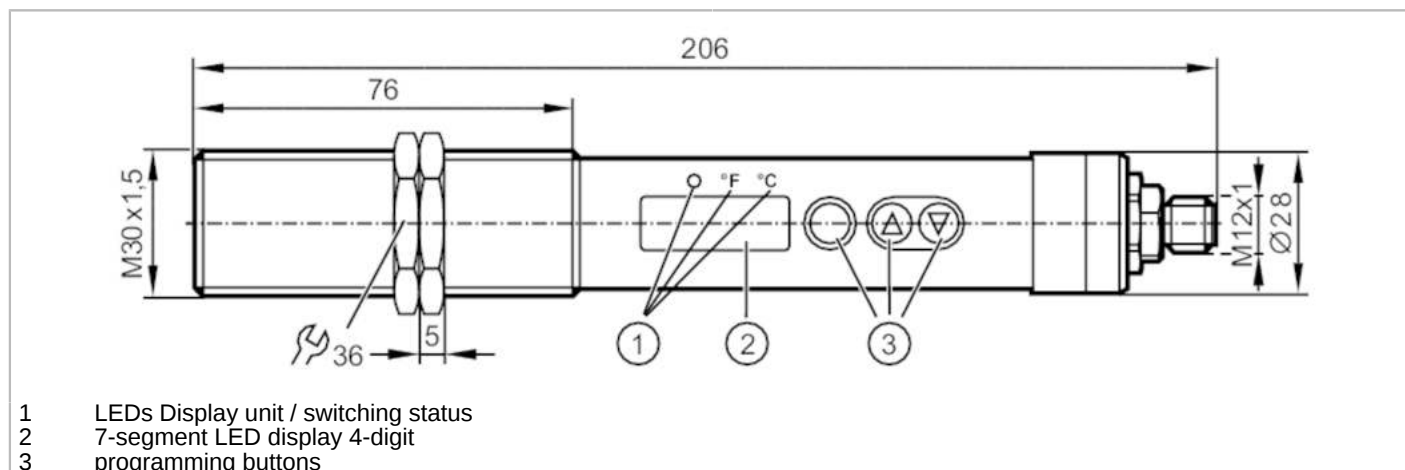


# TW2100



## Infrared temperature sensor

TW-029KLBM30-KFDKG/US



### Product characteristics

Number of inputs and outputs	Number of digital outputs: 1; Number of analogue outputs: 1	
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

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
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### Inputs

Test input	type 3 (IEC 61131-2)
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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

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Short-circuit protection	yes
Type of short-circuit protection	pulsed
Short-circuit proof	yes
Overload protection	yes

### Detection zone

Wave length range	[μm]	8...14
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### Measuring/setting range

Measuring range	0...999.5 °C	32...1831 °F
Set point SP	1...999.5 °C	34...1831 °F
Reset point rP	0...998.5 °C	32...1829 °F
Analogue start point	0...949.5 °C	32...1741.1 °F
Analogue end point	50...999.5 °C	122...1831 °F
In steps of	0.5 °C	1 °F

### Resolution

Resolution of switching output	[K]	0.5
Resolution of analogue output	[K]	0.2; (+ 0.03% of the set measuring span)
Resolution of display	[K]	0.5

### Accuracy / deviations

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

### Response times

Response time	[ms]	100
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### 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

### Interfaces

Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9	
SIO mode	yes	
Required master port type	A	
Process data analogue	16	
Process data binary	1	
Min. process cycle time	[ms]	3.6
Supported DeviceIDs	Type of operation	DeviceID
	Default	716

### Operating conditions

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

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Protection	IP 65
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### 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]	445	
Housing	threaded type	
Dimensions [mm]	M30 x 1.5 / L = 206	
Thread designation	M30 x 1.5	
Materials	threaded sleeve: stainless steel (1.4305 / 303); polyester	
Lens material	Infrared transparent crystal lens with anti-reflex coating	

### 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
	setting aid	LED pilot light, green
Operating elements	3	pushbuttons

### Accessories

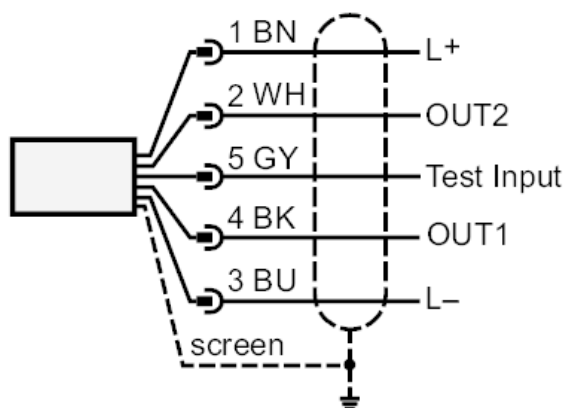
Items supplied	lock nuts: 2
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### Remarks

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.
Pack quantity	1 pcs.

### Electrical connection

#### Connection



OUT1: switching output / IO-Link  
 OUT2: analogue output

Core colours :

- BK = black
- BN = brown
- BU = blue
- GY = grey
- WH = white

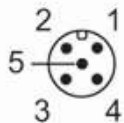
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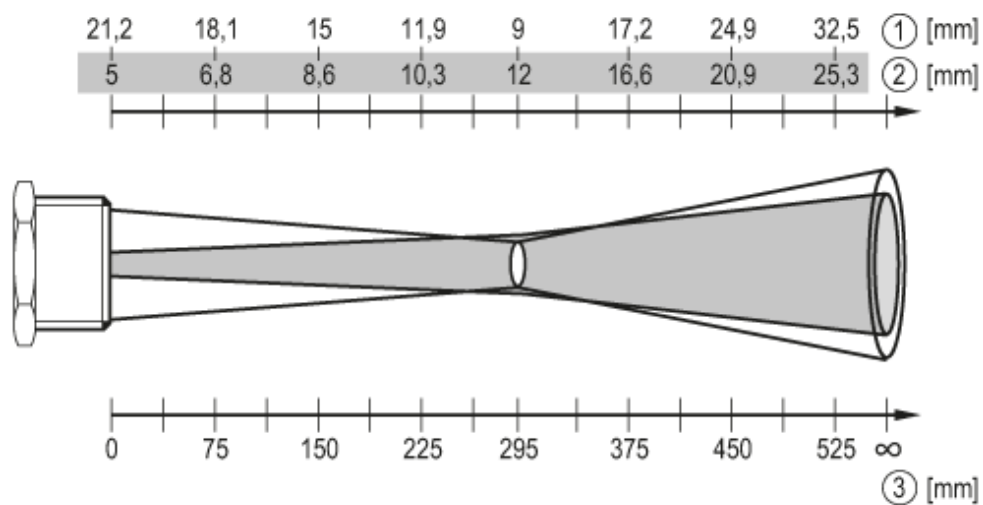
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Connector: 1 x M12; coding: A



### Diagrams and graphs



- 1 diameter of the measured spot
- 2 diameter LED pilot light
- 3 measuring distance