



More Precision

thermoMETER // Non-contact IR temperature sensors

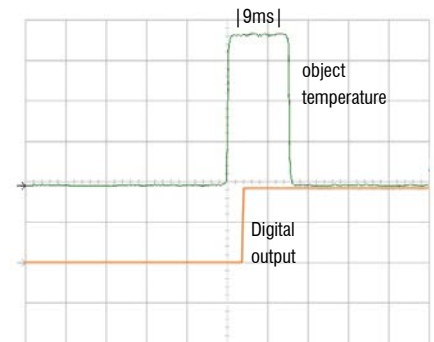




thermoMETER CTfast

IR temperature sensor with extremely short response time

- Measuring range from -50°C to 975°C
- One of the smallest infrared sensors worldwide with extremely short response times from 3ms (50% signal) to 6ms (90% signal)
- Up to 120°C ambient temperature without cooling
- Fast and scalable analogue output with intelligent real-time data processing
- Separate controller with programming keys and backlit display



Switching output with a threshold of 50% of the signal (SF15 model)

Optical specifications thermoMETER CTfast

□ = smallest spot size (mm)

Standard Focus

SF15	15:1	7	8	13	20	27	33	40	47	53			
SF25	25:1	6.5	7.3	8	12	16	20	24	28	32	36	40	44
	distance (mm)	0	100	200	300	400	500	600	700	800	900	1000	1100

Close Focus (with optionally available CF lens)

CF15	15:1	7	5	0.8	5	11	16	21	27	32			
	distance (mm)	0	5	10	15	20	25	30	35	40			
CF25	25:1	6.2	3.4	0.5	3.8	7.1	10.4	14.5	18.7	22.8	27		
	distance (mm)	0	4	8	12	16	20	25	30	35	40		

Model	CTF-SF15-C3	CTF-SF25-C3
Optical resolution	15:1	25:1
Temperature range ¹	-50°C to 975°C	
Spectral range	8 to 14µm	
System accuracy ²	±1% or ±2°C	
Repeatability ²	±0.75% or ±0.75°C	
Temperature resolution ^{3,4}	0.2°C	0.4°C
Response time ⁵	9ms (90%) at analogue output 4ms (50%) at digital output	6ms (90%) at analogue output 3ms (50%) at digital output
Emissivity/gain ¹	0.100 to 1.100	
Transmissivity 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	0/4 - 20mA, 0 to 5/10V; thermocouple J, K	
Alarm output	open-collector (24V/ 50mA)	
Outputs/digital	standard 0/10V (10mA) optional: relay: 2 x 60VDC / 42V AC; 0.4mA; electrically isolated	
Digital Interface	optional	USB, RS232, RS485, CAN, Profibus DP, Ethernet
Output impedances	current output	mA max. 500Ω (with 8 - 36VDC)
	voltage output	min. 100kΩ load impedance; thermocouple 20Ω
Inputs	programmable functional inputs for external emissivity adjustment, ambient temperature compensation, trigger (reset of hold functions)	
Cable length	1m, 3m (standard), 8m, 15m	
Power supply	8 to 36VDC; max. 100mA	
Protection class	IP65 (NEMA-4)	
Ambient temperature	sensor: -20°C to 120°C controller: 0°C to 85°C	
Storage temperature	sensor: -40°C to 120°C controller: -40°C to 85°C	
Relative humidity	10 to 95%, non condensing	
Vibration	sensor	EC 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	

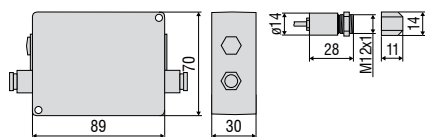
¹ adjustable via programming keys or software

² at ambient temperature 23 ±5°C; whichever is greater with dynamic noise compression

³ temperature of the object ≥20°C

⁴ with dynamic adaption at low signal levels

⁵ with time constant of 100ms with adaptive averaging T_{obj} 25°C



Product identification

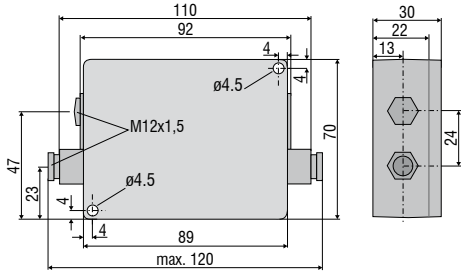
CTF-	SF15-	C3
		Cable length [1m / 3m (standard) / 8m / 15m]
		Focus [SF15 / SF25]
thermoMETER CTfast		

Accessories page 40-43

- Ancillary CF lens
- Protective window
- Mounting bracket / Mounting bolt
- Air purge collar
- Right angle mirror
- Rail mount adapter for controller
- Massive housing
- Protective tube
- Laser sighting aid
- Digital-interface kits
- Certificate of calibration

