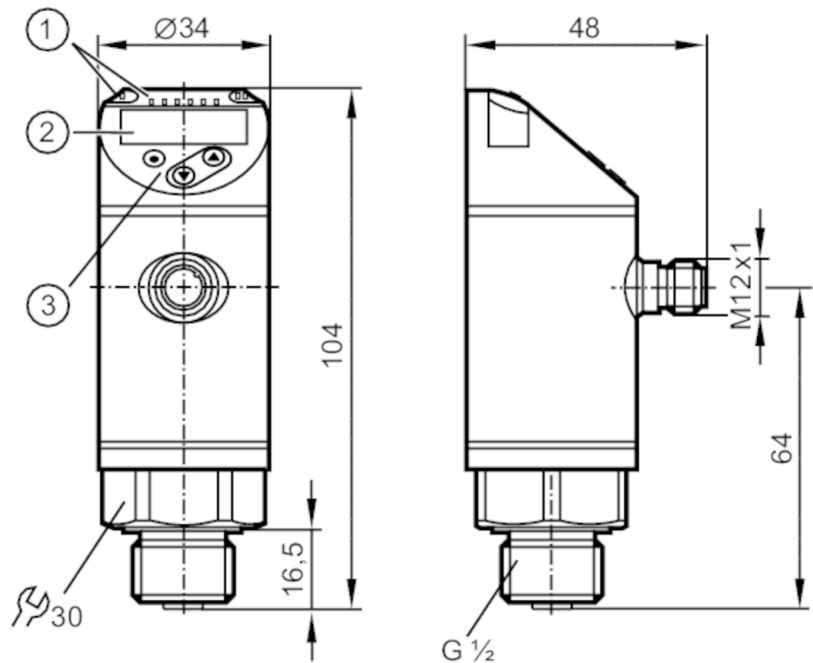




Evaluation unit with display for PT100/PT1000
temperature sensors

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
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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Outputs

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



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Number of digital outputs		1
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
Housing		cylindrical
Dimensions	[mm]	Ø 34 / L = 104
Materials		stainless steel (316L/1.4404); stainless steel (304/1.4301); 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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Connection



OUT1: switching output / IO-Link
OUT2: analogue output
colours to DIN EN 60947-5-2