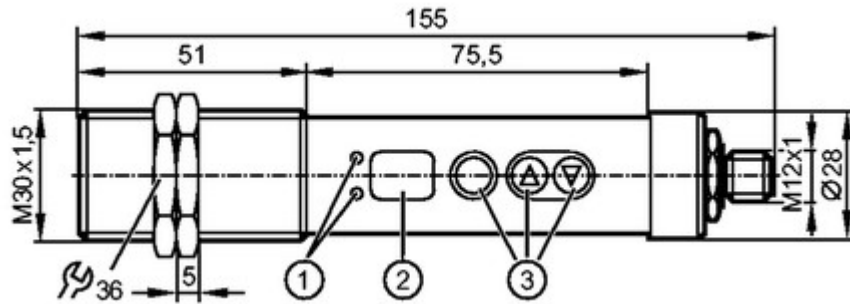


**TW7000**

TW-023CMDM30-QFPKG/US

Temperature sensors

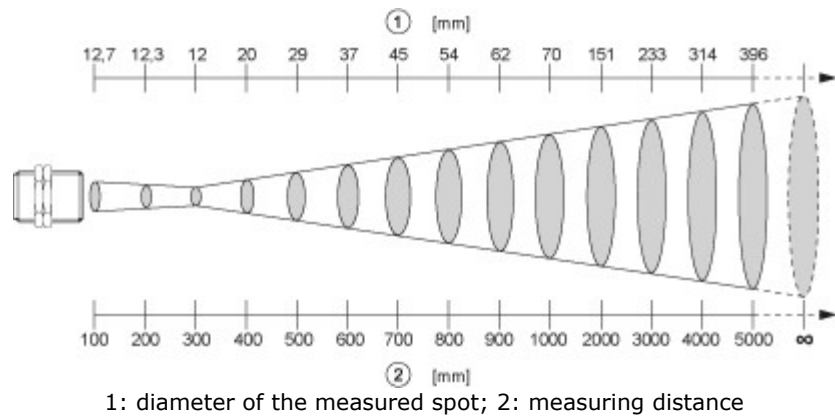


- 1: LEDs (switching status)
- 2: 7-segment LED display (2 digits)
- 3: Programming buttons



Product characteristics	
Infrared temperature sensor	
Threaded type M30 x 1.5	
M12 connector	
wave length range 8...14 μm	
2 switching outputs	
7-segment LED display (2 digits)	
Measuring range: 50...500 °C / 122...932 °F	
Application	
Application	asphalt, coated metal, liquids, glass, rubber, wood, ceramics, plastics, lacquers, food products, paper, fabric
Electrical data	
Electrical design	DC PNP
Operating voltage [V]	10...34 DC
Current consumption [mA]	30 (24 V)
Protection class	III
Inputs	
Test input	test function active at U(test) > 9 V
Outputs	
Output	2 switching outputs
Output function	normally open / closed programmable
Current rating [mA]	150
Voltage drop [V]	< 2.5
Short-circuit protection	yes (non-latching)
Overload protection	yes
Measuring / setting range	
Measuring range	50...500 °C   122...932 °F
Factory setting	SP1 = 25 %; rP1 = 23 %   SP2 = 75 %; rP2 = 73 %
wave length range [μm]	8...14

Measuring range / distance [mm]



**Setting range**

Set point, SP	50...495.5 °C	122...923.9 °F
Reset point, rP	50...495.5 °C	122...923.9 °F
in steps of	4.5 °C	8.1 °F

**Resolution**

Switching output [K]	4.5
Display [K]	4.5

**Accuracy / deviations**

Accuracy	< ± 1 %; < ± 1 % of MEW (degree of emission = 1 and T = 23 °C)
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**Reaction times**

Response time Switching output [ms]	< 100
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**Software / programming**

Adjustment of the switch point	Programming buttons
Programming options	hysteresis; NO / NC; switch-on / switch-off delay

**Environment**

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]		150

**Mechanical data**

Housing materials	threaded sleeve: stainless steel (303S22); polyester
Lens material	Infrared transparent crystal lens with anti-reflex coating
Weight [kg]	0.335

**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	

<b>Electrical connection</b>		
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Connection	M12 connector	
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**Wiring**

Core colors  
 BK black  
 BN brown  
 BU blue  
 GY grey  
 WH white

<b>Accessories</b>		
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Accessories (included)	2 lock nuts	
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<b>Remarks</b>		
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Remarks	MW = measured value MEW = final value of the measuring range	
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Pack quantity [piece]	1	
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