

Technical data sheet

Inductive switch

Part no.: 50128154

IS 230MM/1NO.3-15N

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For illustration purposes only



Technical data

Basic data

| | |
|-----------------------------------|---------------|
| Series | 230 |
| type. operating range limit S_n | 15 mm |
| Operating range S_a | 0 ... 12.1 mm |

Measurement data

| | |
|---------------|---------|
| Repeatability | 0.75 mm |
|---------------|---------|

Electrical data

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

Performance data

| | |
|--|--|
| Supply voltage U_B | 10 ... 320 V, AC/DC |
| Residual ripple | 0 ... 20 %, From U_B |
| Open-circuit current | 0 ... 1 mA |
| Temperature drift, max. (in % of S_r) | 10 %, Over the entire operating temperature range |
| Repeatability, max. (in % of S_r) | 5 %, For $U_B = 20 ... 30$ VDC, ambient temperature $T_a = 23^\circ\text{C} \pm 5^\circ\text{C}$ |
| Switching hysteresis | 20 % |

Outputs

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

Switching outputs

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

Switching output 1

| | |
|---------------------|--------------------|
| Switching element | Relay, NO |
| Switching principle | NO (normally open) |

Time behavior

| | |
|----------------------|-----------|
| Switching frequency | 500 Hz |
| Oscillator frequency | 50,000 Hz |
| Readiness delay | 70 ms |

Connection

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

Connection 1

| | |
|----------------------|----------------------|
| Function | Voltage supply |
| Type of connection | Cable |
| Cable length | 2,000 mm |
| Sheathing material | PVC |
| Cable color | Black |
| Number of conductors | 2 -wire |
| Wire cross section | 0.34 mm ² |

Mechanical data

| | |
|--------------------------------------|---|
| Design | Cylindrical |
| Dimension ($\varnothing \times L$) | 30 mm x 50 mm |
| Thread size | M30 x 1.5 mm |
| Type of installation | Non-embedded |
| Housing material | Metal |
| Metal housing | Chromed brass |
| Sensing face material | Plastic, Polybutylene (PBT) |
| Net weight | 180 g |
| Housing color | Red, RAL 3000 Silver |
| Type of fastening | Mounting thread Via optional mounting device |
| Standard measuring plate | 45 x 45 mm ² , Fe360 |

Operation and display

| | |
|-----------------|------------|
| Type of display | LED |
| Number of LEDs | 1 Piece(s) |

Environmental data

| | |
|--------------------------------|---------------|
| Ambient temperature, operation | -25 ... 70 °C |
|--------------------------------|---------------|

Certifications

| | |
|--|---|
| Degree of protection | IP 67 |
| 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

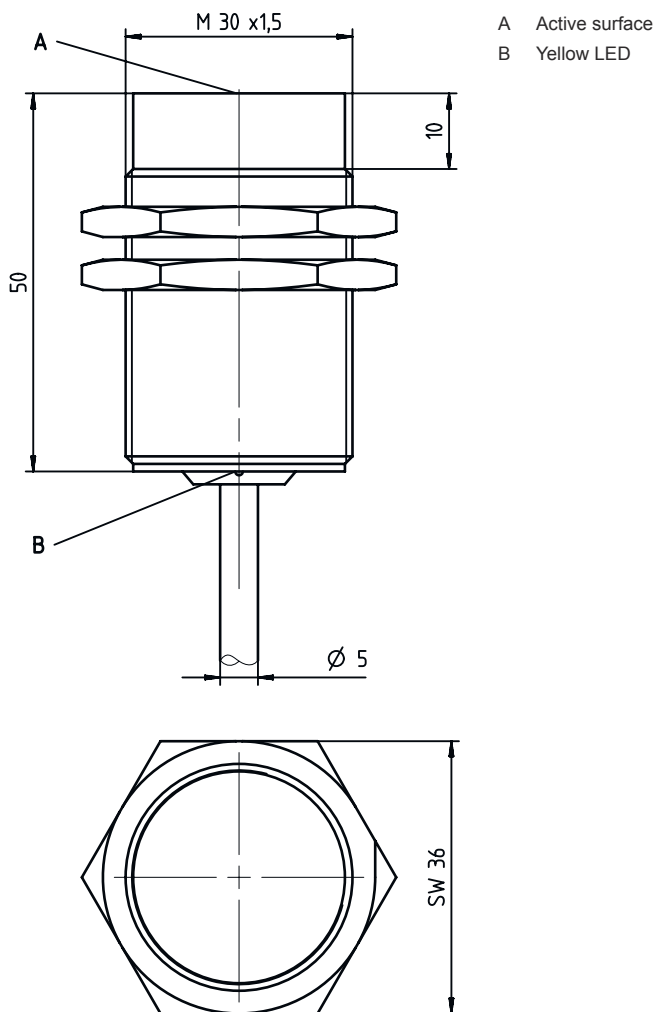
| | |
|-----------------|------|
| Aluminum | 0.5 |
| Stainless steel | 0.95 |
| Copper | 0.45 |
| Brass | 0.55 |
| Fe360 steel | 1 |

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 | Voltage supply |
| Type of connection | Cable |
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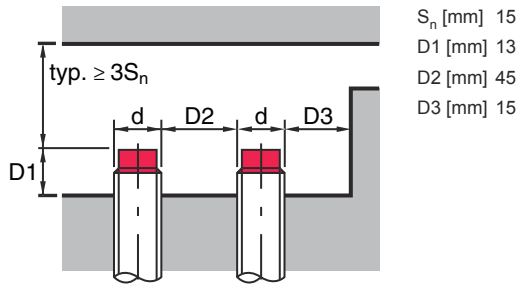
Conductor color

