



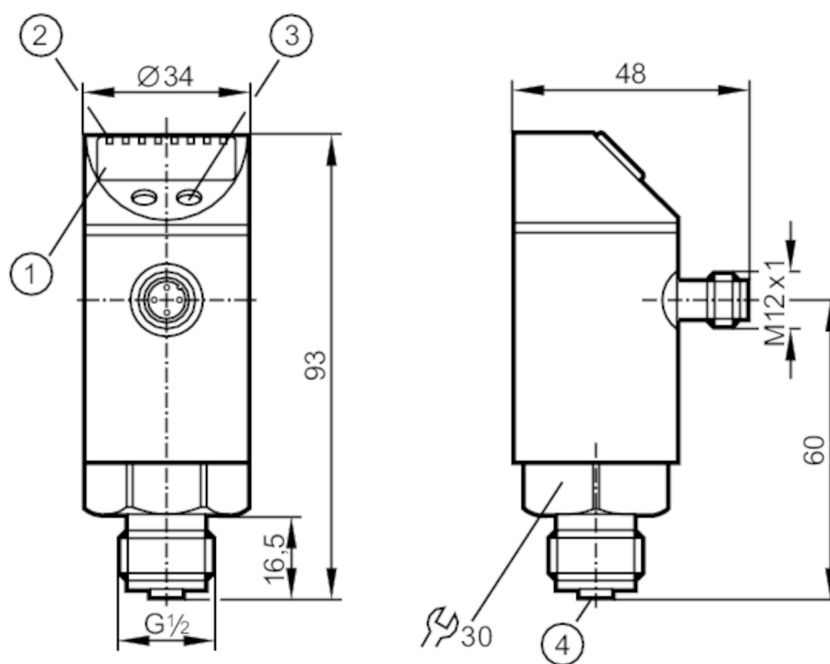
## Evaluation unit with display for PT100/PT1000 temperature sensors

TR-...KDBR12-MFRKG/US/...../V

Article to be discontinued

Alternative articles: TR2439

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



- 1 alphanumeric display 4-digit
- 2 status LEDs
- 3 Programming button
- 4 connector for temperature sensor M12 x 1



### Product characteristics

|                              |                                                           |              |
|------------------------------|-----------------------------------------------------------|--------------|
| Number of inputs and outputs | Number of digital outputs: 1; Number of analog outputs: 1 |              |
| Measuring range              | -40...300 °C                                              | -40...572 °F |
| Process connection           | threaded connection G 1/2 external thread                 |              |

### Application

|             |                                         |
|-------------|-----------------------------------------|
| System      | gold-plated contacts                    |
| Application | for Pt100 and Pt1000 measuring elements |

### Electrical data

|                             |      |                                               |
|-----------------------------|------|-----------------------------------------------|
| Operating voltage           | [V]  | 18...32 DC; (cULus - Class 2 source required) |
| Current consumption         | [mA] | < 50                                          |
| Protection class            |      | III                                           |
| Reverse polarity protection |      | yes                                           |
| Power-on delay time         | [s]  | 1                                             |
| Integrated watchdog         |      | yes                                           |

### Inputs / outputs

|                              |                                                           |
|------------------------------|-----------------------------------------------------------|
| Number of inputs and outputs | Number of digital outputs: 1; Number of analog outputs: 1 |
|------------------------------|-----------------------------------------------------------|



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| Outputs                                              |                                                          |                |
|------------------------------------------------------|----------------------------------------------------------|----------------|
| Total number of outputs                              | 2                                                        |                |
| Output signal                                        | switching signal; analog signal; IO-Link; (configurable) |                |
| Electrical design                                    | PNP/NPN                                                  |                |
| Number of digital outputs                            | 1                                                        |                |
| Output function                                      | normally open / closed; (configurable)                   |                |
| Max. voltage drop switching output DC [V]            | 2                                                        |                |
| Permanent current rating of switching output DC [mA] | 250                                                      |                |
| Number of analog outputs                             | 1                                                        |                |
| Analog current output [mA]                           | 4...20; (Response time analog output: 384 ms)            |                |
| Max. load [Ω]                                        | (Ub - 10 V) x 50                                         |                |
| Analog voltage output [V]                            | 0...10; (Response time analog output: 384 ms)            |                |
| Min. load resistance [Ω]                             | 2000                                                     |                |
| Short-circuit protection                             | yes                                                      |                |
| Type of short-circuit protection                     | yes (non-latching)                                       |                |
| Overload protection                                  | yes                                                      |                |
| Measuring/setting range                              |                                                          |                |
| Measuring range                                      | -40...300 °C                                             | -40...572 °F   |
| Set point SP                                         | -39.8...300 °C                                           | -39.6...572 °F |
| Reset point rP                                       | -40...299.8 °C                                           | -40...571.6 °F |
| Analog start point                                   | -40...295 °C                                             | -40...563 °F   |
| Analog end point                                     | -35...300 °C                                             | -31...572 °F   |
| In steps of                                          | 0.1 °C                                                   | 0.1 °F         |
| Resolution                                           |                                                          |                |
| Resolution of switching output [K]                   | 0.1                                                      |                |
| Resolution of analog output [K]                      | 0.1                                                      |                |
| Resolution of display [K]                            | 0.1                                                      |                |
| Accuracy / deviations                                |                                                          |                |
| Switch point accuracy [K]                            | ± 0,3                                                    |                |
| Precision analog output [K]                          | ± 0,3                                                    |                |
| Display accuracy [K]                                 | ± 0,3                                                    |                |
| Temperature drift per 10 K [K]                       | 0.1                                                      |                |
| Reaction times                                       |                                                          |                |
| Response time [ms]                                   | 130                                                      |                |
| Interfaces                                           |                                                          |                |
| Communication interface                              | IO-Link                                                  |                |
| Transmission type                                    | COM2 (38,4 kBaud)                                        |                |
| IO-Link revision                                     | 1.0                                                      |                |



