

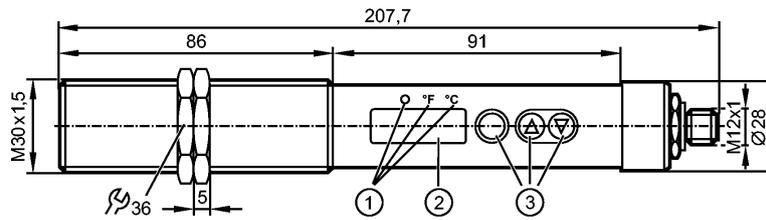


TW2002

TW-150KLBM30-KFDKG/US



Temperature sensors



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



Product characteristics

Infrared temperature sensor

Threaded type M30 x 1.5

M12 connector

wave length range 0.78...1.06 μm

Switching output, Analog output

7-segment LED display (4 digits)

Measuring range: 500...2500 °C / 932...4532 °F

Application

Application	tempering temperatures, glass melting, graphite, ceramics, metals, forging, sintering, heat treatment, rolling
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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 [M Ω]	> 100 (50 V DC)
Protection class	III
Reverse polarity protection	yes

Inputs

Test input	
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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	500...2500 °C	932...4532 °F
wave length range [μm]	0.78...1.06	



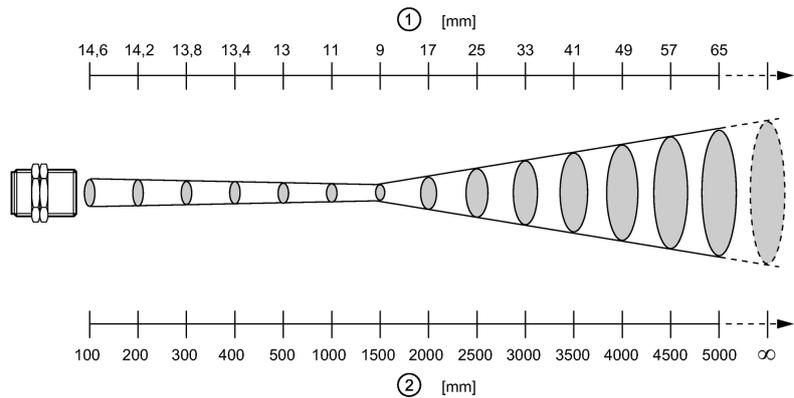
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Temperature sensors

Measuring range / distance [mm]



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

Setting range

Set point, SP

502...2500 °C

936...4532 °F

Reset point, rP

500...2498 °C

932...4528 °F

Analog start point, ASP

500...2100 °C

932...3812 °F

Analog end point, AEP

900..2500 °C

1652...4532 °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

< ± 0.3 %; 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 > 900 °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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Temperature sensors

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
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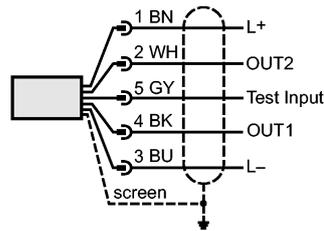
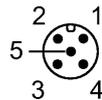
Operating elements	3 Pushbuttons
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Electrical connection

Connection	M12 connector
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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
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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.
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Pack quantity	[piece]	1
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