

Technical data sheet

Inductive switch

Part no.: 50136031

ISS 112MM/2NC-4E0-M12

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For illustration purposes only



Technical data

Basic data

| | |
|-----------------------------------|---------------|
| Series | 112 |
| type. operating range limit S_n | 4 mm |
| Operating range S_a | 0 ... 3.24 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, NPN |
| 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) | 12 mm x 50 mm |
| Thread size | M12 x 1 mm |
| Type of installation | Embedded/flush |
| Housing material | Metal |
| Metal housing | Nickel-plated brass |
| Sensing face material | Plastic, Polybutylene (PBT) |
| Net weight | 26 g |
| Housing color | Red, RAL 3000 |
| | Silver |
| Type of fastening | Mounting thread |
| Standard measuring plate | 12 x 12 mm ² , 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

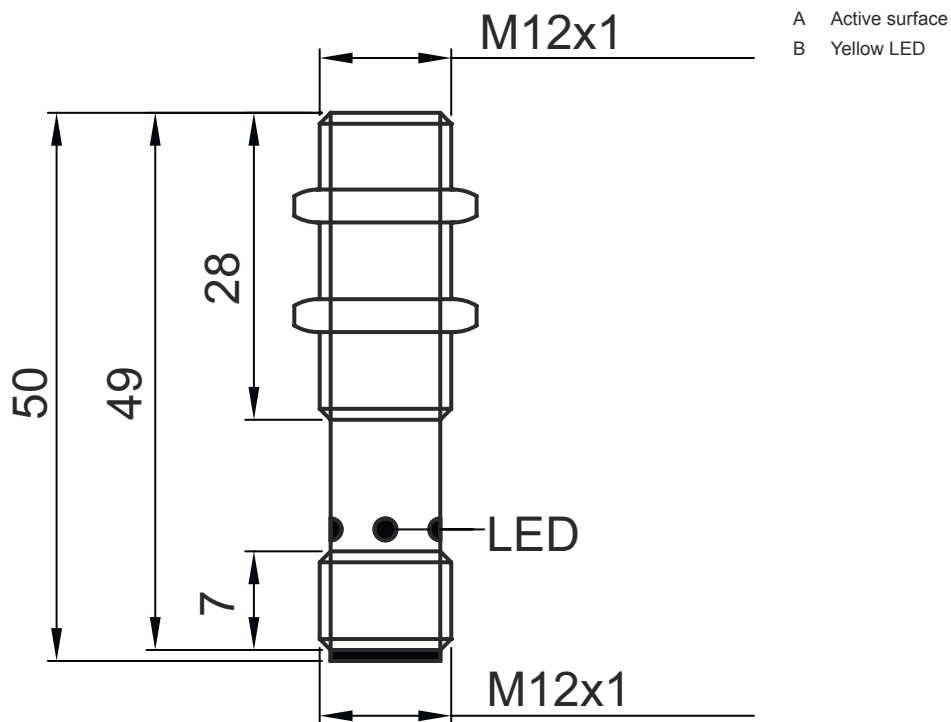
| | |
|-------------|---|
| Fe360 steel | 1 |
|-------------|---|

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

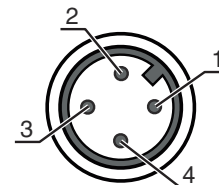


Electrical connection

Connection 1

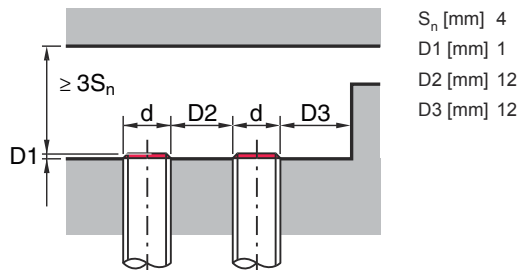
| | |
|--------------------|------------------------------|
| Function | Signal OUT Voltage supply |
| Type of connection | Connector |
| Thread size | M12 |
| Type | Male |
| Material | Metal |
| No. of pins | 4 -pin |
| Encoding | A-coded |

| 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 | Operating principle / construction IS: inductive switch, standard design ISS: inductive switch, short construction |
| YYY | Series 104: series with Ø 4.0 mm 108: series with M8 x 1 external thread 112: series with M12 x 1 external thread 118: series with M18 x 1 external thread 122: series in cubic design with 18 x 18 mm 130: series with M30 x 1.5 external thread 144: series in cubic design with 40 x 40 mm 180: series in cubic design with 80 x 80 mm |
| XX | Housing MM: metal housing (active surface: plastic) / metric thread PP: Plastic housing MP: metal housing (active surface: plastic) / smooth (without thread) |
| ZZZ | Switching output 4NO: PNP transistor, NO contact 4NC: PNP transistor, NC contact 44: PNP transistor, NO contact / NC contact 2NO: NPN transistor, NO contact 2NC: NPN transistor, NC contact 22: NPN transistor, NO contact / NC contact 1NO: relay, NO contact / AC/DC 1NC: Relay, NC contact / AC/DC |
| AAA | Measurement range / type of installation 1E2: typ. range limit 1.2 mm / embedded/flush installation 2E0: typ. range limit 2.0 mm / embedded/flush installation 4E0: typ. range limit 4.0 mm / embedded/flush installation 4N0: typ. range limit 4.0 mm / non-embedded/non-flush installation 5E0: typ. range limit 5.0 mm / embedded/flush installation 6E0: typ. range limit 6.0 mm / embedded/flush installation 8E0: typ. range limit 8.0 mm / embedded/flush installation 8N0: typ. range limit 8.0 mm / non-embedded/non-flush installation 10E: typ. range limit 10.0 mm / embedded/flush installation 15N: typ. range limit 15.0 mm / non-embedded/non-flush installation 16E: typ. range limit 16.0 mm / embedded/flush installation 16N: typ. range limit 16.0 mm / non-embedded/non-flush installation 20E: typ. range limit 20.0 mm / embedded/flush installation 25N: typ. range limit 25.0 mm / non-embedded/non-flush installation 30N: typ. range limit 30.0 mm / non-embedded/non-flush installation 40N: typ. range limit 40.0 mm / non-embedded/non-flush installation 50N: typ. range limit 50.0 mm / non-embedded/non-flush installation 2E5: Typ. range limit 2.5 mm / embedded/flush installation |

Part number code

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

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

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. |


Accessories


Connection technology - Connection cables

| | Part no. | Designation | Article | Description |
|--|----------|--------------------|------------------|---|
| | 50130654 | KD U-M12-4A-P1-020 | Connection cable | Application: Oil and lubricant resistant Connection 1: Connector, M12, Axial, Female, A-coded, 4 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 2,000 mm Sheathing material: PUR |
| | 50130657 | KD U-M12-4A-P1-050 | Connection cable | Application: Oil and lubricant resistant Connection 1: Connector, M12, Axial, Female, A-coded, 4 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: PUR |
| | 50130648 | KD U-M12-4A-V1-020 | Connection cable | Application: Chemical resistant Connection 1: Connector, M12, Axial, Female, A-coded, 4 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 2,000 mm Sheathing material: PVC |
| | 50130652 | KD U-M12-4A-V1-050 | Connection cable | Application: Chemical resistant Connection 1: Connector, M12, Axial, Female, A-coded, 4 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: PVC |

Accessories

Mounting technology - Other

| | Part no. | Designation | Article | Description |
|--|----------|-------------|---------|---|
|  | 50111499 | MC 012K | Clamp | Diameter, inner: 12 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 | |
|--|---|
|  | A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page. |