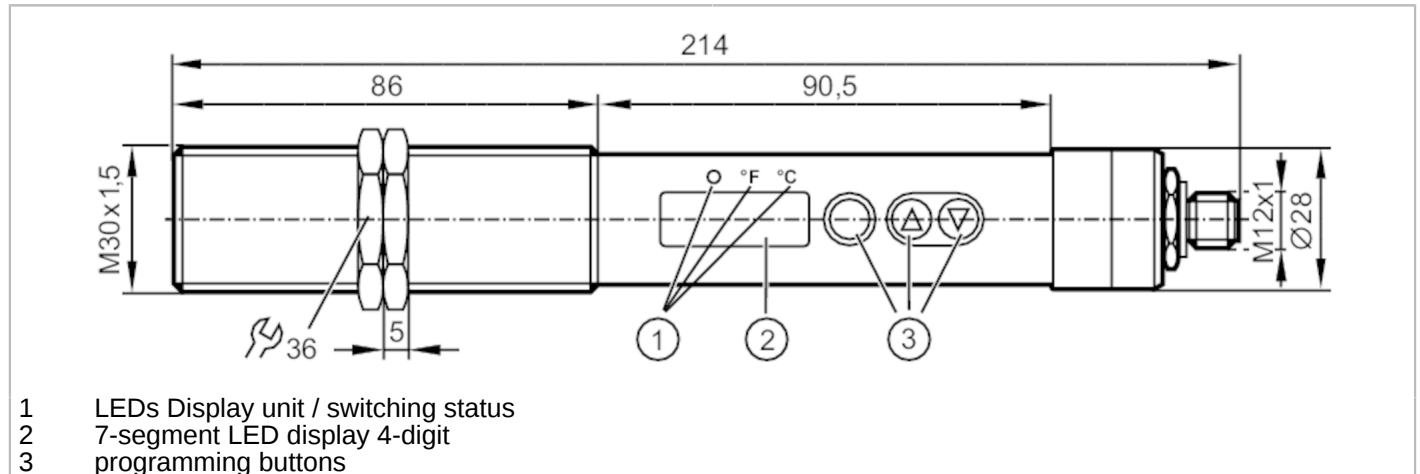


TW2002



Infrared temperature sensor

TW-150KLBM30-KFDKG/US



CE EAC IO-Link

Product characteristics	
Number of inputs and outputs	Number of digital outputs: 1; Number of analogue outputs: 1
Measuring range	500...2500 °C 932...4532 °F
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	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
Short-circuit protection		yes
Type of short-circuit protection		pulsed
Short-circuit proof		yes
Overload protection		yes
Detection zone		
Wave length range	[μm]	0.78...1.06
Measuring/setting range		
Measuring range		500...2500 °C 932...4532 °F
Set point SP		502...2500 °C 936...4532 °F
Reset point rP		500...2498 °C 932...4528 °F
Analogue start point		500...2100 °C 932...3812 °F
Analogue end point		900...2500 °C 1652...4532 °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]	< ± 0,3 %; (of measured value, min. 4 K (degree of emission = 1, T = 23 °C))
Repeatability	[K]	1
Response times		
Response time	[ms]	2; (T > 900 °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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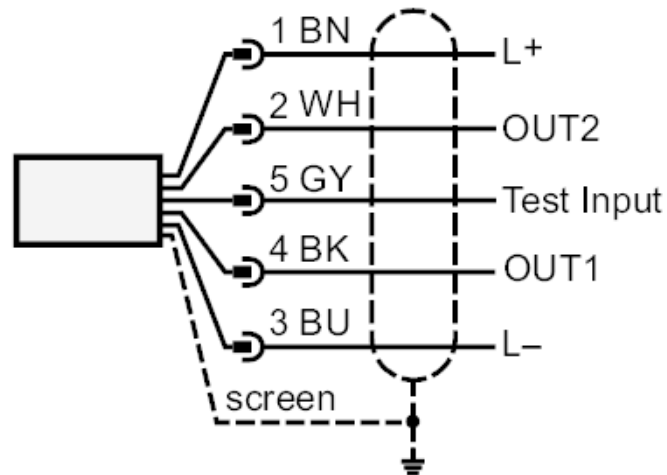
Interfaces		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9	
IO-Link device ID	718 d / 00 02 CC h	
SIO mode	yes	
Required master port type	A	
Process data analogue	16	
Process data binary	1	
Min. process cycle time [ms]	3.6	
Operating 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)
MTTF [years]	74	
Mechanical data		
Weight [g]	455.5	
Housing	threaded type	
Dimensions [mm]	M30 x 1.5	
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	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.	

Infrared temperature sensor

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Electrical connection

Connection



OUT1: switching output / IO-Link

OUT2: analogue output

Core colours :

BK = black

BN = brown

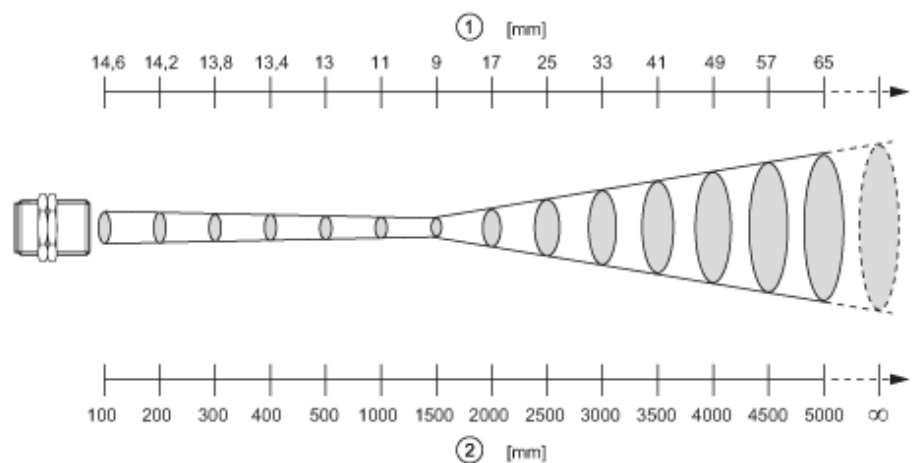
BU = blue

GY = grey

WH = white

Connector: 1 x M12

Diagrams and graphs



1 diameter of the measured spot

2 measuring distance