



CT13 Infrared Radiation Pyrometer with protection tube

Datasheet

CT13 Infrared Radiation Pyrometer

The CT13.10 is an Infrared Radiation Pyrometer for non-Contact Temperature Measurement.

Since the measurement is contact-free, there is no falsification of the temperature measurement field by heat dissipation, such as in probe thermometers.

The radiation pyrometer is a compact transmitter, which examines by the object emitted infrared self-radiation, receives and normalizes, converted in an output signal. All optical and electronic components are accommodated in a small, solid die cast housing, so that the installation of the radiation pyrometer also is limited to the available space.

This pyrometer can be used in harsh environments, such as temperature measurements in the offshore.

Features

- Rugged stainless steel housing, IP68
- Wide temperature range from 0 to 900 °C
- Very fast response times ≥ 30 ms (programmable)
- Fields-of-view as small as 1 mm
- Pilot laser aims the center of the field-of-view

Specifications

- Temperature range: 0 to 500 °C; (option: 0 to 900 °C)
- Temperature resolution (NETD): depends on measured temperature and response time, typical value 0.2 °C (at 300 ms, 100 °C, $\epsilon = 1$)
- Accuracy: ± 0.8 °C plus 0.8% of the difference between target and sensor head temperature
- Long term stability: better than 0.01% of the absolute measured value per month
- Field of view diameter: from $\varnothing$ 1 mm, depends on lens
- Laser function: Time out or permanent operation, while flashing or continuous marking (A)
- Spectral response: 8 to 14 μ m
- Programmable functions via serial interface:
 - emissivity, environmental temperature, analog output, function of analog output, response time, temperature unit, valley/peak picker with decay function, laser function (A), alarm values and output (B)
- Emissivity: 0.100 to 1.000 in 0.001-steps
- Response time: from 30 ms to 10s (0.03, 0.1, 0.3, 1, 3, 10s)
- Temperature unit: °C, K or °F
- Analog output (Hardware): Linear 0 - 20 mA, or 4 - 20 mA, scalable temperature span ≥ 50 °C
- Analog output (Functions): Actual value, max-value or min-value
- Analog output (Resolution): 12 bit
- Valley/peak picker programmable: reset - internal (option: reset - external input)
- Serial interface: RS232-interface, bi-directional, 9.6 to 57.6 kbps, for programming and data transfer
- Operating voltage: 10.5 VDC to 30 VDC / 12 (-10 %) VAC to 24 (+10 %) VAC
- Power consumption: ≤ 2.5 W
- Permissible ambient temperature: -25 to 60 °C (option: With protective and cooling housing WK15 up to 300 °C)
- Storage temperature: -40 to 85 °C
- Protective class: IP68 (IEC), (NEMA 4 equivalent)
- Housing: Stainless steel 316 (body), 303 (head and cap)
- PC-based Software: EasyConfig: Software for parameter setting (option: EasyMeas: Software for parameter setting, data recording, data storage and data evaluation)

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