



Evaluation unit with display for PT100/PT1000
temperature sensors

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

phase-out article

Alternative articles: TR2439
When selecting an alternative article and accessories please note that technical data may differ!

Technical drawing of the evaluation unit showing front and side views with dimensions and callouts.

Front view dimensions: Ø34, 93, 16.5, G½.

Side view dimensions: 48, 60, M12 x 1, 30.

Callouts: 1 (alphanumeric display 4-digit), 2 (status LEDs), 3 (programming button), 4 (connector for temperature sensor M12 x 1).

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 analogue outputs: 1	
Measuring range	-40...300 °C	-40...572 °F
Communication interface	IO-Link	
Process connection	threaded connection G 1/2 external thread	
Application		
Special feature	Gold-plated contacts	
Application	for Pt100 and Pt1000 measuring elements	
Electrical data		
Operating voltage	[V]	18...32 DC; ("supply class 2" to cULus)
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 analogue outputs: 1	



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TR-...KDBR12-MFRKG/USI/...../V

Outputs		
Total number of outputs	2	
Output signal	switching signal; analogue signal; IO-Link; (configurable)	
Electrical design	PNP/NPN	
Number of digital outputs	1	
Output function	normally open / normally closed; (parameterisable)	
Max. voltage drop switching output DC [V]	2	
Permanent current rating of switching output DC [mA]	250	
Number of analogue outputs	1	
Analogue current output [mA]	4...20; (response time analogue output: 384 ms)	
Max. load [Ω]	(Ub - 10 V) x 50	
Analogue voltage output [V]	0...10; (response time analogue output: 384 ms)	
Min. load resistance [Ω]	2000	
Short-circuit protection	yes	
Type of short-circuit protection	pulsed	
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
Analogue start point	-40...295 °C	-40...563 °F
Analogue 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 analogue output [K]	0.1	
Resolution of display [K]	0.1	
Accuracy / deviations		
Switch point accuracy [K]	± 0,3	
Precision analogue output [K]	± 0,3	
Display accuracy [K]	± 0,3	
Temperature drift per 10 K [K]	0.1	
Response times		
Response time [ms]	130	
Interfaces		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.0	
Operating conditions		
Ambient temperature [°C]	-25...70	
Storage temperature [°C]	-40...85	



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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
	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
Materials	stainless steel (304/1.4301); 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.
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Electrical connection

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

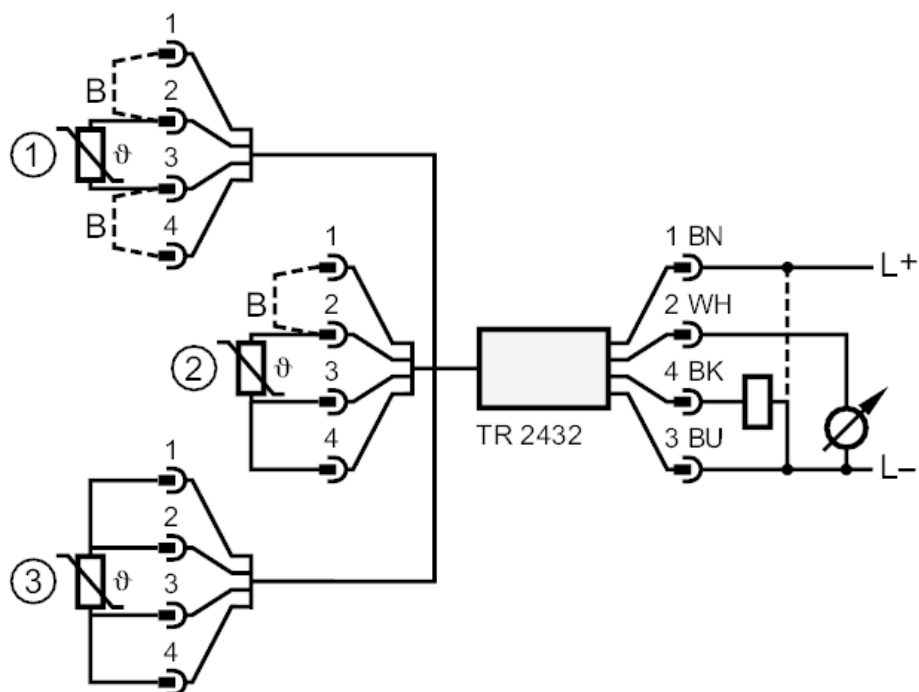




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Connection



- 1 = two-wire sensor
- 2 = three-wire sensor
- 3 = four-wire sensor
- B = link