thermoMETER CTM1/M2

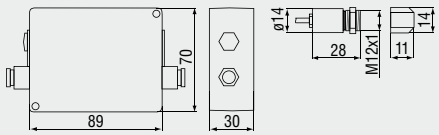
This state of the art non contact infrared temperature sensor operates with a wavelength of 1/1.6µm. This special spectral range minimises the emissivity errors on shiny targets and allows readings through glass. The integrated photon detector guarantees maximum sensitivity and extreme fast response time.

- ➔ Measuring range from 250° to 2200°C
- ➔ 1.0µm and 1.6µm wave length for measurements of metals, metal oxides, ceramic materials and shiny targets
- ➔ Short measuring wave length reduces error of temperature readings on surfaces with low or unknown emissivity
- ➔ Up to 125°C ambient temperature without cooling
- ➔ Precision optics (75:1 / 40:1) with different models for a specific focus point
- ➔ 1ms response time to capture fast events
- ➔ Fully programmable instrument for enhanced signal processing and I/O control
- ➔ Separate controller with easy accessible programming keys and multi colour LCD backlit display

Optical specifications thermoMETER CTM1/M2

□ = smallest spot size (mm)

Standard Focus optics											
1SF40/2SF40	**40:1**	7	7	10	15	20	25	30	35	40	
1SF75/2SF75	**75:1**	7	7	7	8	11	14	17	20	23	
	distance in mm	*0*	*200*	*400*	*600*	*800*	*1000*	*1200*	*1400*	*1600*	
Close Focus optics (integrated CF lens)											
1CF40/2CF40	**40:1**	6.5	5.5	4.4	2.7	5.7	7.8	11.4	15	18.5	22.1
1CF75/2CF75	**75:1**	6.5	5	3.2	1.5	3.6	5.4	8.4	11.3	14.3	17.3
	distance in mm	*0*	*50*	*100*	*110*	*170*	*200*	*250*	*300*	*350*	*400*



Product identification

CTM - 1 SF40 - C3

- Cable length [3m (standard) / 8m / 15m]
- Focus [SF40 / SF75 / CF40 / CF75]
- Spectral range [1μm / 1.6μm]
- thermoMETER CTM

Model	CTM-1SF40-C3	CTM-1SF75-C3	CTM-1SF75H1-C3	CTM-2SF40-C3	CTM-2SF75 -C3	CTM-2SF75H1 -C3
Optical resolution	40:1	75:1		40:1	75:1	
Temperature range [1]	485 to 1050°C	650 to 1800°C	800 to 2200°C	250 to 800°C	385 to 1600°C	490 to 2000°C
Spectral range	1.0μm			1.6μm		
System accuracy [2,3]	±(0.3% of reading +2°C)					
Repeatability [2]	±(0.1% of reading +1°C)					
Temperature resolution	±0.1°C					
Response time [4]	1ms (90%)					
Emissivity/gain [1]	0.100 to 1.100					
Transmissivity/gain [1]	0.100 to 1.100					
Signal processing [1]	Peak hold, valley hold, average; extended hold function with threshold and hysteresis					
Certificate of calibration	optional					

Outputs/analogue	channel 1	0/4 to 20mA, 0 to 5/10V, thermocouple J, K
	optional	relay: 2 x 60V DC/ 42V ACeff; 0.4A; optically isolated
Outputs/digital	optional	USB, RS232, RS485, CAN, Profibus DP, Ethernet
Output impedances	current output	mA max. 500Ω (8 to 36VDC)
	voltage output	mV min.100kΩ load impedance
		thermocouple 20Ω
Inputs		programmable functional inputs for external emissivity adjustment, ambient temperature compensation, trigger (reset of hold functions)
Cable length		3m (standard), 8m, 15m
Power supply		8 to 36VDC; max. 100mA

Environmental rating		IP 65 (NEMA-4)	
Ambient temperature	sensor	-20°C to 100°C	-20°C to 125°C
	controller	0°C to 85°C	
Storage temperature	sensor	-40°C to 100°C	-40°C to 125°C
	controller	-40°C to 85°C	
Relative humidity		10 to 95%, non condensing	
Vibration	sensor	IEC 68-2-6: 3 G, 11 to 200Hz, any axis	
Shock	sensor	IEC 68-2-27: 50 G, 11ms, any axis	
Weight		sensor: 40g; controller: 420g	

[1] adjustable via programming keys or software
[2] ± ambient temperature 23 ±5°C
[3] E=1, response time 1s
[4] with dynamic adaption at low signal levels

Accessories page 42 - 45

- CF lense
- Protective window
- Mounting bracket / Mounting bolt
- Air purge collar
- Right angle mirror
- Rail mount adapter for controller
- Massive housing
- Protective tube
- Laser sighting tool
- Digital-Interface kit
- Software CompactConnect
- Certificate of calibration
- Relay output module