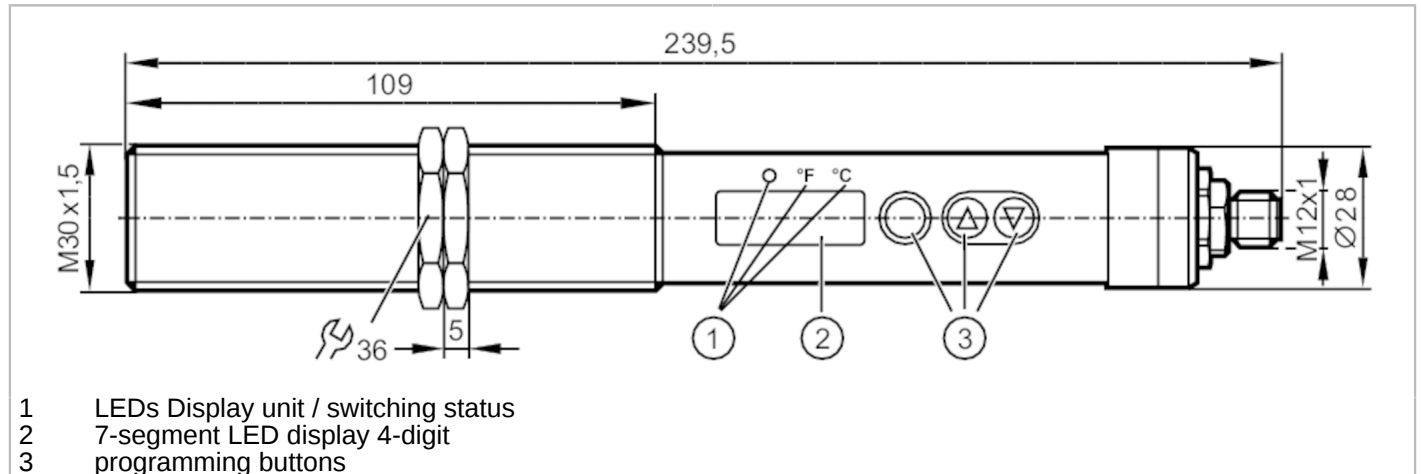


TW2101



Infrared temperature sensor

TW-100KLBM30-KFDKG/US



| Application | |
|---------------------------------|--|
| Application | tempering temperatures; glass melting; graphite; ceramics; metals; forging; sintering; heat treatment; rolling |
| Electrical data | |
| Operating voltage [V] | 18...32 DC; (to SELV/PELV) |
| Current consumption [mA] | < 50 |
| Min. insulation resistance [MΩ] | 100; (50 V DC) |
| Protection class | III |
| Reverse polarity protection | yes |
| Power-on delay time [s] | < 1 |
| Inputs / outputs | |
| Number of inputs and outputs | Number of digital outputs: 1; Number of analogue outputs: 1 |
| Inputs | |
| Test input | Typ_3_IEC_61131_2 |

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Infrared temperature sensor

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| Outputs | | |
|---|---------------|---|
| Total number of outputs | | 2 |
| Output signal | | switching signal; analogue signal; IO-Link; (configurable) |
| Electrical design | | PNP |
| Number of digital outputs | | 1 |
| Output function | | normally open / normally closed; (parameterisable) |
| Max. voltage drop switching output DC | [V] | 2.5 |
| Permanent current rating of switching output DC | [mA] | 150 |
| Number of analogue outputs | | 1 |
| Analogue current output | [mA] | 4...20 |
| Max. load | [Ω] | 500 |
| Short-circuit protection | | yes |
| Type of short-circuit protection | | pulsed |
| Short-circuit proof | | yes |
| Overload protection | | yes |
| Detection zone | | |
| Wave length range | [μm] | 1...1.7 |
| Measuring/setting range | | |
| Measuring range | 250...1600 °C | 482...2912 °F |
| Set point SP | 251...1600 °C | 484...2912 °F |
| Reset point rP | 250...1599 °C | 482...2910 °F |
| Analogue start point | 250...1400 °C | 482...2552 °F |
| Analogue end point | 450...1600 °C | 842...2912 °F |
| In steps of | 1 °C | 1 °F |
| Resolution | | |
| Resolution of switching output | [K] | 1 |
| Resolution of analogue output | [K] | 0.2; (+ 0.03 % of the set measuring span) |
| Resolution of display | [K] | 1 |
| Accuracy / deviations | | |
| Accuracy | [K] | < ± 0,5 %; (of measured value, min. 4 K (degree of emission = 1, T = 23 °C)) |
| Repeatability | [K] | 1 |
| Response times | | |
| Response time | [ms] | 2; (T > 600 °C) |
| Software / programming | | |
| Adjustment of the switch point | | programming buttons |
| Parameter setting options | | analogue range; normally open / normally closed; switch-on/switch-off delay; Damping; Peakhold; emissivity; simulation function |

