MICRO-EPSILON

More Precision

thermoMETER // Non-contact IR temperature sensors

thermoMETER CT

Non-contact IR temperature sensor for common applications

- Measuring range from -50°C to 975°C
- One of the smallest 22:1 infrared sensors worldwide
- Up to 85°C ambient temperature without cooling
- Separate controller with programming keys and backlit display
- Selectable and scalable analogue output, optional digital interfaces
- Exchangeable sensors
- Best price sensor

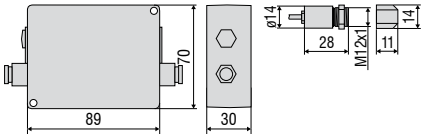
Optical specifications thermoMETER CT

□ = smallest spot size (mm)

Standard Focus																
SF02	2:1	5	50	100	150	200	250	300	350	400						
	distance (mm)	0	100	200	300	400	500	600	700	800						
SF15	15:1	6.5	8.3	10	15	20	25	30	35	40	45	50	55	60	65	70
	distance (mm)	0	75	150	225	300	375	450	525	600	675	750	825	900	975	1050
SF22	22:1	6.5	8.3	10	15	20	25	30	35	40	45	50				
	distance (mm)	0	110	220	330	440	550	660	770	880	990	1100				
Close Focus (with optionally available CF lens)																
CF02	2:1	7	5	3.1	2.5	5.4	7.5	9.6	13.7	18						
	distance (mm)	0	10	20	23	30	35	40	50	60						
CF15	15:1	7	4	0.8	4.7	8.6	12.5	16.4	20.3	24.2						
CF22	22:1	7	4	0.6	4	8	12	16	20	24						
	distance (mm)	0	5	10	15	20	25	30	35	40						

Model		CT-SF02-C3	CT-SF15-C3	CT-SF22-C3
Optical resolution		2:1	15:1	22:1
Temperature range [1]		-50°C to 600°C	-50°C to 600°C	-50°C to 975°C
Spectral range		8 to 14µm		
System accuracy [2]		±1% or ±1°C		
Repeatability [2]		±0.5% or ±0.5°C		
Temperature resolution		0.1°C		
Response time		150ms (95%)		
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	channel 1	0/4 to 20mA, 0 to 5/10 V, thermocouple J, K		
	channel 2	sensor temperature (-20°C to 180°C as 0 to 5V or 0 to 10V), alarm output		
Outputs/analogue	optional	relay: 2 x 60VDC/42VAC; 0.4A; electrically isolated		
Outputs/digital	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 130°C	-20°C to 180°C	
	controller	0°C to 85°C		
Storage temperature	sensor	-40°C to 130°C	-40°C to 180°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] at ambient temperature 23 ±5 °C; whichever is greater



Product identification

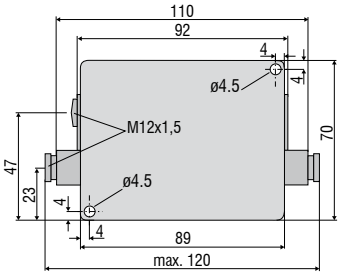
CT-	SF02-	C3
		Cable length [1m / 3m (standard) / 8m / 15m]
	Focus [SF02 / SF15 / SF22]	
thermoMETER CT		

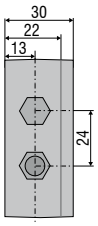
Accessories page 40-43

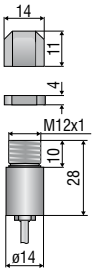
- Ancillary CF lens
- Protective window
- Mounting bracket / Mounting bolt
- Air purge collar
- Right angle mirror
- Rail mount adapter for controller
- Massive housing
- Protective tube
- Laser sighting aid
- Digital-interface kits
- Accessories kit for use in Ex areas
- Certificate of calibration

CT / CTfast / CTM1/M2/M3

controller





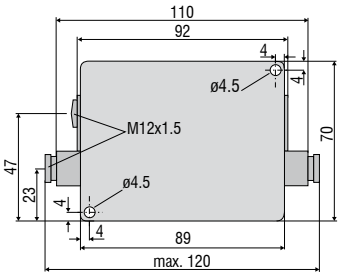


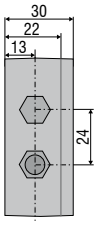
ancillary CF lens (optional)

