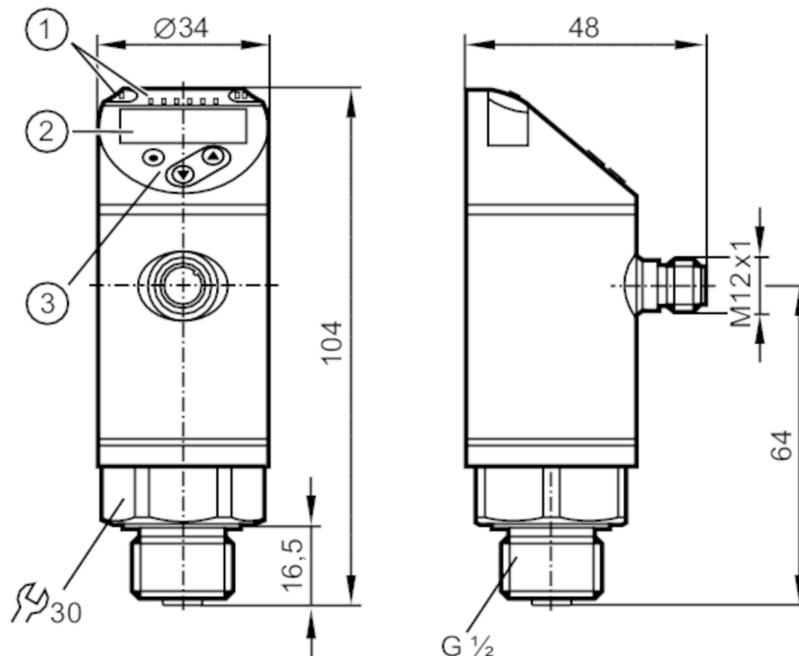




Evaluation unit with display for PT100/PT1000 temperature sensors

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	-100...600 °C	-148...1112 °F
Communication interface	IO-Link	
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



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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	[Ω]	500
Analog voltage output	[V]	0...10
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	-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
Analog start point	-100...595 °C	-148...1103 °F
Analog 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 analog 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 analog 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)

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; Display unit; current/voltage output

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

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Profiles	Smart Sensor - SSP 0	Generic Profiled Sensor
	Function	Device identification
	Function	Process data variable
	Function	Device diagnosis
Min. process cycle time [ms]		2.3
Supported DeviceIDs	Type of operation	DeviceID
	default	584

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]		200
Housing		tubular
Dimensions [mm]		Ø 34 / L = 104
Material		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



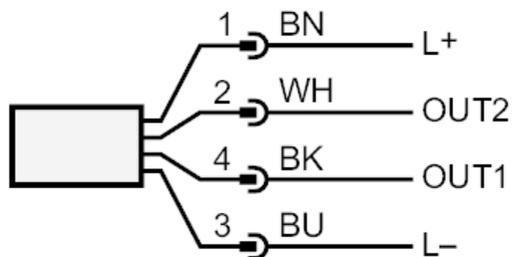
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Connection



OUT1: Switching output / IO-Link
OUT2: analog output
Colors to DIN EN 60947-5-2