Conductor assignment

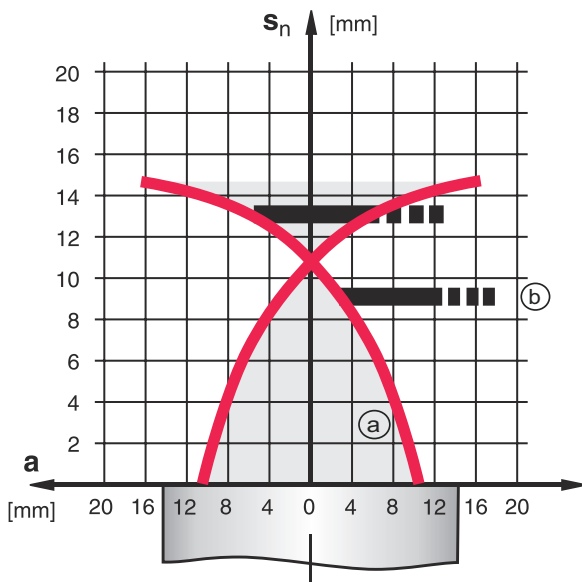
| | |
|-------|-----|
| Brown | V+ |
| Blue | 0 V |

Diagrams

Non-embedded installation



Types with $S_n = 15.0$ mm



- a Inductive switch
- b Standard measuring plate



Operation and display

| 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 | <p>Operating principle / construction IS: inductive switch, standard design ISS: inductive switch, short construction</p> |
| YYY | <p>Series 203: series with Ø 3 mm 204: series with Ø 4 mm 205: series with M5 x 0.5 external thread 206: series with Ø 6.5 mm 208: series with M8 x 1 external thread 212: series with M12 x 1 external thread 218: series with M18 x 1 external thread 230: series with M30 x 1.5 external thread 240: series in cubic design 244: series in cubic design 255: series with 5 x 5 mm² cross section 288: series with 8 x 8 mm² cross section</p> |
| ZZ | <p>Housing / thread MM: metal housing (active surface: plastic) / metric thread FM: Full-metal housing (active surface: stainless steel AISI 316L) / metric thread MP: metal housing (active surface: plastic) / smooth (without thread) .2: New version</p> |
| AAA | <p>Output current / supply 4NO: PNP transistor, NO contact 4NC: PNP transistor, NC contact 2NO: NPN transistor, NO contact 2NC: NPN transistor, NC contact 1NO: relay, NO contact / AC/DC 1NC: Relay, NC contact / AC/DC 44: 2 PNP transistor switching outputs, antivalent (NO + NC) 22: 2 NPN transistor switching outputs, antivalent (NO + NC) L: IO-Link interface X: pin not used</p> |
| BB | <p>Special equipment n/a: no special equipment 5F: Food version 5: housing material V2A (1.4305, AISI 303)</p> |
| CCC | <p>Measurement range / type of installation 1E0: typ. range limit 1.0 mm / embedded installation 1E5: typ. range limit 1.5 mm / embedded installation 2E0: typ. range limit 2.0 mm / embedded installation 3E0: typ. range limit 3.0 mm / embedded installation 4E0: typ. range limit 4.0 mm / embedded installation 5E0: typ. range limit 5.0 mm / embedded installation 6E0: typ. range limit 6.0 mm / embedded installation 8E0: typ. range limit 8.0 mm / embedded installation 10E: typ. range limit 10.0 mm / embedded installation 12E: typ. range limit 12.0 mm / embedded installation 15E: typ. range limit 15.0 mm / embedded installation 20E: typ. range limit 20.0 mm / embedded installation 22E: typ. range limit 22.0 mm / embedded installation 2N5: typ. range limit 2.5 mm / non-embedded installation 4N0: typ. range limit 4.0 mm / non-embedded installation 8N0: typ. range limit 8.0 mm / non-embedded installation 10N: typ. range limit 10.0 mm / non-embedded installation 12N: typ. range limit 12.0 mm / non-embedded installation 14N: typ. range limit 14.0 mm / non-embedded installation 15N: typ. range limit 15.0 mm / non-embedded installation 20N: typ. range limit 20.0 mm / non-embedded installation 22N: typ. range limit 22.0 mm / non-embedded installation 25N: typ. range limit 25.0 mm / non-embedded installation 40N: typ. range limit 40.0 mm / non-embedded installation</p> |

Part number code

| | |
|------------|---|
| DDD | <p>Electrical connection n/a: cable, standard length 2000 mm S12: M12 connector, 4-pin, axial 200-S12: cable, length 200 mm with M12 connector, 4-pin, axial 200-S8.3: cable, length 200 mm with M8 connector, 3-pin, axial S8.3: M8 connector, 3-pin, axial 005-S8.3: cable, length 500 mm with M8 connector, 3-pin, axial 050: cable, standard length 5000 mm, 3-wire</p> |
|------------|---|

| Note | |
|------|--|
| | <p>A list with all available device types can be found on the Leuze website at www.leuze.com.</p> |

Notes

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

Accessories

Mounting technology - Other

| | Part no. | Designation | Article | Description |
|--|----------|-------------|---------|---|
| | 50111503 | MC 030K | Clamp | Diameter, inner: 30 mm Design of mounting device: Mounting clamp Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Rigid 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> |