



thermoMETER CSLaser

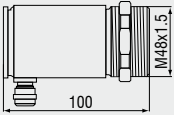
The thermoMETER CSLaser has a two-beam laser aiming feature, which marks the actual spot size at any distance. The controller is not necessary with this model, because the controller is already integrated into the sensor. This represents a major technical advantage, especially where space is limited. The sensor can be optimised for specific measurement tasks by using different lenses.

- Measuring range from -30°C to 1600°C
- Measuring spots up from 0.5mm and response times up from 10ms
- Optical resolution up to 300:1 with selectable focus
- Double laser aiming marks real spot location and spot size at any distance
- Scalable 4 - 20mA analog output/ additional simultaneous alarm output
- Optional USB programming interface and software
- Emissivity directly adjustable on sensor or via software
- Short circuit and polarity reversal protection
- Usable up to 85°C ambient temperature without cooling and automatic laser switch off at 50°C
- Wide power range: 5 – 28V DC

Optical specifications thermoMETER CSLaser CSL-SF50

□ = smallest spot size (mm)

Standard Fokus																		
SF50 optic	50:1	20	20.5	21	21.5	22	22.5	23	23.5	24	29.5	35	48	57	68			
distance in mm		0	150	300	450	600	750	900	1050	1200	1350	1500	1800	2100	2400			
Close Fokus																		
CF1 optic	50:1	20	10	8.5	1.4	11	26	41	57	72	60	103	118	133	164	194	225	
CF2 optic	50:1	20	15.5	15	12	9	3	11	19	26	33	42	49	57	72	88	103	
CF3 optic	50:1	20	16.5	16	14	12	8	4	10	16	21	28	33	40	52	64	76	
CF4 optic	50:1	20	19.5	19	18.4	18	16.5	15	14	13	11.5	10	9	12	19	25	32	
distance in mm		0	40	50	70	100	150	200	250	300	350	400	450	500	600	700	800	



Product identification

CSL - SF50
 Focus [SF50 / CF1 / CF2 / CF3 / CF4]
 thermoMETER CSLaser

Product identification

CSLM - 2 H SF300
 Focus [SF300 / CF1 / CF2 / CF3 / CF4]
 Temperature range [H]
 Spectral range [1.6μm]
 thermoMETER CSLaser

Model	CSL-SF50	CSLM-2HSF300
Optical resolution	50:1	300:1
Temperature range ¹	-30°C to 1000°C	385°C to 1600°C
Spectral range	8 to 14μm	1.6μm
System accuracy ³	±1% or ±1°C	±(0.3% of reading + 2°C) ⁴
Repeatability ³	±0.5% or ±0.5°C	±(0.1% of reading + 1°C) ⁴
Temperature resolution		0.1°C
Response time (90% signal)	150ms	10ms
Emissivity/Gain ¹		0.100 - 1.100
IR window correction ²		0.100 - 1.100
Signal processing ²	peak hold, valley hold, average; extended hold function with threshold and hysteresis	
Outputs/analog	4 to 20mA	
Alarm output	0 to 30V / 500mA (open collector)	
Outputs/digital (optional)	uni-/ bidirectional, 9.6 kBaud, 0/3V digital level, USB	
Output impedances	max. 1000Ω (depending on supply voltage)	
Current draw (Laser)	45mA at 5V / 20mA at 12V / 12mA at 24V	
Power supply	5 to 28V DC	
Laser	class II (635nm), 1mW, ON/OFF via software	
Environmental rating	IP 65 (NEMA-4)	
Ambient temperature	-20°C to 85°C (50°C if Laser ON)	
Storage temperature	-40°C to 85°C	
Relative humidity	10 to 95%, non condensing	
Vibration	IEC 68-2-6: 3 G, 11 to 200 Hz, any axis	
Shock	IEC 68-2-27: 50 G, 11ms, any axis	
Weight	600g	

¹ adjustable via programming keys or software

² adjustable via software

³ at ambient temperature 23 ±5°C; whichever is greater; temperature of the object >0°C

