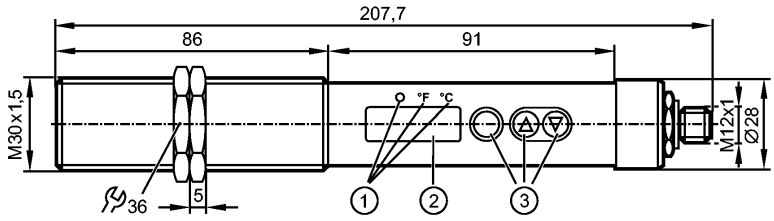
TW2001

TW-150KLBM30-KFDKG/US

Temperature sensors



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

CE

Product characteristics			
Infrared temperature sensor			
Threaded type M30 x 1.5			
M12 connector			
wave length range 1.0...1.7 µm			
Switching output, Analog output			
7-segment LED display (4 digits)			
Measuring range: 250...1600 °C / 482...2912 °F			
Application			
Application		tempering temperatures, glass melting, graphite, ceramics, metals, forging, sintering, heat treatment, rolling	
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			
Outputs			
Output		Switching output, Analog output	
Output function		normally open / closed programmable	
Current rating	[mA]	150	
Voltage drop	[V]	< 2.5	
Short-circuit protection		yes (non-latching)	
Short-circuit proof		yes	
Overload protection		yes	
Analog output		4...20 mA	
Max. load	[Ω]	500	
Measuring / setting range			
Measuring range		250...1600 °C	482...2912 °F
wave length range [µm]		1.0...1.7	

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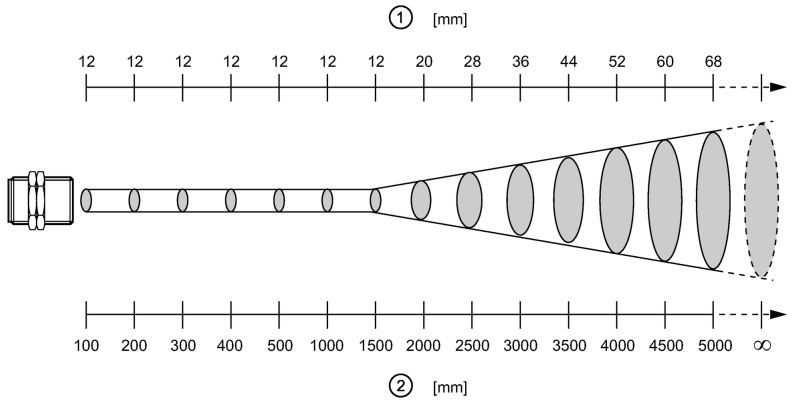
Measuring range / distance [mm]	 1: diameter of the measured spot; 2: measuring distance

Setting range		
Set point, SP	251...1600 °C	484...2912 °F
Reset point, rP	250...1599 °C	482...2910 °F
Analog start point, ASP	250...1400 °C	482...2552 °F
Analog end point, AEP	450... 1600 °C	842...2912 °F
in steps of	1 °C	1 °F
Resolution		
Switching output [K]	1	
Analog output [K]	0.2; + 0.03 % of the set measuring span	
Display [K]	1	

Accuracy / deviations

Accuracy	< ± 0.5 %; of the measured value, at least 4 K (degree of emission = 1, T = 23°C)
Repeatability [K]	1

Reaction times

Power-on delay time [s]	< 1
Response time Switching output[ms]	< 2 (T > 600 °C)

Software / programming

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

Environment

Ambient temperature [°C]	0...65
Storage temperature [°C]	-20..80
Max. relative air humidity	< 95 % (non condensing)
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]	74	

Mechanical data

Housing materials	threaded sleeve: stainless steel (303S22); polyester
Lens material	tempered optical glass
Weight [kg]	0.427

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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

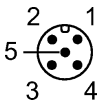
Electrical connection

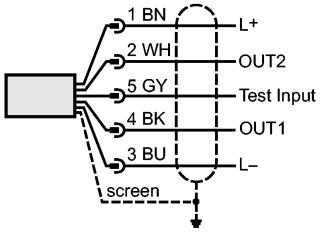
Connection	M12 connector

Wiring

Core colors

BK	black
BN	brown
BU	blue
GY	grey
WH	white





OUT1: Switching output
OUT2: Analog output

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