



thermoMETER CTratioM1

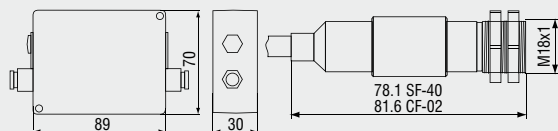
Glass fibre 2 colour ratio thermometer for extreme temperature measurements. The ratiometric principle minimises measurement errors caused by intensity change (e.g. contamination due to dust, fumes.), low emissivity and partial spot size coverage of the target.

- Temperature range from 700°C to 1800°C
- 5ms response time for fast readings
- Short wave length 0.7 and 1.1µm
- Rugged sensor head withstands 250°C without cooling
- High optical resolution
- Laser target marker down to 1.3mm spot size
- Programmable 1 or 2 colour mode
- Separate controller with easy accessible programming keys and multi colour LCD backlit display

Optical specification thermoMETER CTratioM1

□ = smallest spot size (mm)

Standard optics										
SF40 optics	40:1	6.6	10.6	21.1	31.3	41.4	52	62.6	73.3	84
	<i>distance in mm</i>	102	305	762	1143	1524	1905	2286	2667	3048
Close Focus optics										
CF02 optics	2:1	5.1	6.4	7.7	23.6	50.1	77.6	104.1		
	<i>distance in mm</i>	102	200	305	762	1524	2286	3048		



Product identification

CTRM - 1 CF02 - C3

Fibre cable length [3m (standard) / 6 / 10 / 15 / 22m]
Focus [CF02 / SF40]
Spectral range
thermoMETER CTRatio

Model	CTRM-1CF02-C3	CTRM-1SF40-C3
Optical resolution (95% Energy)	40:1	
Temperature range	700°C to 1800°C	
Spectral range	0.7 and 1.1µm	
System accuracy ^{1,3}	±(0.5% of reading + 1°C)	
Repeatability ^{1,3}	±(0.2% of reading + 1°C)	
Temperature resolution (>900°C)	0.1°C	
Response time (95% signal) ²	5ms - 10s	
Slope ⁴	0.800 to 1.200	
Emissivity ⁴	0.100 to 1.100	
Signal processing ⁴	1 colour / 2 colour mode; attenuation monitoring / alarms; peak hold, valley hold, average; extended hold function with threshold and hysteresis	
Outputs/analogue	0/4 - 20mA, 0 to 5/10V	
Outputs/analogue optional	relay: 2 x 60VDC/ 42VAC _{eff} ; 0.4A; optically isolated	
Alarm output	2 x open - collector (24V / 1A)	
Outputs/digital optional	USB, RS232, RS485, CAN, Profibus DP, Ethernet	
Output impedances current output	mA max. 500Ω (with 5 - 36VDC)	
voltage output	mV min. 100kΩ load impedance	
Inputs/outputs digital	2 programmable in-/ outputs, usable as: Alarm output (open collector output [24V / 1A]) Digital input for triggered signal output and peak hold function	
Fibre cable length	3m (standard), 6m, 10m, 15m, 22m; stainless steel armour, 400µm fibre diameter	
Power supply	8 to 36VDC or USB; max. 200mA	
Optical aiming	Laser 650nm, 1mW, ON/OFF via controller or software	
Environmental rating	IP 65 (NEMA-4)	
Operation temperature	sensor: -20°C to 250°C (70°C if Laser ON); controller: 0°C to 85°C	
Storage temperature	sensor: -40°C to 250°C; controller: -40°C to 85°C	
Relative humidity	10 to 95%, non condensing	
Vibration sensor	IEC 68-2-6: 3G, 11-200Hz, any axis	
Shock sensor	IEC 68-2-27: 50G, 11ms, any axis	
Weight	fibre cable with sensor: 375g; controller: 420g	

¹ E = 1, response time 1s

² with dynamic adaptation at low signal levels

³ ± at ambient temperature 23 ± 5°C

⁴ adjustable via programming keys or software



LASER RADIATION
DO NOT STARE IN THE BEAM
CLASS 2 LASER
EN60825-1:2002
P ≤ 1mW; λ = 650nm