CT / CTfast / CTM1/M2/M3

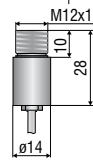
controller



ancillary CF lens (optional)

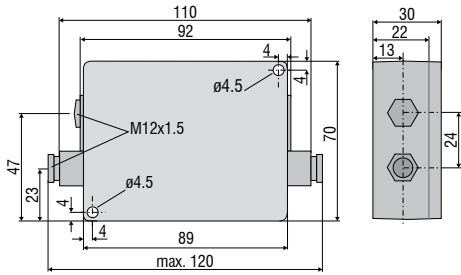


sensor

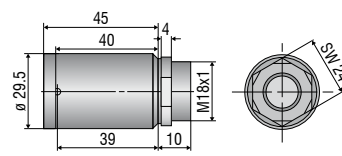


CThot / CTP-3 / CTP-7

controller

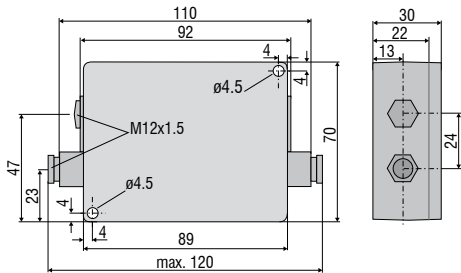


sensor with protective housing

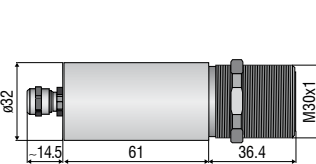


CTM3-XL

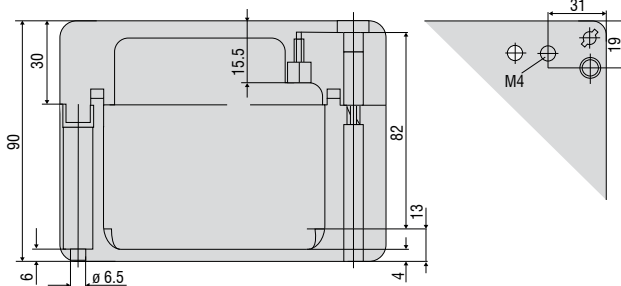
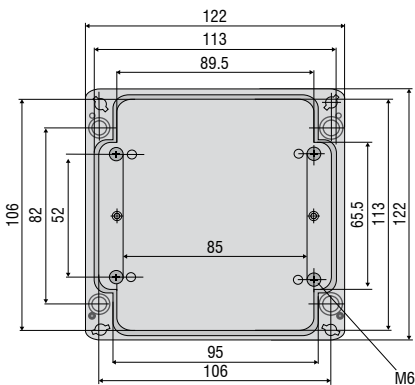
controller



sensor



CTex





Mechanical accessories		
Art. No.	Model	
2970203	TM-FB-CT	Mounting bracket, fixed
2970325	TM-FB2-CT	Mounting bracket, adjustable in one axis, for simultaneous assembly of CT sensor and laser sighting aid
2970336	TM-FBMH-CT	Mounting bracket, adjustable in one axis, for massive housing
2970204	TM-AB-CT	Mounting bracket, adjustable in 2 axes
2970205	TM-MB-CT	Mounting bolts with M12x1 thread
2970206	TM-MG-CT	Mounting fork, adjustable in 2 axes, with M12x1 fastening
2970207	TM-AP-CT	Air purge collar for sensors from 10:1 lens
2970335	TM-APS-CT	Air purge collar for sensors from 10:1 lens made from stainless steel
2970208	TM-AP2-CT	Air purge collar for sensor with 2:1 lens
2970209	TM-APL-CT	Air purge collar, laminar
2970210	TM-APLCF-CT	Air purge collar, laminar with integrated ancillary CF lens
2970357	TM-APLCFH-CT	Air purge collar, laminar with integrated ancillary CF lens for M1/M2/M3/M5 sensors
2970386	TM-APMH-CT	Air purge collar made from stainless steel for massive housing
2970211	TM-RAM-CT	Right angle mirror for measurements 90° to the sensor axis
2970212	TM-RAIL-CT	Rail mount adapter for CT controller
2970213	TM-COV-CT	Closed cover for controller
2970214	TM-MHS-CT	Massive housing made from stainless steel
2970215	TM-MHSCF-CT	Massive housing made from stainless steel with integrated ancillary CF lens
2970358	TM-MHSCFH-CT	Massive housing made from stainless steel with integrated ancillary CF lens for M1/M2/M3/M5 sensors
2970216	TM-MHA-CT	Massive housing made from anodised aluminium
2970217	TM-MHACF-CT	Massive housing made from anodised aluminium with integrated ancillary CF lens
2970359	TM-MHACFH-CT	Massive housing made from anodised aluminium with integrated ancillary CF lens for M1/M2/M3/M5 sensors
2970218	TM-MHB-CT	Massive housing made from brass
2970219	TM-MHBCF-CT	Massive housing made from brass with integrated ancillary CF lens
2970360	TM-MHBCFH-CT	Massive housing made from brass with integrated ancillary CF lens for M1/M2/M3/M5 sensors
2970220	TM-PT-CT	Protective tube made from brass
2970326	TM-PA-CT	Pipe adapter for the mounting of reflection protection tubes
2970327	TM-ST20-CT	Reflection protection tube; length 20mm
2970328	TM-ST40-CT	Reflection protection tube; length 40mm
2970329	TM-ST88-CT	Reflection protection tube; length 88mm
2970221	TM-LST-CT	Laser sighting aid for CT sensors incl. batteries (2xAlkaline AA)
2970300	TM-LSTOEM-CT	OEM laser sighting aid, 635nm, 3.5m cable, for connection to CT controller
2970300-008	TM-LSTOEM-CT(008)	OEM laser sighting aid, 635nm, 8m cable, for connection to CT controller
2970222	TM-EX-CT	Accessories kit for using CT in Ex areas (Zone 1: PTB 01 ATEX 2053/ E II (1/2) G [EEx ia/ib] IIC/IIIB), pre-assembled EX box, without Zener barriers, applicable in combination with CT sensors (except for CTfast)