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| Interfaces | | |
|--------------------------------|---|--------------------------------|
| Transmission type | COM2 (38,4 kBaud) | |
| IO-Link revision | 1.1 | |
| SDCI standard | IEC 61131-9 | |
| IO-Link device ID | 717 d / 00 02 CC h | |
| SIO mode | yes | |
| Required master port type | A | |
| Process data analogue | 16 | |
| Process data binary | 1 | |
| Min. process cycle time [ms] | 3.6 | |
| Operating conditions | | |
| 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) |
| Mechanical data | | |
| Weight [g] | 545 | |
| Housing | threaded type | |
| Dimensions [mm] | M30 x 1.5 / L = 239.5 | |
| Thread designation | M30 x 1.5 | |
| Materials | threaded sleeve: stainless steel (1.4305 / 303); polyester | |
| Lens material | tempered optical glass | |
| 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 | setting aid | LED pilot light, green |
| | 3 | pushbuttons |
| Accessories | | |
| Accessories (supplied) | lock nuts: 2 | |
| 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 | 1 pcs. | |

TW2101

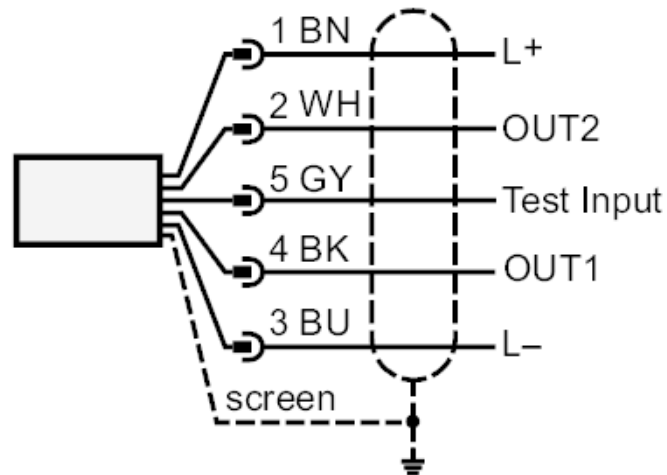


Infrared temperature sensor

TW-100KLBM30-KFDKG/US

Electrical connection

Connection



OUT1: switching output / IO-Link

OUT2: analogue output

Core colours :

BK = black

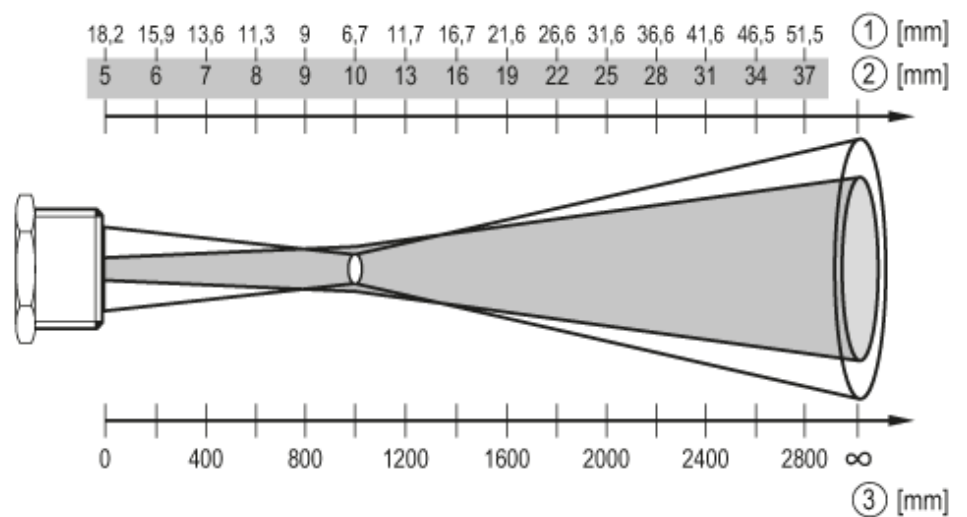
BN = brown

BU = blue

GY = grey

WH = white

Diagrams and graphs



1 diameter of the measured spot

2 diameter LED pilot light

3 measuring distance