⁴ ε = 1, response time 1s

Optical specifications thermoMETER CSLaser CSLM-2HSF300

□ = smallest spot size (mm)

Standard Fokus																
2H SF	300:1	20	17.8	15.5	13.2	11	8.6	6.4	4.8	3.7	5.5	8.6	11.8	17	26.6	
		distance in mm	0	150	300	450	600	750	900	1000	1100	1200	1350	1500	1750	2200
Close Fokus																
2H CF2	300:1	20	13.5	7	0.5	7.3	14	21	n.v.	34.5	n.v.	48.2	61.8	75.4	89	
2H CF3	300:1	20	15.2	10.3	5.5	0.7	5.8	11	n.v.	21.2	n.v.	31.5	41.8	52.1	62.4	
2H CF4	300:1	20	18	16	13.8	11.8	9.7	7.6	5.6	3.5	1.5	3.8	8.6	13.3	18	
		distance in mm	0	50	100	150	200	250	300	350	400	450	500	600	700	800
Far Focus optics																
2H FF	300:1	20	19	18	17	16	15	14	13.4	12	16.5	24.4	33.4	40		
		distance in mm	0	450	900	1350	1800	2250	2700	3000	3600	4000	5000	6000	6750	

Accessories page 60 - 61

- ▶ Mounting bracket
- ▶ Air purge collar
- ▶ Rail mount adapter for controller
- ▶ Water cooled housing
- ▶ Certificate of calibration
- ▶ USB Kit (TM-USBK-CS)

Mechanical accessories CS / CSmicro

Art. No.	Model	Description
2970279	TM-FB-CS	Mounting bracket, fixed
2970280	TM-AB-CS	Mounting bracket, adjustable
2970281	TM-MB-CS	Mounting bolt with M12x1 thread
2970282	TM-MG-CS	Mounting fork, adjustable in 2 axes, with thread M12x1
2970283	TM-AP-CS	Air purge collar for 10:1 sensors
2970284	TM-APL-CS	Air purge collar, laminar
2970285	TM-APLCF-CS	Air purge collar, laminar, integrated CF-lens
2970286	TM-RAM-CS	Right angle mirror for 90°C measurements
2970287	TM-USBK-CS	USB interface kit incl. software CompactConnect

Optical accessories CS / CSmicro

2970277	TM-CF-CS	CF-Lens for CS series
2970278	TM-PW-CS	Protective window for CS series

Calibration CS / CSmicro

2970288	TM-CERT-CS	Certificate of calibration
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Mechanical accessories CX

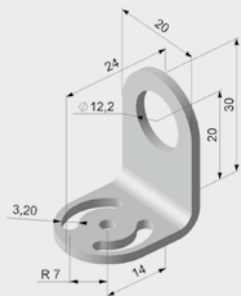
Art. No.	Model	Description
2970307	TM-AP-CX	Air purge collar, aluminium (anodized)
2970321	TM-FB-CX	Mounting bracket, adjustable in one axis, stainless steel
2970322	TM-AB-CX	Mounting bracket, adjustable in two axes, stainless steel
2970311	TM-USBK-CX	USB-Kit: USB programming adapter, Software CompactConnect

Optical accessories CX

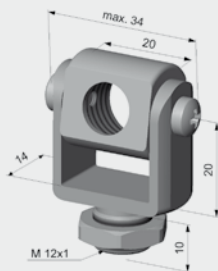
2970302	TM-CF-CX	CF-lens for thermoMETER CX
2970303	TM-PW-CX	Protective window for thermoMETER CX

Calibration CX

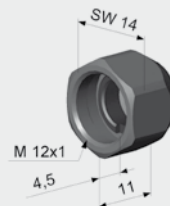
2970323	TM-CERT-CX	Certificate of calibration
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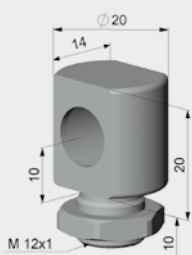
TM-FB-CS Mounting bracket, fixed



