thermoMETER CTM3

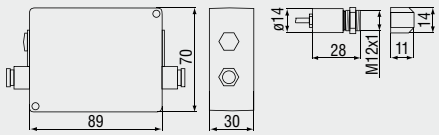
This state of the art non contact infrared temperature sensor operates with a wavelength of 2.3µm. This special spectral range minimises the emissivity errors and allows readings through glass down to low temperatures of 50°C. The integrated photon detector guarantees maximum sensitivity and extreme fast response time.

- ➔ Measuring range from 50° to 1800°C
- ➔ 2.3µm 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 / 33:1 / 22:1) 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 CTM3

□ = smallest spot size (mm)

Standard Focus optics											
3SF22	**22:1**	7	9	18	27	36	45	55	64	73	
3SF33	**33:1**	7	7	12	18	24	30	36	42	48	
3SF75H1/H2/H3	**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)											
3CF22	**22:1**	6.5	6	5.5	5	9.2	14.5	19.7	24.9	30.1	35.4
3CF33	**33:1**	6.5	5.4	4.2	3.4	6.9	11.4	15.9	20.4	24.8	29.3
3CF75H1/H2/H3	**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*	*40*	*80*	*110*	*150*	*200*	*250*	*300*	*350*	*400*



Product identification

CTM - 3 SF22 - C3

- Cable length [3m]
- Focus [SF22 / SF33 / SF75 / CF22 / CF33 / CF75]
- Spectral range [2.3µm]
- thermoMETER CTM

Model	CTM-3SF22-C3	CTM-3SF33-C3	CTM-3SF75H1-C3	CTM-3SF75H2-C3	CTM-3SF75H3-C3
Optical resolution [1]	22:1	33:1	75:1	75:1	75:1
Temperature range [2,3]	50 to 400°C	100 to 600°C	150 to 1000°C	200 to 1500°C	250 to 1800°C
Spectral range	2.3µm				
System accuracy [4,5]	±(0.3% of reading +2°C)				
Repeatability [4]	±(0.1% of reading +1°C)				
Temperature resolution (digital)	±0.1°C				
Response time [6]	1ms (90%)				
Emissivity/gain [2]	0.100 to 1.100				
Transmissivity/gain [2]	0.100 to 1.100				
Signal processing [2]	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
Outputs/analogue	optional	relay: 2 x 60 VDC/42 VAC_{eff}; 0.4A; optically isolated
Alarm output		open-collector (24V / 50mA)
Outputs/digital	optional	USB, RS232, RS485, CAN, Profibus DP, Ethernet
Output impedances	current output voltage output	relay max. 500Ω (8 to 36VDC) 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
Power supply		8 to 36VDC; max. 100mA

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

[1] 90% energy
[2] adjustable via programming keys or software
[3] target temperature > sensor temperature + 25°C
[4] ± ambient temperature 23 ±5°C
[5] E=1, response time 1s
[6] 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