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| Operating conditions                                                                           |                                                      |                               |
|------------------------------------------------------------------------------------------------|------------------------------------------------------|-------------------------------|
| Ambient temperature                                                                            | [°C]                                                 | -25...70                      |
| Storage temperature                                                                            | [°C]                                                 | -40...85                      |
| 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                          |
|                                                                                                | DIN EN 61000-4-5 Surge                               | 1 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)           |
| MTTF                                                                                           | [years]                                              | 207                           |
| Mechanical data                                                                                |                                                      |                               |
| Weight                                                                                         | [g]                                                  | 231.2                         |
| Material                                                                                       | stainless steel (1.4301 / 304); EPDM/X; PC; PBT; FKM |                               |
| Process connection                                                                             | threaded connection G 1/2 external thread            |                               |
| Displays / operating elements                                                                  |                                                      |                               |
| Display                                                                                        | Display unit                                         | 2 x LED, green                |
|                                                                                                | Switching status                                     | LED, yellow                   |
|                                                                                                | Measured values                                      | alphanumeric display, 4-digit |
|                                                                                                | Programming                                          | alphanumeric display, 4-digit |
| Remarks                                                                                        |                                                      |                               |
| Pack quantity                                                                                  | 1 pcs.                                               |                               |
| Electrical connection                                                                          |                                                      |                               |
| Connector: 1 x M12; Contacts: gold-plated                                                      |                                                      |                               |
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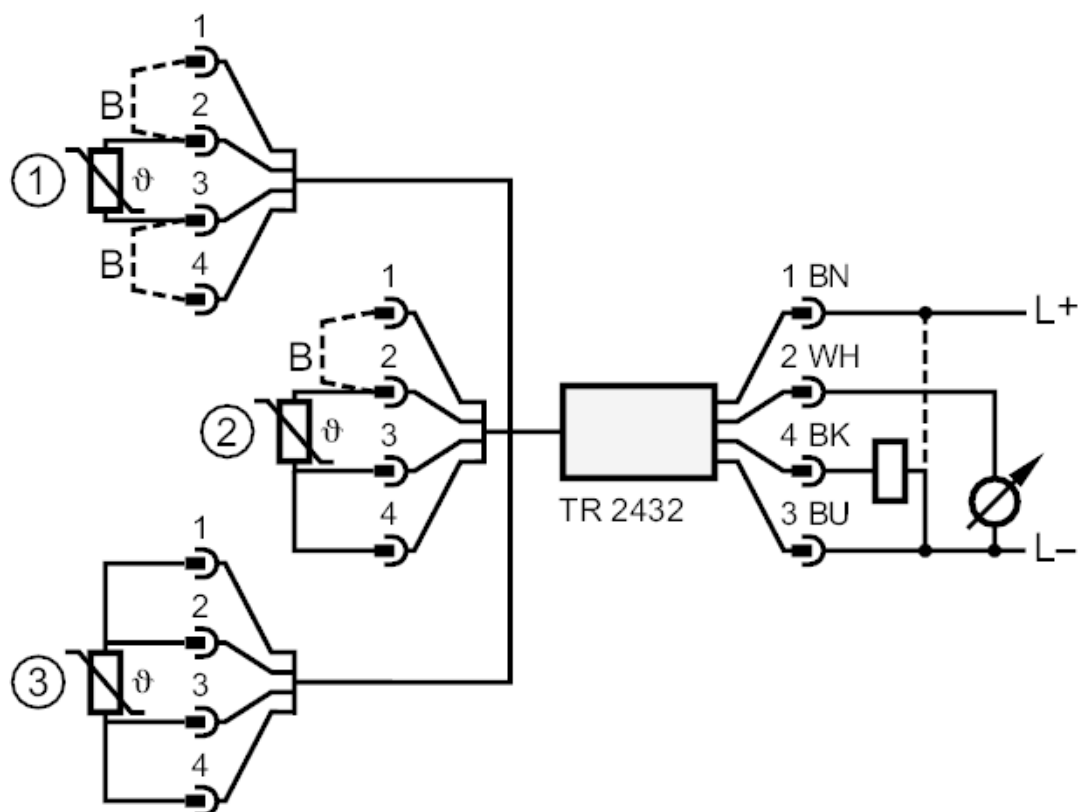
# TR2432



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### Connection



- 1 = Two-wire sensor
- 2 = 3-wire measuring probe
- 3 = Four-wire sensor
- B = bridge