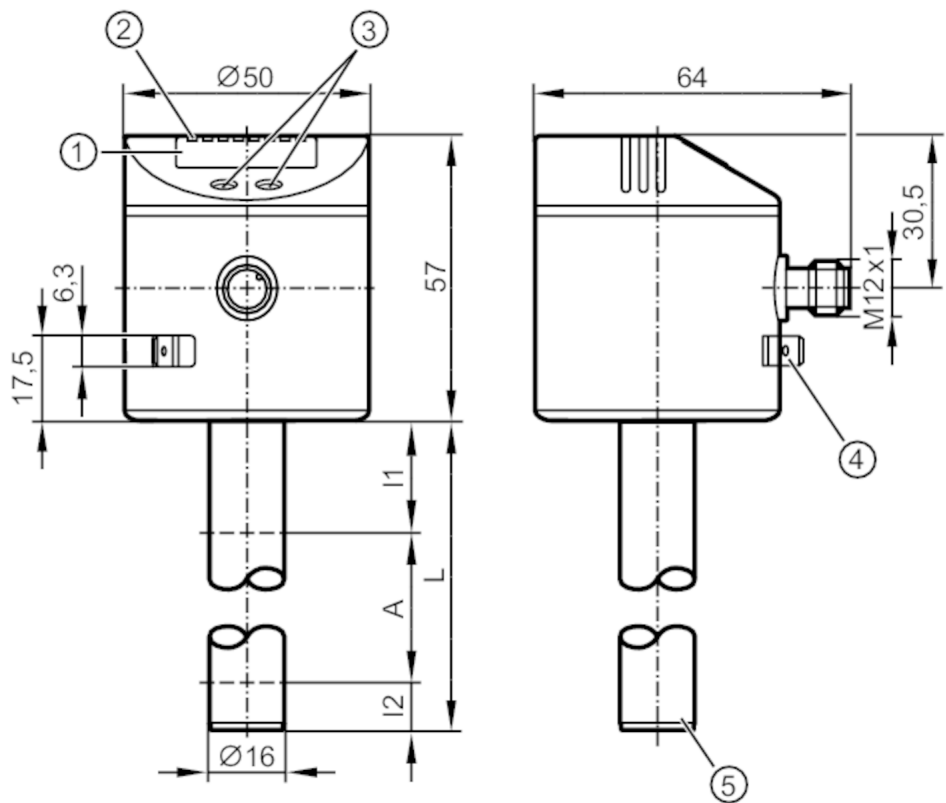




Electronic level and temperature sensor

LT0472B-B-00KLPKG/US



- 1 alphanumeric display 4-digit
- 2 status LEDs
- 3 Programming buttons
- 4 housing connection flat-pin connector 6.3 mm DIN 46244
- 5 Position of the temperature measuring element



| Product characteristics            |                                                                                      |                                                                              |
|------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Number of inputs and outputs       | Number of digital outputs: 1; Number of analog outputs: 1                            |                                                                              |
| Factory setting                    | mineral oils                                                                         |                                                                              |
| Probe length L [mm]                | 472                                                                                  |                                                                              |
| Application                        |                                                                                      |                                                                              |
| Media                              | hydrous coolants; oils; oil-based media; water; media similar to water               |                                                                              |
| Dielectric constant of the medium  | > 2                                                                                  |                                                                              |
| Cannot be used for                 | extremely conductive media; adhering media; granulates; bulk material; acids; alkali |                                                                              |
| Tank pressure                      | 0.5; (when mounting with mounting accessories: E43001 - E43007, E43019) bar          | 0.05; (when mounting with mounting accessories: E43001 - E43007, E43019) MPa |
| Coolants                           |                                                                                      |                                                                              |
| Medium temperature [°C]            | 0...35; (with climate tube E43101 35...60 °C)                                        |                                                                              |
| Oil                                |                                                                                      |                                                                              |
| Medium temperature [°C]            | 0...70                                                                               |                                                                              |
| Medium temperature short time [°C] | 0...90; (< 1 h)                                                                      |                                                                              |
| Water                              |                                                                                      |                                                                              |
| Medium temperature [°C]            | 0...35; (with climate tube E43101 35...60 °C)                                        |                                                                              |

