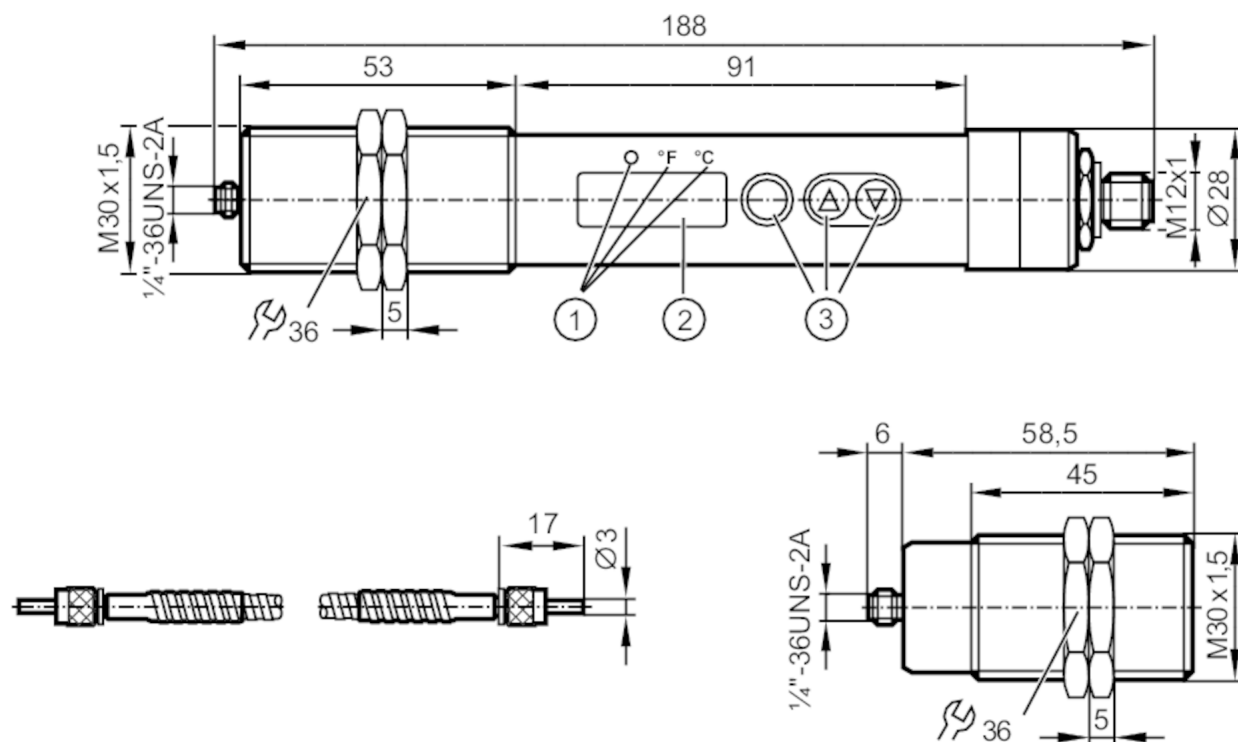


Infrared temperature sensor

TW-150KLB30-KFDKG/US



- 1 LEDs Display unit / switching status
 2 7-segment LED display 4-digit
 3 programming buttons



Product characteristics

Number of inputs and outputs	Number of digital outputs: 1; Number of analogue outputs: 1	
Measuring range	300...1600 °C	572...2912 °F
Communication interface	IO-Link	

Application

Application	tempering temperatures; glass melting; graphite; ceramics; metals; forging; sintering; heat treatment; rolling
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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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Infrared temperature sensor

TW-150KLBM30-KFDKG/US

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	300...1600 °C	572...2912 °F
Set point SP	301...1600 °C	574...2912 °F
Reset point rP	300...1599 °C	572...2910 °F
Analogue start point	300...1400 °C	572...2552 °F
Analogue end point	500...1600 °C	932...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	
Interfaces		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	



Infrared temperature sensor

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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	719

Operating conditions		
Ambient temperature [°C]	0...65	
Note on ambient temperature	fibre optics and measuring head: -20...250 °C	
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]	899.5	
Housing	threaded type	
Dimensions [mm]	M30 x 1.5	
Thread designation	M30 x 1.5	
Fibre optic connection	¼"-36UNS-2A	
Materials	threaded sleeve: stainless steel (303/1.4305); 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		
Items supplied	lock nuts: 2	
	fibre optic: 2 m	
	Measuring head	

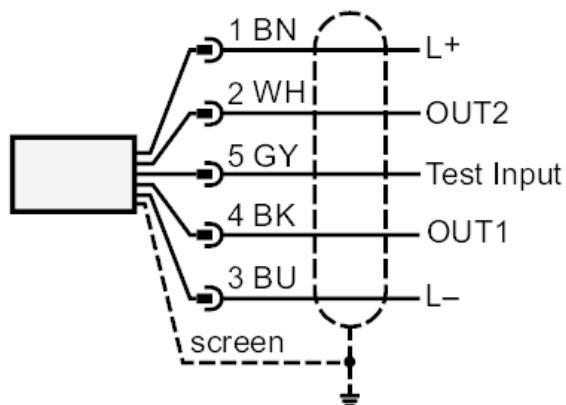
Remarks		
Remarks	Use a screened cable to protect infrared temperature sensors from interference.	
	The screen must be connected to the housing of the sensor via the connector.	
	On delivery the sensor is premounted and calibrated and is supplied with 2 m fibre optic.	
	If the fibre optic is replaced the sensor has to be recalibrated (ZC0062).	
Pack quantity	1 pcs.	

Infrared temperature sensor

TW-150KLBM30-KFDKG/US

Electrical connection

Connection



OUT1: switching output / IO-Link

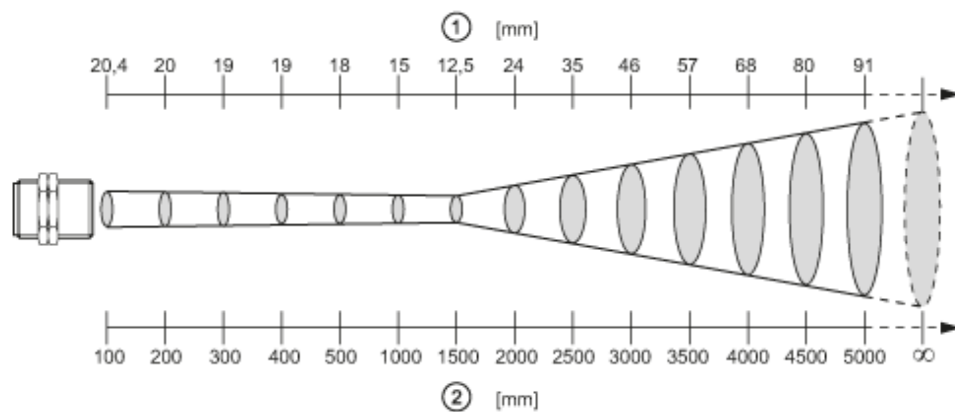
OUT2: analogue output

Core colours :

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

Connector: 1 x M12

Diagrams and graphs



1 diameter of the measured spot

2 measuring distance