N: typ. range limit 30.0 mm / non-embedded installation |
| EEE | <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)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| 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> |

|  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                                                                                                                                                                                                         |
|------------------------------------------------------------------------------------|----------|-------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50111503 | MC 030K     | Clamp   | Diameter, inner: 30 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 |

Accessories

| 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> |