sensor

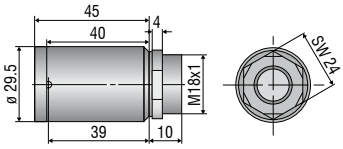
CThot / CTP-3 / CTP-7

controller



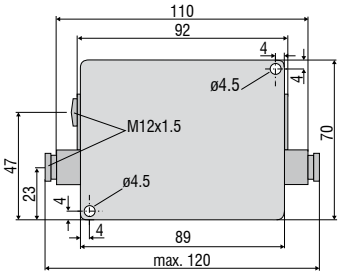


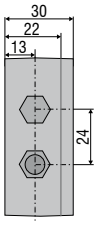
sensor with protective housing



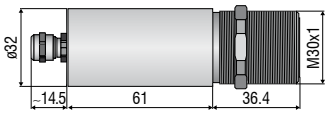
CTM3-XL

controller

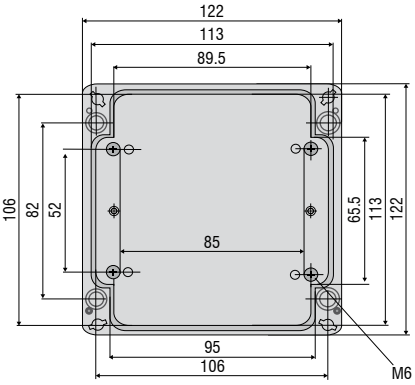


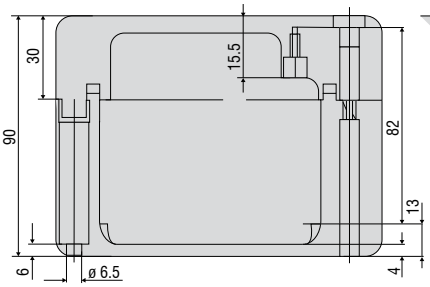


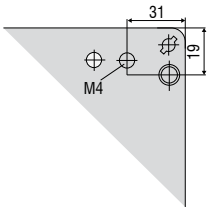
sensor



CTex







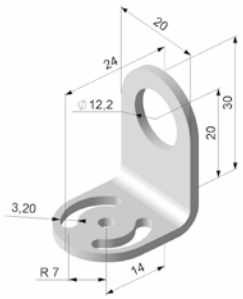
Mechanical accessories		
Art. No.	Model	
2970203	TM-FB-CT	Mounting bracket, fixed
2970325	TM-FB2-CT	Mounting bracket, adjustable in one axis, for simultaneous assembly of CT sensor and laser sighting aid
2970336	TM-FBMH-CT	Mounting bracket, adjustable in one axis, for massive housing
2970204	TM-AB-CT	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 fro 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 tub; 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/IIB), 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

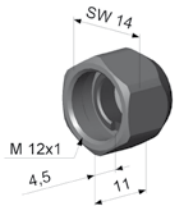
Interfaces		
2970223	TM-USBK-CT	USB interface kit: USB interface, USB cable, Software CompactConnect, second cable gland for controller
2970224	TM-RS232K-CT	RS232 interface: RS232 interface, computer cable, software CompactConnect, second cable gland for controller
2970338	TM-RS485USBK-CTL	RS485-USB-adapter, 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		
2970231	TM-CERT-CT	Certificate of calibration
2970310	TM-HTCERT-CT	Certificate of calibration for CTM sensors

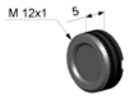
CTM3-XL		
2970352	TM-FBXL-CT	Mounting bracket, adjustable in one axis
2970353	TM-ABXL-CT	Mounting bracket, adjustable in 2 axes
2970354	TM-APXL-CT	Air purge collar, stainless steel
2970361	TM-XLCERT-CT	Certificate of calibration



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

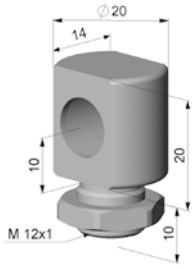


TM-CF-CT Ancillary CF lens (only for SF models)

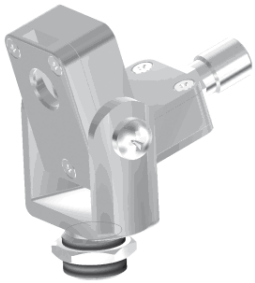


TM-CFAG-CT Ancillary CF lens with external thread
TM-PWAG-CT Protective window with external thread