Optical accessories		
Art. No.	Model	
2970201	TM-CF-CT	Ancillary CF lens (only for SF models)
2970202	TM-PW-CT	Protective window (only for SF models)
2970297	TM-CFAG-CT	Ancillary lens with external thread
2970330	TM-CFH-CT	Ancillary lens for M1/M2/M3/M5 sensors
2970331	TM-CFHAG-CT	Ancillary lens with external thread for M1/M2/M3/M5 sensors
2970299	TM-PWAG-CT	Protective window with external thread
2970332	TM-PWH-CT	Protective window for M1/M2/M3/M5 sensors
2970333	TM-PWHAG-CT	Protective window with external thread for M1/M2/M3/M5 sensors

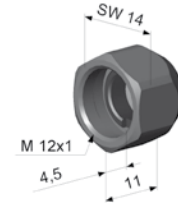
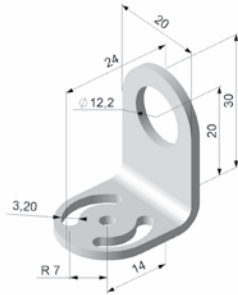
Interfaces		
Art. No.	Model	
2970223	TM-USBK-CT	USB interface kit: USB interface, USB cable, Software CompactConnect, second cable gland for controller
2970224	TM-RS232K-CT	RS232 interface: RS232 interface, computer cable, software CompactConnect, second cable gland for controller
2970338	TM-RS485USBK-CTL	RS485-USB-adapter, incl. PC cable, software CompactConnect and CTmulti, second cable gland for use with interface board TM-RS485B-CT
2970226	TM-RS485B-CT	RS485 interface board incl. second cable gland
2970227	TM-CANK-CT	CAN-Bus interface for thermoMETER CT/ protocol: CANopen presettings: module address 20 (14H), 250kbaud, 0-60°C
2970228	TM-PFBDPK-CT	Profibus-DPV1 interface for thermoMETER CT with plug-in connection
2970229	TM-ETHNK-CT	Ethernet-Kit: interface board, external Ethernet adapter, software CompactConnect
2970230	TM-RI-CT	Relay interface: Two electrically isolated relays, 60VDC/ 42VAC _{RMS} , 0.4A

Calibration		
Art. No.	Model	
2970231	TM-CERT-CT	Certificate of calibration
2970310	TM-HTCERT-CT	Certificate of calibration for CTM sensors

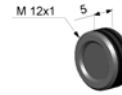
CTM3-XL		
Art. No.	Model	
2970352	TM-FBXL-CT	Mounting bracket, adjustable in one axis
2970353	TM-ABXL-CT	Mounting bracket, adjustable in 2 axes
2970354	TM-APXL-CT	Air purge collar, stainless steel
2970361	TM-XLCERT-CT	Certificate of calibration



TM-FB-CT Mounting bracket, adjustable in one axis



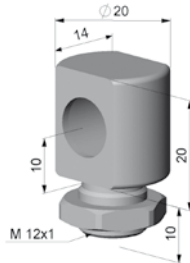
TM-CF-CT Ancillary CF lens (only for SF models)



TM-CFAG-CT Ancillary CF lens with external thread
TM-PWAG-CT Protective window with external thread



