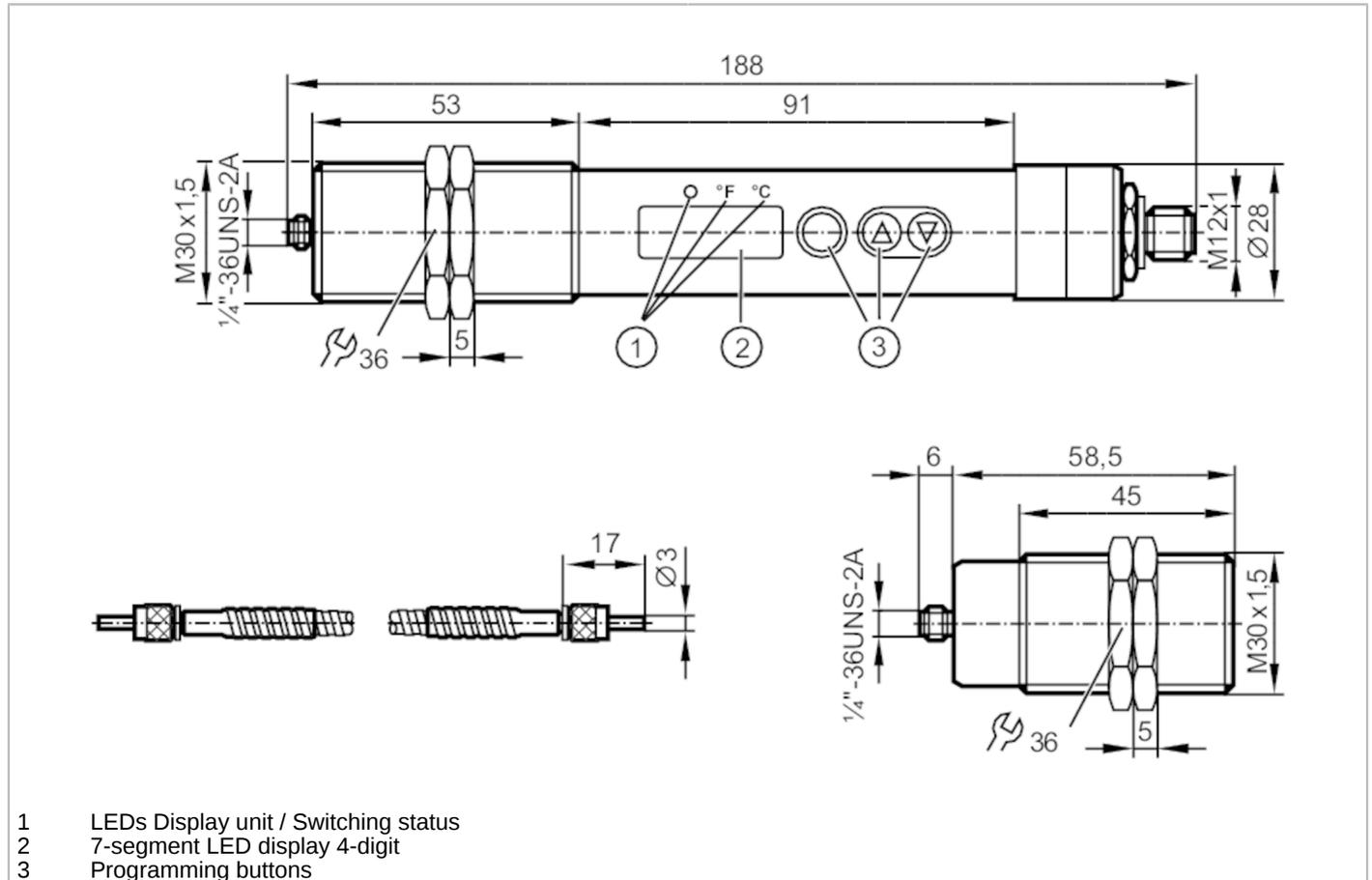




Infrared temperature sensor

TW-150KLBM30-KFDKG/US



Product characteristics	
Number of inputs and outputs	Number of digital outputs: 1; Number of analog 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
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 analog outputs: 1
Inputs	
Test input	type 3 (IEC 61131-2)



