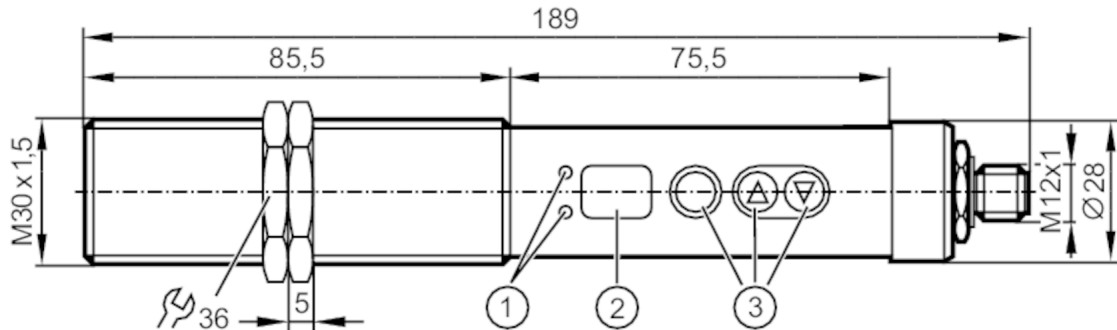# TW7001

Infrared temperature sensor

TW-006CNDM30-QFPKG/US

1   LEDs switching status
2   7-segment LED display 2-digit
3   programming buttons

Product characteristics		
Number of inputs and outputs	Number of digital outputs: 2	
Measuring range	250...1250 °C	482...2282 °F
Application		
Application	tempering temperatures; graphite; ceramics; metals; forging; sintering; heat treatment; rolling	
Electrical data		
Operating voltage [V]	10...34 DC	
Current consumption [mA]	30; (24 V)	
Protection class	III	
Inputs / outputs		
Number of inputs and outputs	Number of digital outputs: 2	
Inputs		
Test input	test function active at U(test) > 9 V	
Outputs		
Total number of outputs	2	
Output signal	switching signal	
Electrical design	PNP	
Number of digital outputs	2	
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	
Short-circuit protection	yes	
Type of short-circuit protection	pulsed	
Overload protection	yes	
Detection zone		
Wave length range [µm]	1...1.7	

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Measuring/setting range			
Measuring range		250...1250 °C	482...2282 °F
Factory setting		SP1 = 25 %; rP1 = 23 %; SP2 = 75 %; rP2 = 73 %	
Set point SP		250...1240 °C	482...2264 °F
Reset point rP		250...1240 °C	482...2264 °F
In steps of		10 °C	18 °F
Resolution			
Resolution of switching output	[K]	10	
Resolution of display	[K]	10	

Accuracy / deviations		
Accuracy	[K]	< ± 1 %; (of VMR (degree of emission = 1 and T = 23 °C))

Response times		
Response time	[ms]	2

Software / programming		
Adjustment of the switch point		programming buttons
Parameter setting options		Hysteresis; normally open / normally closed; switch-on/switch-off delay

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 61000-4-2 ESD	4 kV CD / 8 kV AD
		DIN EN 61000-4-3 HF radiated	10 V/m
		DIN EN 61000-4-4 Burst	2 kV coupling clamp
		DIN EN 61000-4-5 Surge	0,5 / 1 kV
		DIN EN 61000-4-6 HF conducted	10 V
		EN 55011 emission	class B
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]	117	

Mechanical data		
Weight	[g]	433.5
Housing		threaded type
Dimensions	[mm]	M30 x 1.5 / L = 189
Thread designation		M30 x 1.5
Materials		threaded sleeve: stainless steel (1.4305 / 303); polyester
Lens material		tempered optical glass

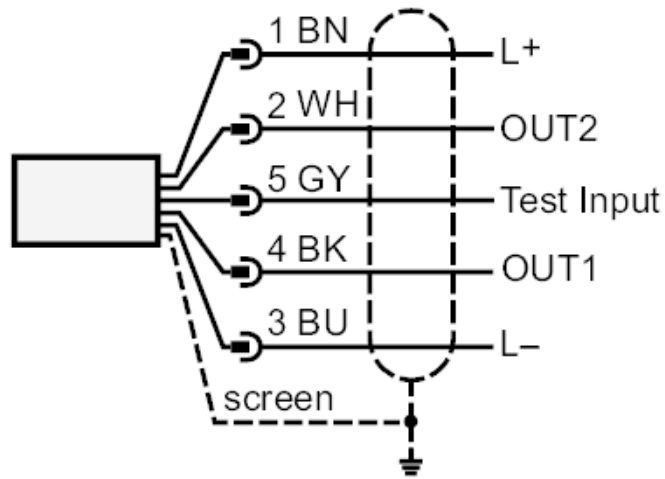| Displays / operating elements		
Display	switching status	2 x LED, yellow
	function display	7-segment LED display, 2-digit
	measured values	7-segment LED display, 2-digit
Operating elements	3	pushbuttons

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Accessories	
Accessories (supplied)	lock nuts: 2
Remarks	
Remarks	MW = measured value
	MEW = Final value of the measuring range
Pack quantity	1 pcs.

Electrical connection

Connection

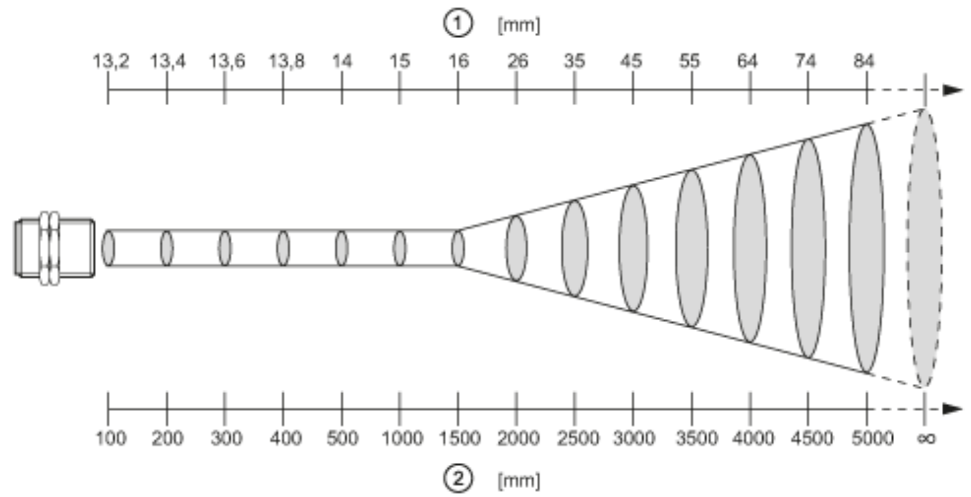|	Core colours :
BK =	black
BN =	brown
BU =	blue
GY =	grey
WH =	white

Connector: 1 x M12

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Infrared temperature sensor

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1   diameter of the measured spot

2   measuring distance