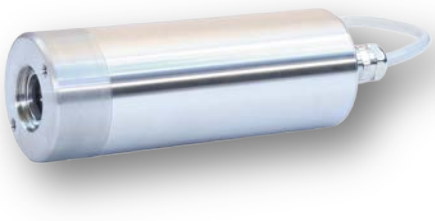
HEITRONICS
Infrarot Messtechnik

Technical Data Sheet

CT13.77

Infrared Radiation Thermometer

- Highest accuracy and long-term stability
- Pilot laser
- Very fast response time from 30 ms on
- Robust stainless steel housing IP68



Measurement specifications	
Temperature range:	0 … 500 °C
Spectral range:	7.5 … 7.9 µm
Measurement uncertainty:	± 0.8 °C plus 0.8 % of the temperature difference between measured target and instrument or value of temperature resolution. The higher value shall prevail.
Temperature resolution (NETD):	Depending on the measured temperature and the response time Typical value is 0.5 °C (2 Sigma, by t_{90}: 3 s, 100 °C; Ɛ = 1)
Long-term stability:	Better than 0.01 % of the absolute measured temperature per month
Field of view:	from Ø 1 mm (± 5 %) … 3.4 mm, depending on optic and detector
Response time (t_{90}):	Adjustable from 30 ms to 10 s
Temperature unit:	°C, K or °F
Emissivity:	0.100 … 1.000 in 0.001 steps
Lens:	CaF2, ZnSe

Electrical specifications / Functions	
Analog output: **Function:**	0 … 20 mA; 4 … 20 mA; resolution: 12 bit Actual, maximum or minimum value (scalable (minimum span 50 K))
Digital output option: **Function:**	Open-collector Threshold detection Min, Max temperature value
Digital input option: **Function:**	Dry contact switch, operating voltage, open-collector Reset of memory, (de-)activate digital outputs or laser
Serial interface:	RS232 interface, bi-directional 9.6 … 57.6 kBaud
Laser aiming option:	Integrated pilot laser
Programmable via serial interface:	Emissivity, analog output, analog output function, response time, temperature unit, Min and Max value memory adjustable with decay rate, reset by contact or temperature threshold, alarm switching point, time period etc.
Operating voltage:	DC: 10.5 … 30 V AC: 12 … 24 V ± 10 %, 48 … 400 Hz
Power consumption:	≤ 2.5 W

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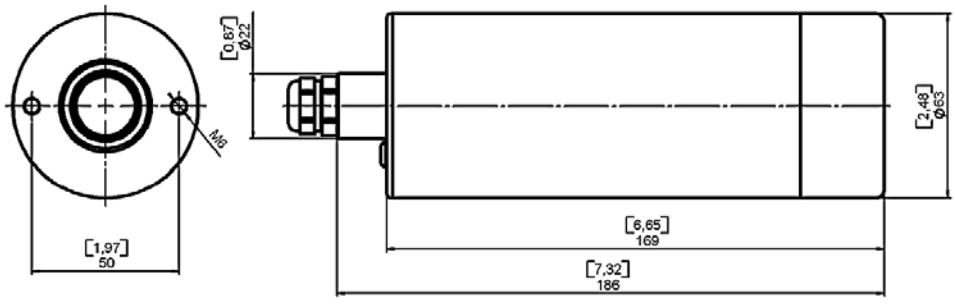
General specifications	
Storage temperature:	-40 … +85 °C
Permissible ambient temperature:	-25 … +60 °C (optional with protective cooling jacket up to 250 °C)
Protection class:	IP68 (IEC), (NEMA4)
Protection against oscillation:	EN 60068-2-6, frequency range: 10 … 500 Hz, 10 … 60 Hz, amplitude: 0.35 mm, 60 … 500 Hz, acceleration : 100 m/s² Resistance to vibrations : class B
Housing:	Stainless steel
Weight:	Appr. 1.4 kg

Scope of supply and options[1]		
Accessories:	■[2]	Manual CT13
	■	Software EasyConfig
	□	Software EasyMeas
	■	Connecting cable, 12-pin, hardwired, 5 m length, PVC, unterminated ends
	□	Connecting cable, hardwired, ≥ 5 m length: PTFE; PUR; PVC; TPE, unterminated ends or 12-pin female connector
Calibration certificate:	□	HEITRONICS certificate
Housing:	□	Protective cooling jacket (water) WK15 up to 250 °C ambient temperature
	□	Ex-proof housing stainless steel (II 2 G, Ex d e IIC T5 Gb Tamb: -50 °C … 60 °C)
Adapter and flanges:	□	See document Options and Accessories
Vacuum flange ISO-KF:	□	DN25, DN40 (at 10^{-4} Pa (10^{-6} Torr)), the leakage is < 10^{-8} std cm³/s
Protective foil:	□	For lenses for measuring objects < 200 °C, Resistant to aggressive cleaners
Bus interface:	□	with transducer

Dimensions



Unit: mm [inch]

1 Special model specification on request.
2 ■ Standard function
□ Option

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Technische Änderungen und redaktionelle Irrtümer vorbehalten. Specifications are subject to change without notice.