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

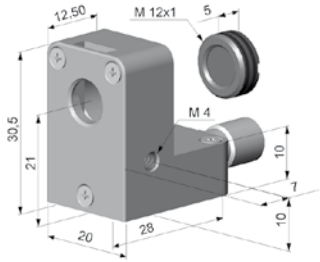


TM-MB-CT Mounting bolt with M12x1 thread adjustable in one axis

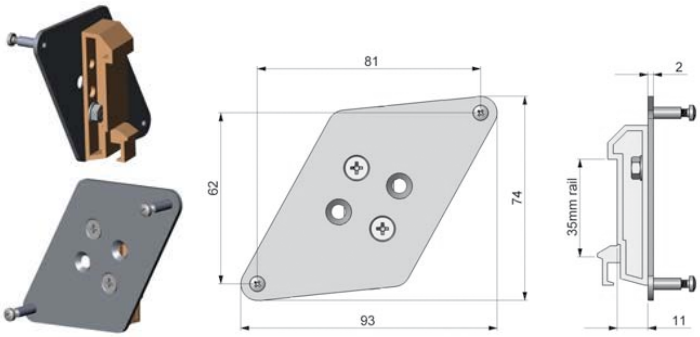


TM-APL-CT Air purge collar, laminar and
TM-MG-CT Mounting fork

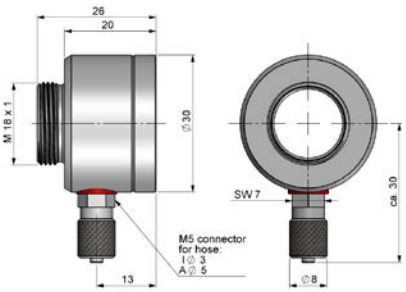
TM-MG-CT Mounting fork with M12x1 thread, adjustable in two axes



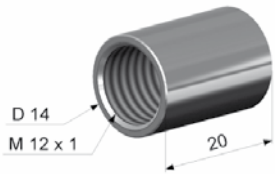
TM-APLCF-CT
Ancillary CF lens/protective window - integrable variant for laminar air purge collar



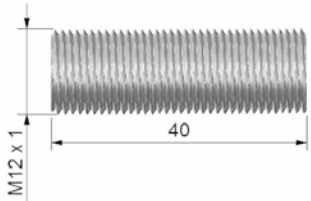
TM-RAIL-CT Rail mount adapter for controller



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

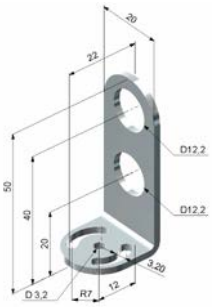


TM-PA-CT Pipe adapter for reflection protection tube



TM-ST40-CT Reflection protection tube

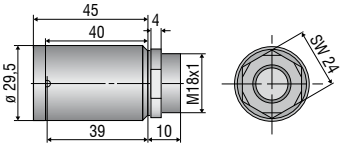
TM-LST-CT Laser sighting aid, battery-operated
(2x Alkaline AA), for alignment of CT sensors
(dimensions identical to CT sensor)

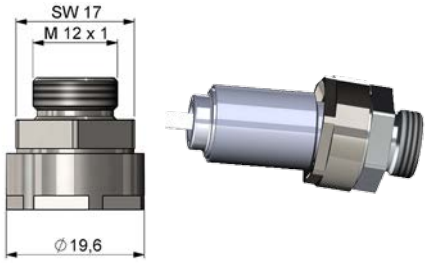


TM-FB2-CT
Mounting bracket for sensor and laser sighting aid

TM-RAM-CT
Right angle mirror

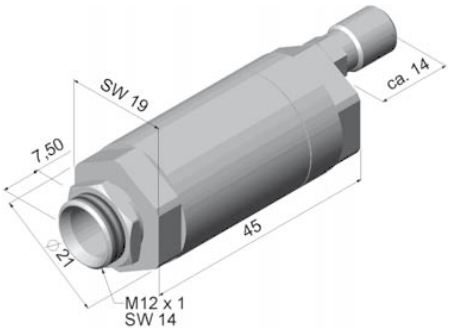
TM-MHS-CT Massive housing, stainless steel
TM-MHA-CT Massive housing, aluminium
TM-MHB-CT Massive housing, brass



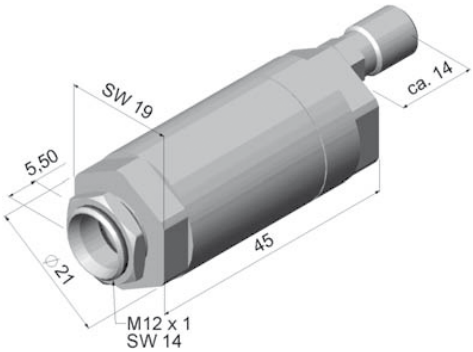


TM-TAS-CT Pivoted joint for CT sensors

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/CSVideo
IR temperature sensors with crosshair laser sighting and video output

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

Änderungen vorbehalten / Y9761229-E011066GO

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