

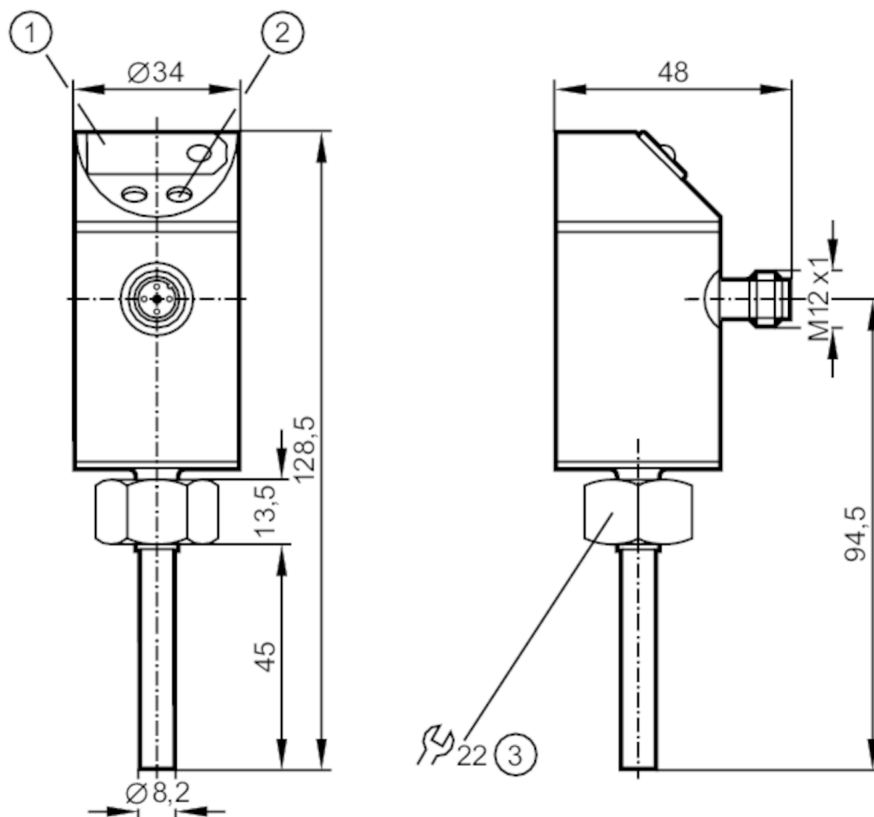
## Temperature sensor with display

TN-013KBBD10-QFPKG/US/ IV

Article no longer available - archive entry

Alternative articles: TN7511

When selecting an alternative article and accessories please note that technical data may differ!



- 1 7-segment LED display
- 2 programming button
- 3 internal thread M18 x 1.5



### Product characteristics

|                              |                                               |              |
|------------------------------|-----------------------------------------------|--------------|
| Number of inputs and outputs | Number of digital outputs: 2                  |              |
| Measuring range              | -40...125 °C                                  | -40...257 °F |
| Process connection           | threaded connection M18 x 1,5 internal thread |              |

### Application

|                                 |                                         |  |
|---------------------------------|-----------------------------------------|--|
| Special feature                 | Gold-plated contacts                    |  |
| Measuring element               | 1 x Pt 1000; (to DIN EN 60751, class B) |  |
| Media                           | liquids and gases                       |  |
| Pressure rating [bar]           | 300                                     |  |
| Minimum installation depth [mm] | 15                                      |  |

### Electrical data

|                          |            |  |
|--------------------------|------------|--|
| Operating voltage [V]    | 18...30 DC |  |
| Current consumption [mA] | < 50       |  |



## Temperature sensor with display

TN-013KBBBD10-QFPKG/US/ IV

|                                 |                 |
|---------------------------------|-----------------|
| Min. insulation resistance [MΩ] | 100; (500 V DC) |
| Protection class                | III             |
| Reverse polarity protection     | yes             |
| Power-on delay time [s]         | 1.5             |
| Integrated watchdog             | yes             |

