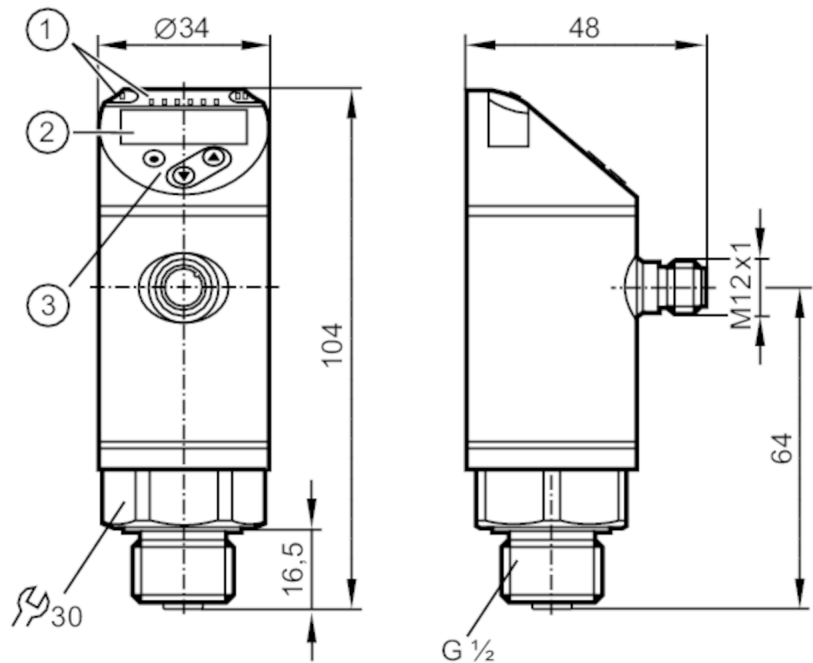




Evaluation unit with display for PT100/PT1000  
temperature sensors

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 analogue outputs: 1	
Measuring range	-100...600 °C	-148...1112 °F
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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Outputs

Total number of outputs	2
Output signal	switching signal; analogue signal; IO-Link; (configurable)
Electrical design	PNP/NPN
Number of digital outputs	1



## Evaluation unit with display for PT100/PT1000

### temperature sensors

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Output function		normally open / normally closed; (parameterisable)
Max. voltage drop switching output DC	[V]	2.5
Permanent current rating of switching output DC	[mA]	250
Number of analogue outputs		1
Analogue current output	[mA]	4...20
Max. load	[Ω]	500
Analogue voltage output	[V]	0...10
Min. load resistance	[Ω]	2000
Short-circuit protection		yes
Type of short-circuit protection		pulsed
Overload protection		yes

### Measuring/setting range

Measuring range	-100...600 °C	-148...1112 °F
Factory setting	-40...300 °C / -40...572 °F	
Set point SP	-99.8...600 °C	-147.6...1112 °F
Reset point rP	-100...599.8 °C	-148...1111.6 °F
Analogue start point	-100...595 °C	-148...1103 °F
Analogue end point	-95...600 °C	-139...1112 °F
In steps of	0.1 °C	0.1 °F

### Resolution

Resolution of switching output	[K]	0.1
Resolution of analogue output	[K]	current output: MS / 4096; voltage output: MS / 3561
Resolution of display	[K]	0.1

### Accuracy / deviations

Switch point accuracy	[K]	± 0,3 + (± 0,1 % MS)
Precision analogue output	[K]	± 0,3 + (± 0,1 % MS)
Display accuracy	[K]	± 0,3 + (± 0,1 % MS)
Temperature coefficient [% of the span / 10 K]		0,1; (in case of deviation from the reference condition 25 ± 5 °C)

### Response times

Response time	[ms]	390
Max. response time analogue output	[ms]	390

### Software / programming

Parameter setting options		hysteresis / window; normally open / normally closed; switch-on/ switch-off delay; Damping; Display unit; current/voltage output
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### Interfaces

Communication interface		IO-Link
Transmission type		COM2 (38,4 kBaud)
IO-Link revision		1.1



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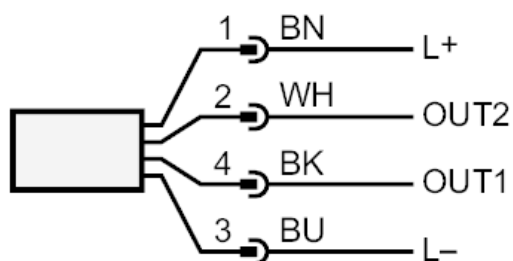
Operating conditions		
Ambient temperature	[°C]	-25...80
Storage temperature	[°C]	-40...100
Protection		IP 67
Tests / approvals		
EMC	DIN EN 61000-6-3	
	DIN EN 61000-6-2	
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN EN 60068-2-6	20 g (10...2000 Hz)
MTTF	[years]	233
UL approval	UL Approval no.	K011
Mechanical data		
Weight	[g]	200
Materials	stainless steel (1.4404 / 316L); stainless steel (1.4301 / 304); PBT+PC-GF30; PBT-GF20; PC	
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, 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: analogue output  
colours to DIN EN 60947-5-2