# LT3023



## Electronic level and temperature sensor

LT0472B-B-00KLPKG/US

| Electrical data                                 |      |                                                                             |
|-------------------------------------------------|------|-----------------------------------------------------------------------------|
| Operating voltage                               | [V]  | 18...30 DC                                                                  |
| Current consumption                             | [mA] | < 50                                                                        |
| Protection class                                |      | III                                                                         |
| Reverse polarity protection                     |      | yes                                                                         |
| Power-on delay time                             | [s]  | < 3                                                                         |
| Inputs / outputs                                |      |                                                                             |
| Number of inputs and outputs                    |      | Number of digital outputs: 1; Number of analog outputs: 1                   |
| Outputs                                         |      |                                                                             |
| Total number of outputs                         |      | 2                                                                           |
| Output signal                                   |      | switching signal; analog signal; IO-Link                                    |
| Electrical design                               |      | PNP/NPN                                                                     |
| Number of digital outputs                       |      | 1                                                                           |
| Output function                                 |      | normally open / closed; (configurable)                                      |
| Max. voltage drop switching output DC           | [V]  | 2.5                                                                         |
| Permanent current rating of switching output DC | [mA] | 200                                                                         |
| Number of analog outputs                        |      | 1                                                                           |
| Analog current output                           | [mA] | 4...20, invertible                                                          |
| Max. load                                       | [Ω]  | 500                                                                         |
| Analog voltage output                           | [V]  | 0...10, invertible                                                          |
| Min. load resistance                            | [Ω]  | 2000                                                                        |
| Short-circuit protection                        |      | yes                                                                         |
| Type of short-circuit protection                |      | thermal, pulsed                                                             |
| Overload protection                             |      | yes                                                                         |
| Measuring/setting range                         |      |                                                                             |
| Factory setting                                 |      | mineral oils                                                                |
| Probe length L                                  | [mm] | 472                                                                         |
| Active range A                                  | [mm] | 390                                                                         |
| Inactive range I1 / I2                          | [mm] | 60 / 22                                                                     |
| Setting range                                   |      |                                                                             |
| Set point SP                                    | [mm] | 35...390                                                                    |
| Reset point rP                                  | [mm] | 30...385                                                                    |
| In steps of                                     | [mm] | 5                                                                           |
| Reference point OP                              | [mm] | 139 - 163 - 188 - 212 - 236 - 261 - 285 - 310 - 334 - 358 - 383 - 407 - OFF |
| Hysteresis, OP                                  | [mm] | 3                                                                           |
| Temperature monitoring                          |      |                                                                             |
| Measuring range                                 | [°C] | -20...90                                                                    |
| Set point SP                                    | [°C] | -19.5...90                                                                  |
| Reset point rP                                  | [°C] | -20...89.5                                                                  |
| In steps of                                     | [°C] | 0.5                                                                         |



## Electronic level and temperature sensor

LT0472B-B-00KLPKG/US

|                                |     |     |
|--------------------------------|-----|-----|
| Resolution of switching output | [K] | 0.5 |
|--------------------------------|-----|-----|

## Accuracy / deviations

|                       |                        |     |
|-----------------------|------------------------|-----|
| Measuring error       |                        | ± 5 |
|                       | [% of the final value] |     |
| Repeatability         |                        | ± 2 |
| Resolution            | [mm]                   | 5   |
| Zero signal (voltage) | [V]                    | 0   |
| Zero signal (current) | [mA]                   | 4.0 |
| Full signal (voltage) | [V]                    | 10  |
| Full signal (current) | [mA]                   | 20  |