TM-AB-CT Mounting bracket, adjustable in two axes



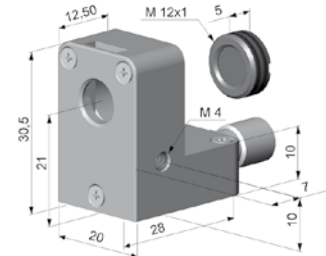
TM-MB-CT Mounting bolt with M12x1 thread adjustable in one axis



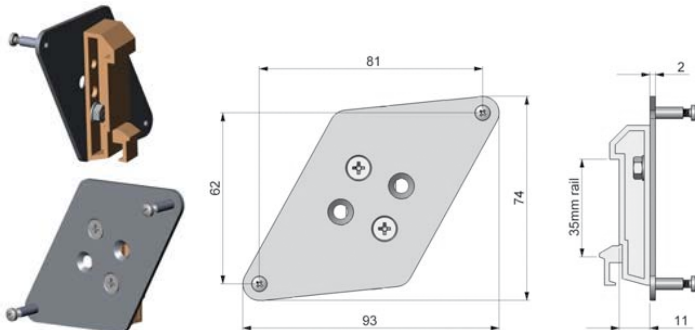
TM-APL-CT Air purge collar, laminar and
TM-MG-CT Mounting fork



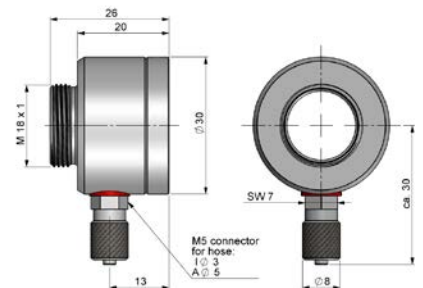
TM-MG-CT Mounting fork with M12x1 thread, adjustable in two axes



TM-APLCF-CT Ancillary CF lens/protective window - integrable variant for laminar air purge collar



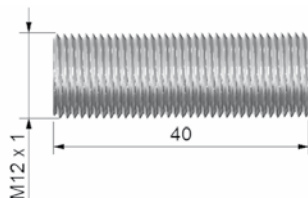
TM-RAIL-CT Rail mount adapter for controller



TM-APMH-CT Air purge collar made from stainless steel for massive housing



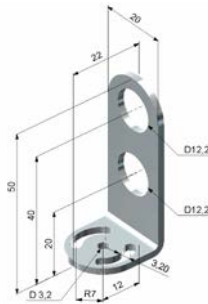
TM-PA-CT Pipe adapter for reflection protection tube



TM-ST40-CT Reflection protection tube



TM-LST-CT Laser sighting aid, battery-operated (2x Alkaline AA), for alignment of CT sensors (dimensions identical to CT sensor)



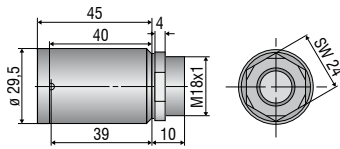
TM-FB2-CT Mounting bracket for sensor and laser sighting aid



TM-RAM-CT Right angle mirror



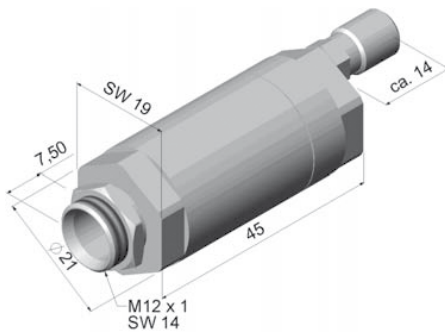
TM-MHS-CT Massive housing, stainless steel
 TM-MHA-CT Massive housing, aluminium
 TM-MHB-CT Massive housing, brass



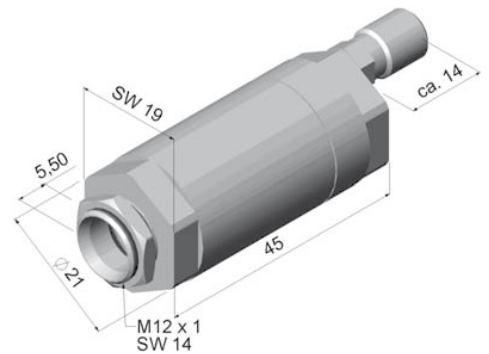
TM-TAS-CT Pivoted joint for CT sensors



Dirt and deposit on the lens like smoke, steam and high air humidity (condensation) are avoided or reduced by using an air purge collar.



TM-AP-CT Standard air purge collar for 10:1 / 15:1 / 22:1 lenses



TM-AP2-CT Standard air purge collar for 2:1 lens

Further IR temperature measurement devices from Micro-Epsilon



thermoIMAGER TIM
Compact USB thermal imaging cameras
for precise thermography



thermoMETER CTVideo/CSVidéo
IR temperature sensors with
crosshair laser sighting and video output



thermoMETER Handheld
Innovative handheld pyrometer with laser
sighting for inspection and maintenance

