

- 1: LEDs (display unit / switching status)
- 2: 4-digit alphanumeric display / alternating indication of red and green
- 3: Programming buttons



**Product characteristics**

Evaluation unit for temperature sensors
Process connection: G ½ A
for Pt100 and Pt1000 measuring elements
Switching output, analog output 4...20 mA or 0...10 V
4-digit alphanumeric display
Measuring range: -100...600 °C / -148...1112 °F
Factory setting: -40...300 °C / -40...572 °F

**Electrical data**

Electrical design	DC PNP/NPN
Operating voltage [V]	18...32 DC; cULus - Class 2 source required
Current consumption [mA]	< 50
Protection class	III
Reverse polarity protection	yes

**Outputs**

Output	Switching output, analog output 4...20 mA or 0...10 V
Output function	1 x normally open / closed programmable + 1 x analog (4...20 mA / 0...10 V, scalable)
Current rating [mA]	250
Voltage drop [V]	< 2.5
Short-circuit protection	yes (non-latching)
Overload protection	yes
Analog output	4...20 mA / 0...10 V
Max. load [Ω]	4...20 mA: 500
Min. load [Ω]	0...10 V: 2000

**Measuring / setting range**

Measuring range	-100...600 °C	-148...1112 °F
Factory setting	-40...300 °C / -40...572 °F	
Setting range		
Set point, SP	-99.8...600 °C	-147.6...1112 °F
Reset point, rP	-100...599.8 °C	-148...1111.6 °F

**TR2439**

TR-000KDBM12-MFPKG/US/

**Evaluation systems**

Analog start point, ASP	-100...595 °C	-148...1103 °F
Analog end point, AEP	-95...600 °C	-139...1112 °F
in steps of	0.1 °C	0.1 °F
Resolution		
Switching output [K]	0.1	
Analog output [K]	MS / 4096 *)   MS / 3561 **)	
Display [K]	0.1	

**Accuracy / deviations**

Switch point accuracy [K]	± 0.3 + (± 0.1 % MS)	
Analog output [K]	± 0.3 + (± 0.1 % MS)	
Display [K]	± 0.3 + (± 0.1 % MS)	
Temperature drift ( / 10 K)	0.1 % MS	

**Reaction times**

Power-on delay time [s]	1	
Response time Switching output[ms]	390	
Response time analog output	390 [ms]	
Integrated watchdog	yes	

**Software / programming**

Programming options	hysteresis / window function; NO / NC; on delay, off delay; damping; display unit; current/ voltage output	
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**Interfaces**

IO-Link Device		
Transfer type	COM2 (38.4 Kbaud)	
IO-Link revision	1.1	

**Environment**

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 number	K011	

**Mechanical data**

Process connection	G ½ A	
Housing materials	304 / 1.4301 (V2A); EPDM/X; PC; PBT; FPM	
Weight [kg]	0.199	

**Displays / operating elements**

Display	Display unit 2 x LED green Switching status LED yellow 4-digit alphanumeric display / alternating indication Measured values of red and green	
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**Electrical connection**

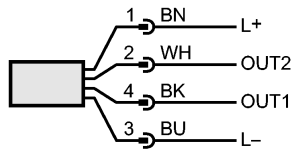
Connection	M12 connector; gold-plated contacts	
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**Evaluation systems**

**Wiring**



OUT1: switching output or IO-Link  
 OUT2: Analog output  
 Colours to DIN EN 60947-5-2

**Remarks**

Remarks	*) current output **) voltage output MS = set measuring span cULus - Class 2 source required
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Pack quantity	[piece]	1
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