## Temperature monitoring

|                       |     |       |
|-----------------------|-----|-------|
| Switch point accuracy | [K] | ± 1,5 |
| Resolution            | [K] | 0.5   |
| Dynamic response T09  | [s] | 90    |

## Software / programming

|                           |                                                                                                                                                                                    |  |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Parameter setting options | hysteresis / window; normally open / closed; switching logic; current/voltage output; SP/ rP position; adjustment OP; medium selection; offset setting; switch-on/switch-off delay |  |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

## Interfaces

|                            |                                                                              |          |
|----------------------------|------------------------------------------------------------------------------|----------|
| Communication interface    | IO-Link                                                                      |          |
| Transmission type          | COM2 (38,4 kBaud)                                                            |          |
| IO-Link revision           | 1.1                                                                          |          |
| SDCI standard              | IEC 61131-9                                                                  |          |
| Profiles                   | Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis |          |
| SIO mode                   | yes                                                                          |          |
| Required master port class | A                                                                            |          |
| Process data analog        | 4                                                                            |          |
| Process data binary        | 1                                                                            |          |
| Min. process cycle time    | [ms]                                                                         | 4.5      |
| Supported DeviceIDs        | Type of operation                                                            | DeviceID |
|                            | default                                                                      | 647      |

## Operating conditions

|                     |      |          |
|---------------------|------|----------|
| Ambient temperature | [°C] | 0...60   |
| Storage temperature | [°C] | -25...80 |
| Protection          |      | IP 67    |

## Tests / approvals

|                      |                    |                    |
|----------------------|--------------------|--------------------|
| EMC                  | DIN EN 61000-6-2   |                    |
|                      | DIN EN 61000-6-4   |                    |
| Shock resistance     | DIN EN 60068-2-27  | 15 g (11 ms)       |
| Vibration resistance | DIN EN 60068-2-6   | 5 g (10...2000 Hz) |
| MTTF                 | [years]            | 222                |
| UL approval          | UL approval number | H002               |

## Mechanical data

|        |     |        |
|--------|-----|--------|
| Weight | [g] | 372.25 |
|--------|-----|--------|

LT3023



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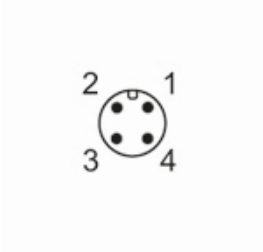
|                          |                                                                                                 |      |
|--------------------------|-------------------------------------------------------------------------------------------------|------|
| Dimensions               | [mm]                                                                                            | Ø 16 |
| Material                 | stainless steel (1.4301 / 304); stainless steel (1.4404 / 316L); FKM; NBR; PBT; PC; PA; PP; TPV |      |
| Materials (wetted parts) | PP                                                                                              |      |

| Displays / operating elements |                   |                                   |
|-------------------------------|-------------------|-----------------------------------|
| Display                       | Display unit      | 4 x LED, green (cm, inch, °C, °F) |
|                               | Switching status  | 1 x LED, yellow                   |
|                               | Measured values   | alphanumeric display, 4-digit     |
|                               | Parameter setting | alphanumeric display, 4-digit     |

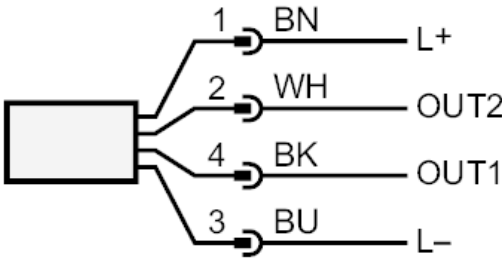
| Remarks       |        |
|---------------|--------|
| Pack quantity | 1 pcs. |

Electrical connection

Connector: 1 x M12; coding: A



Connection



OUT1: Switching output IO-Link  
OUT2: analog output  
Colors to DIN EN 60947-5-2  
Core colors :  
BK = black  
BN = brown  
BU = blue  
WH = white