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Outputs		
Total number of outputs		2
Output signal		switching signal; analog signal; IO-Link; (configurable)
Electrical design		PNP
Number of digital outputs		1
Output function		normally open / closed; (configurable)
Max. voltage drop switching output DC	[V]	2.5
Permanent current rating of switching output DC	[mA]	150
Number of analog outputs		1
Analog current output	[mA]	4...20
Max. load	[Ω]	500
Short-circuit protection		yes
Type of short-circuit protection		yes (non-latching)
Short-circuit proof		yes
Overload protection		yes
Monitoring range		
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
Analog start point	300...1400 °C	572...2552 °F
Analog end point	500...1600 °C	932...2912 °F
In steps of	1 °C	1 °F
Resolution		
Resolution of switching output	[K]	1
Resolution of analog 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
Reaction times		
Response time	[ms]	2; (T > 600 °C)
Software / programming		
Adjustment of the switch point		Programming buttons
Parameter setting options		Analog range; normally open / 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



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SDCI standard	IEC 61131-9	
Profiles	Smart Sensor - SSP 0	Generic Profiled Sensor
	Function	Device identification
	Function	Process data variable
	Function	Device diagnosis
SIO mode	yes	
Required master port class	A	
Process data analog	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	fiber 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 / L = 188	
Thread designation	M30 x 1.5	
Fiber optic connection	¼"-36UNS-2A	
Material	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		
Items supplied	lock nuts: 2	
	fiber optic: 2 m	
	Measuring head	



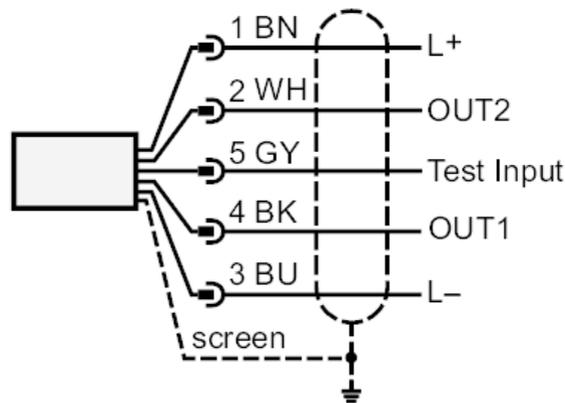
Infrared temperature sensor

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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. On delivery the sensor is calibrated with 2 m fiber optic preinstalled. If the fiber optic is replaced the sensor must be recalibrated.
Pack quantity	1 pcs.

Electrical connection

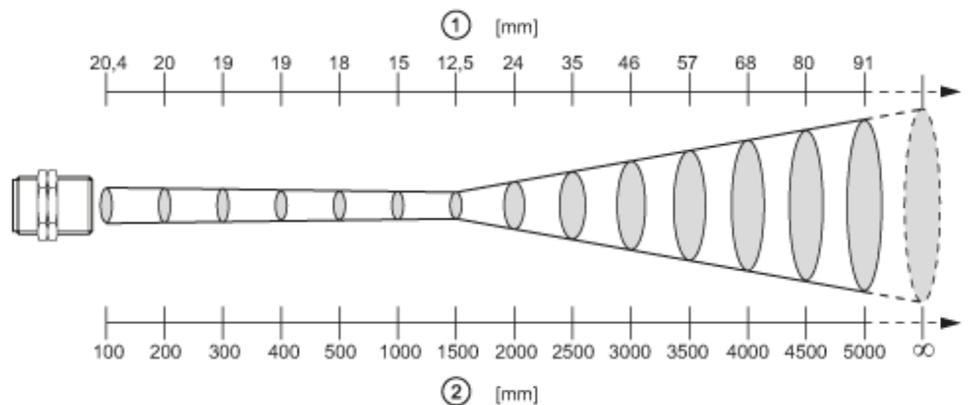
Connection



OUT1: Switching output / IO-Link
 OUT2: analog output
 Core colors :
 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