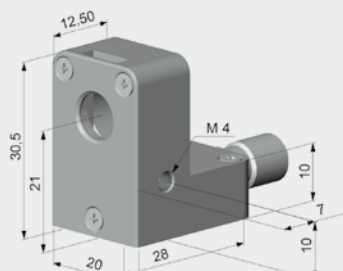
TM-MG-CS Mounting fork with M 12x1 thread adjustable in two axes



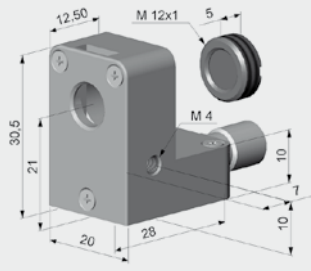
TM-CF-CS Close Focus Lens (LT sensors only)



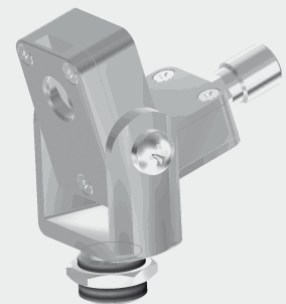
TM-MB-CS Mounting bolt with M12x1 thread adjustable



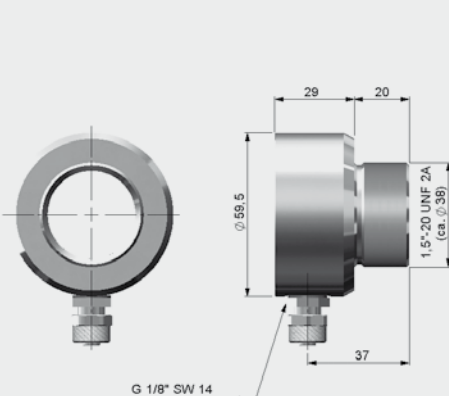
TM-APL-CS Air purge collar



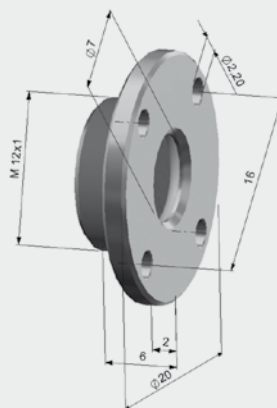
TM-APLCF-CS Air purge collar, laminar, integrated CF-lens



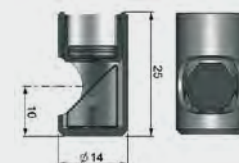
TM-APL-CS Laminar air purge collar and TM-MG-CS Mounting fork



TM-AP-CX Air purge collar CX sensors



TM-CF-CX CF-Lens
TM-PW-CX Protective window



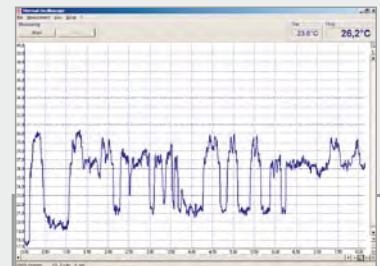
TM-RAM-CS Right angle mirror



thermoMETER LS Infrared thermometer with crosshair laser sighting

The LS is the most sophisticated IR hand held device. It provides an accurate measurement with its precision optics (adjustable for close or far field focus) and marks the actual true measurement with a laser crosshair, eliminating the guesswork out of handheld IR devices. It is fully programmable, offers a digital interface for on and offline data logging and includes a thermocouple plug in.

- Measuring range from -35° to +900°C
- The new performance standard with spot sizes as small as 1mm
- Crosshair laser sighting marks the actual spot size at any distance
- Optical resolution 75:1
- Response time 150ms
- Thermocouple input
- USB interface and graphic software with oscilloscope function
- Multi function flip display
- Programmable emissivity
- High and low limits
- Statistical data processing



Flip display for multi purposes:
Measurement of smallest objects (1mm) on a circuit board - data transfer via USB to a common PC

Optical specifications thermoMETER LS

□ = smallest spot size (mm)

Standard Focus optics	75:1	20	16	40	70	100	130
distance in mm	0	1200	2000	3000	4000	5000	
Close Focus optics	CF 75:1	17	1	123	262		
distance in mm	0	62	500	1000			