### Inputs / outputs

|                              |                              |
|------------------------------|------------------------------|
| Number of inputs and outputs | Number of digital outputs: 2 |
|------------------------------|------------------------------|

### Outputs

|                                                      |                                                    |
|------------------------------------------------------|----------------------------------------------------|
| Total number of outputs                              | 2                                                  |
| Output signal                                        | switching signal                                   |
| Electrical design                                    | PNP                                                |
| Number of digital outputs                            | 2                                                  |
| Output function                                      | normally open / normally closed; (parameterisable) |
| Max. voltage drop switching output DC [V]            | 2                                                  |
| Permanent current rating of switching output DC [mA] | 250                                                |
| Short-circuit protection                             | yes                                                |
| Type of short-circuit protection                     | pulsed                                             |
| Overload protection                                  | yes                                                |

### Measuring/setting range

|                 |      |                |              |
|-----------------|------|----------------|--------------|
| Probe length L  | [mm] | 45             |              |
| Measuring range |      | -40...125 °C   | -40...257 °F |
| Set point SP    |      | -39.5...125 °C | -39...257 °F |
| Reset point rP  |      | -40...124.5 °C | -40...256 °F |
| In steps of     |      | 0.5 °C         | 1 °F         |

### Resolution

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

### Accuracy / deviations

|                                |                               |
|--------------------------------|-------------------------------|
| Switch point accuracy [K]      | ± (Pt 1000 + 0,2 K)           |
| Display accuracy [K]           | ± (Pt 1000 + 0,2 K + ½ Digit) |
| Temperature drift per 10 K [K] | 0.1                           |

### Response times

|                                |                          |
|--------------------------------|--------------------------|
| Dynamic response T05 / T09 [s] | 1 / 3; (to DIN EN 60751) |
|--------------------------------|--------------------------|

### Software / programming

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Adjustment of the switch point | programming button                                                                                                |
| Parameter setting options      | hysteresis / window; normally open / normally closed; min/ max memory reset; Display unit; zero-point calibration |

### Operating conditions

|                          |           |
|--------------------------|-----------|
| Ambient temperature [°C] | -25...70  |
| Storage temperature [°C] | -40...100 |

# TN7530



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|            |       |
|------------|-------|
| Protection | IP 67 |
|------------|-------|

### Tests / approvals

|                      |                           |                     |
|----------------------|---------------------------|---------------------|
| EMC                  | DIN EN 61000-4-2 ESD      | 4 kV CD / 8 kV AD   |
|                      | EN 61000-4-3 HF radiated  | 10 V/m              |
|                      | DIN EN 61000-4-4 Burst    | 2 kV                |
|                      | EN 61000-4-6 HF conducted | 10 V                |
| Shock resistance     | DIN IEC 68-2-27           | 50 g (11 ms)        |
| Vibration resistance | DIN EN 60068-2-6          | 20 g (10...2000 Hz) |

### Mechanical data

|                          |                                                             |
|--------------------------|-------------------------------------------------------------|
| Housing                  | for adapter                                                 |
| Materials                | stainless steel (1.4301 / 304); EPDM/X; CO-PC; PBT; FKM; PA |
| Materials (wetted parts) | stainless steel (1.4404 / 316L)                             |
| Process connection       | threaded connection M18 x 1,5 internal thread               |

### Displays / operating elements

|         |                  |                       |
|---------|------------------|-----------------------|
| Display | switching status | 2 x LED, red          |
|         | function display | 7-segment LED display |
|         | measured values  | 7-segment LED display |

### Remarks

|               |                                                 |
|---------------|-------------------------------------------------|
| Remarks       | The values for accuracy apply to flowing water. |
| Pack quantity | 1 pcs.                                          |

### Electrical connection

Connector: 1 x M12; coding: A; Contacts: gold-plated



### Connection

