

## Infrared - measuring transducer



- small infrared sensor heads with 22:1 optical resolution
- rugged and applicable without cooling up to 180 °C ambient
- adjustable emission factor
- freely scaleable analogue output
- illuminated liquid crystal display

NON-CONTACT TEMPERATURE

MEASURING FROM -50 TO 975 °C

## IR-CT 20

-50 ... +975 °C, optic 22:1  
Precision infrared transducer

## Application:

Glass, paper, plastic industries, automotive industry, metal industry, quality assurance / maintenance

## Specification:

**Measuring range:** -50 ... +975 °C  
freely scaleable via programming keys

**Spectral sensitivity:** 8 - 14 µm

**Optic resolution:** 22:1 (precision glass optics)

**System accuracy:** ± 1% or ±1 °C  
(higher value applicable)

**Repeat accuracy:** ±0.5 % or ±0.5 °C  
(higher value applicable)

**Nominal temperature:** 23 ± 5 °C

**Temperature coefficient:** 0.05 % or 0.05 °C/K  
(higher value applicable)

**Temperature resolution:** 0.1 °C

**Response time:** 150 ms (95%)

**Emission-, trans- mission factor:** adjustable from 0.100 ... 1.100

**Output signals:** 0-20 mA, 4-20 mA, 0-5 V, 0-10 V  
thermocouple type J or K

## Output impedance:

**mA** max. 500 Ohm (at 8-36VDC)

**V** min. 100 kOhm load resistance

**Thermo couple:** 20 Ohm

**Supply voltage:** 8-36 VDC

**Power consumption:** max. 100 mA

**Cable length:** 1 m (standard), 3 m, 15 m

**IP rating:** IP65 (NEMA-4)

## Ambient temperature:

**Measuring head:** -20 ... +180 °C

**Electronic box:** 0 ... +65 °C

## Storage temperature:

**Measuring head:** -40 ... +180 °C

**Electronic box:** -40 ... +85 °C

**Relative humidity:** 10 - 95 % RH, non condensing

## Vibration (meas. head):

IEC 68-2-6: 3G, 11-200 Hz, each axis

## Shock (meas. head):

IEC 68-2-27: 50G, 11 ms, each axis

**Weight (meas. head / elec. box):** 40 g / 420 g

**Dimensions electronic box:** 120 x 70 x 30 mm

**Scope of supply:** electronics-box with LCD, stainless steel sensor head (M12) incl. screw nut, 1 m high temperature sensor head cable, manual

## Option:

**- CB3**  
3 m sensor head cable

**- CB15**  
15 m sensor head cable

**- CF**  
auxiliary lens for measuring of smallest objects  
measuring zone dia 0,6 mm @10 mm, in long distance 1.5:1

## Accessories and spare parts:

**MW**  
mounting bracket, fixed

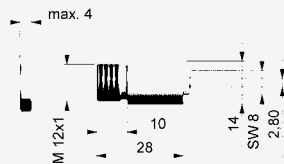
**MB**  
mounting bolts with M12x1 thread

**MG**  
mounting fork, adjustable in 2 axis  
with M12x1 mount

**FVS**  
standard blow clear header

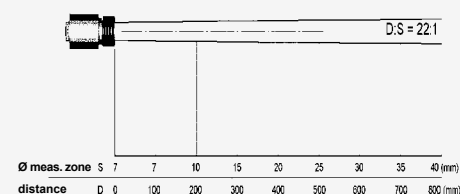
**FVL**  
laminar blow clear header

**WPS**  
calibration certificate 23 °C, 110 °C, 510 °C

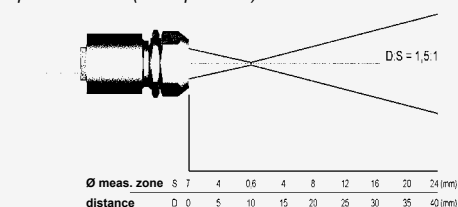


Further special design types (e.g. for metal processing, or with other optics) up on request

## Optic resolution (standard)



## Optic resolution (with option CF)



## Temperature Switch



## TF1 ...

Temperature Switch

## General:

A totally sealed bimetal thermostat opens or closes when the pre-fixed switch value is overrated or undercut. Sensor has to be fully wetted. Switch value is indicated for increasing temperature 2 K/min. TF1 thermostats just monitor the temperature. A regulation is due to the huge hysteresis not possible.

- optional installation
- compact dimensions
- n.o. or n.c. position
- metering substances: water, gas/air, oil

## Specification:

**Switch value: (declared when placing order)**

|        |                   |
|--------|-------------------|
| 40 °C  | Order Nr: TF1 40  |
| 50 °C  | Order Nr: TF1 50  |
| 60 °C  | Order Nr: TF1 60  |
| 70 °C  | Order Nr: TF1 70  |
| 80 °C  | Order Nr: TF1 80  |
| 90 °C  | Order Nr: TF1 90  |
| 100 °C | Order Nr: TF1 100 |
| 110 °C | Order Nr: TF1 110 |
| 120 °C | Order Nr: TF1 120 |
| 130 °C | Order Nr: TF1 130 |

**Hysteresis:** 10 ... 20 K

**Accuracy:** ±10 K

| Media Temperature: | Switch          | Media Temperature: |
|--------------------|-----------------|--------------------|
| 40 °C              | -20 ... +90 °C  |                    |
| 50 °C              | -20 ... +100 °C |                    |
| 60 °C              | -20 ... +110 °C |                    |
| 70 °C              | -20 ... +120 °C |                    |
| 80 °C              | -20 ... +130 °C |                    |
| from 90 °C         | -20 ... +140 °C |                    |

**Connection:** G1/2A male thread socket brass

**Pressure (PN):** 100 bar

**Electric data:** NO (NC upon request)  
250 V AC, 10 A  
plug EN 175301-803/A

**Weight:** 120 g

**Protection class:** IP65

