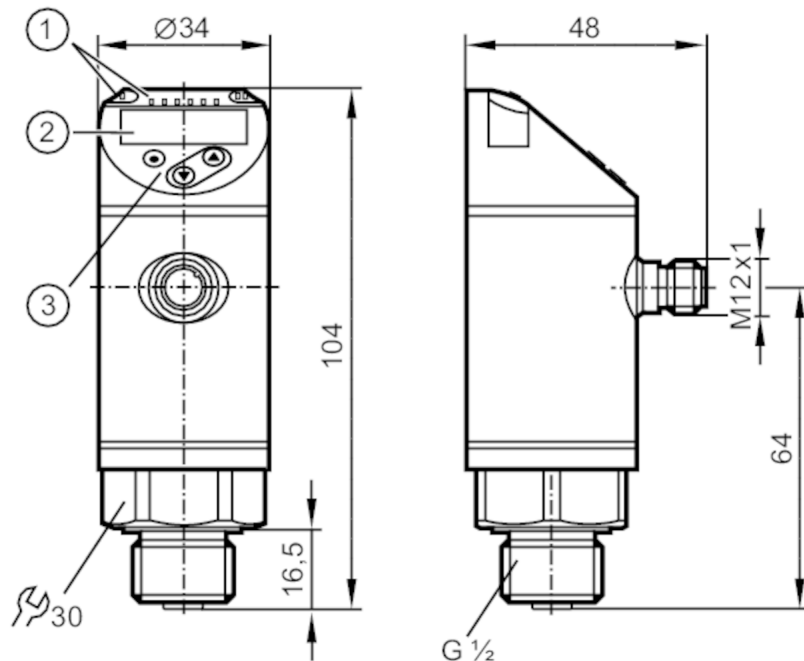


# TY2439



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

TR-000KDBM12-MFPKG/US/



- 1 LEDs Display unit / Switching status
- 2 alphanumeric display 4-digit red/green
- 3 Programming buttons



### Product characteristics

Number of inputs and outputs	Number of digital outputs: 1; Number of analog outputs: 1
Measuring range [°C]	-100...600
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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## Evaluation unit with display for PT100/PT1000 temperature sensors

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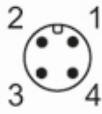
Outputs	
Total number of outputs	2
Output signal	switching signal; analog signal; IO-Link; (configurable)
Electrical design	PNP/NPN
Number of digital outputs	1
Output function	normally open / closed; (configurable)
Max. voltage drop switching output DC [V]	2.5
Permanent current rating of switching output DC [mA]	250
Number of analog outputs	1
Analog current output [mA]	4...20
Max. load [ $\Omega$ ]	500
Analog voltage output [V]	0...10
Min. load resistance [ $\Omega$ ]	2000
Short-circuit protection	yes
Type of short-circuit protection	yes (non-latching)
Overload protection	yes
Measuring/setting range	
Measuring range [ $^{\circ}\text{C}$ ]	-100...600
Factory setting	-40...300 $^{\circ}\text{C}$
Set point SP [ $^{\circ}\text{C}$ ]	-99.8...600
Reset point rP [ $^{\circ}\text{C}$ ]	-100...599.8
Analog start point [ $^{\circ}\text{C}$ ]	-100...595
Analog end point [ $^{\circ}\text{C}$ ]	-95...600
In steps of [ $^{\circ}\text{C}$ ]	0.1
Resolution	
Resolution of switching output [K]	0.1
Resolution of analog output [K]	current output: MS / 4096; voltage output: MS / 3561
Resolution of display [K]	0.1
Accuracy / deviations	
Switch point accuracy [K]	$\pm 0,3 + (\pm 0,1 \% \text{ MS})$
Precision analog output [K]	$\pm 0,3 + (\pm 0,1 \% \text{ MS})$
Display accuracy [K]	$\pm 0,3 + (\pm 0,1 \% \text{ MS})$
Temperature coefficient [% of the span / 10 K]	0,1; (In case of deviation from the reference condition 25 $^{\circ}\text{C}$ )
Reaction times	
Response time [ms]	390
Max. response time analog output [ms]	390
Software / programming	
Parameter setting options	hysteresis / window; normally open / closed; switch-on/switch-off delay; Damping; current/voltage output

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

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Interfaces		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1	
Operating conditions		
Ambient temperature	[°C]	-25...80
Storage temperature	[°C]	-40...100
Protection	IP 67	
Tests / approvals		
EMC	DIN EN 61000-6-3	
	DIN EN 61000-6-2	
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]	233
UL approval	UL approval number	K011
Mechanical data		
Weight	[g]	191
Material	stainless steel (1.4301 / 304); EPDM/X; PC; PBT; FPM	
Process connection	threaded connection G 1/2 external thread	
Displays / operating elements		
Display	Display unit	1 x LED, green
	Switching status	LED, yellow
	Measured values	alphanumeric display, red/green 4-digit
Remarks		
Remarks	MS = set measuring span	
Pack quantity	1 pcs.	
Electrical connection		
Connector: 1 x M12; coding: A; Contacts: gold-plated		
		

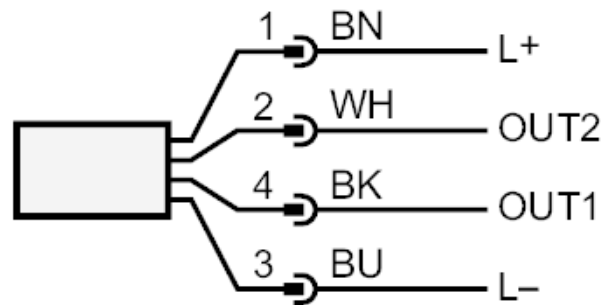
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## Evaluation unit with display for PT100/PT1000 temperature sensors

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### Connection



OUT1: Switching output / IO-Link

OUT2: analog output

Colors to DIN EN 60947-5-2