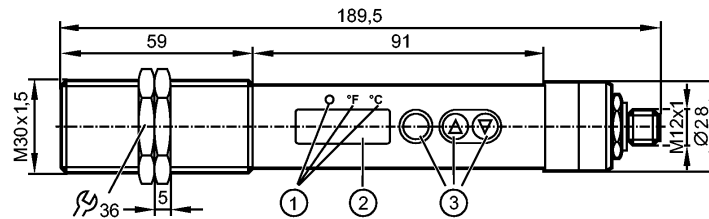


TW2000

TW-030KLBM30-KFDKG/US

Temperature sensors



- 1: LEDs (display unit / switching status)
- 2: 7-segment LED display (4 digits)
- 3: Programming buttons

CE  IO-Link

Product characteristics

Infrared temperature sensor
Threaded type M30 x 1.5
M12 connector
wave length range 8...14 µm
Switching output, Analogue output
7-segment LED display (4 digits)
Measuring range: 0...999.5 °C / 32...1831 °F

Application

Application	asphalt, coated metal, liquids, glass, rubber, wood, ceramics, plastics, lacquers, food products, paper, fabric
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Electrical data

Electrical design	DC PNP
Operating voltage [V]	18...32 DC; to SELV/PELV
Current consumption [mA]	< 50
Insulation resistance [MΩ]	> 100 (50 V DC)
Protection class	III
Reverse polarity protection	yes

Inputs

Test input	
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Outputs

Output	Switching output, Analogue output
Output function	normally open / closed programmable
Current rating [mA]	150
Voltage drop [V]	< 2.5
Short-circuit protection	pulsed
Short-circuit proof	yes
Overload protection	yes
Analogue output	4...20 mA
Max. load [Ω]	500

Measuring / setting range

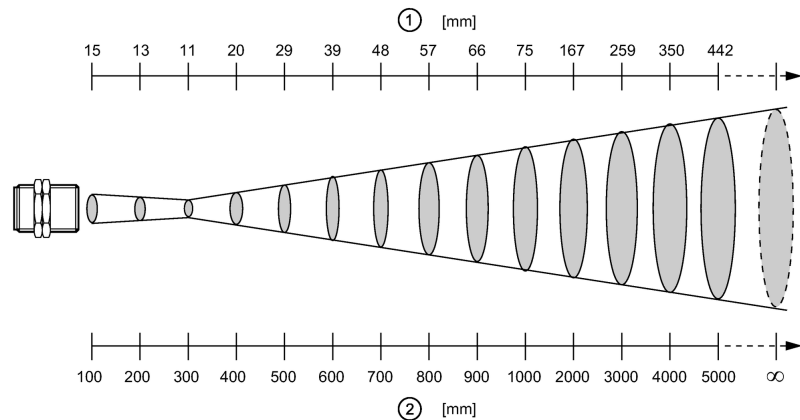
Measuring range	0...999.5 °C	32...1831 °F
wave length range [µm]	8...14	

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TW-030KLBM30-KFDKG/US

Temperature sensors

Measuring range / distance [mm]



1: diameter of the measured spot; 2: measuring distance

Setting range

Set point, SP	1...999.5 °C	34...1831 °F
Reset point, rP	0...998.5 °C	32...1829 °F
Analogue start point, ASP	0...949.5 °C	0...1741.1 °F
Analogue end point, AEP	50...999.5 °C	122...1831 °F
in steps of	0.5 °C	1 °F
Resolution		
Switching output [K]		0.5
Analogue output [K]	0.2; + 0.03 % of the set measuring span	
Display [K]		0.5

Accuracy / deviations

Accuracy	< ± 1 %; of the measured value, at least 2 K (degree of emission = 1, T = 23 °C)	
Repeatability [K]	1	

Reaction times

Power-on delay time [s]	< 1	
Response time Switching output[ms]	< 100	

Software / programming

Adjustment of the switch point	Programming buttons	
Programming options	Analogue range; NO / NC; switch-on / switch-off delay; damping, peak hold	

Interfaces

IO-Link device		
Transfer type	COM2 (38.4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9	
IO-Link device ID	716 d / 00 02 CC h	
SIO mode	yes	
Required master port class	A	
Process data analogue	16	
Process data binary	1	
Min. process cycle time [ms]	3.6	

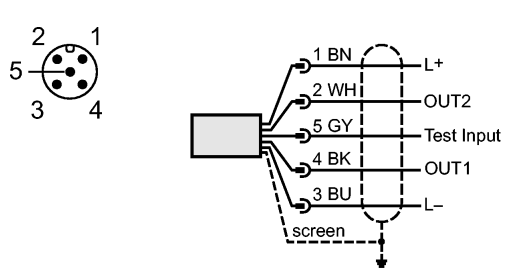
Environment

Ambient temperature [°C]	0...65	
Storage temperature [°C]	-20...80	
Max. relative air humidity	< 95 % (non condensing)	

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Temperature sensors

Protection	IP 65	
Tests / approvals		
EMC	DIN EN 61000-6-2 DIN EN 61000-6-4	
Shock resistance	DIN EN 60068-2-27	30 g (11 ms)
Vibration resistance	DIN EN 60068-2-6	5 g (10...2000 Hz)
MTTF [Years]	88	
Mechanical data		
Housing materials	threaded sleeve: stainless steel (303S22); polyester	
Lens material	Infrared transparent crystal lens with anti-reflex coating	
Weight [kg]	0.381	
Displays / operating elements		
Display	Display unit 2 x LED yellow Switching status 1 x LED yellow Function display 7-segment LED display 4-digit Measured values 7-segment LED display 4-digit	
Operating elements	3 Pushbuttons	
Electrical connection		
Connection	M12 connector	
Wiring		
Core colours		
BK black		
BN brown		
BU blue		
GY grey		
WH white		
	<p>OUT1: switching output / IO-Link OUT2: Analogue output</p>	
Accessories		
Accessories (included)	2 lock nuts	
Remarks		
Remarks	Use a screened cable to protect infrared temperature sensors from interference. The screen must be connected to the housing of the sensor via the connector.	
Pack quantity [piece]	1	