DTD function

The two-colour infrared thermometers
are equipped with a DTD (Discontinuous Temperature Detection) function. In discontinuous processes it is used for the automatic detection of the temperature.

The measurement starts automatically when this function detects a hot object. It ends when the temperature is below the threshold and the maximum value is displayed. A switching contact may be activated during the measurement for synchronisation with a PLC. The duration of measurement can thus also be recorded.

Diagnostic function

The diagnostic function ensures a high operational reliability. Incorrect supply voltages, reverse polarities of connections, overloads at the switching output, unacceptable ambient temperatures or out-of-range object temperatures appear on the display as error messages.

Test function (in the single-colour thermometer)

A functional test of the device and the signal processing unit can be performed at any time via an external control signal or via the operating menu. The analogue output generates an electric current of 20.5 mA and the switching function is triggered.

Service function

The service function is used during setup or running operation to key in a simulated temperature value that is displayed and transmitted via the analogue output. This feature checks the correct functioning and range setting for the downstream signal processing units (display, controller, PLC) quickly and safely even without a hot object.

Reverse polarity protection

- for the power supply voltage
- for the analogue output
- for the switching output

LED display

- indicating the operating state, overload and incorrect connection of the supply voltage
- for display of unit (°C or °F) in single-colour infrared thermometer
- for display the signal power in two-colour infrared thermometer

Operating elements

- 3 buttons

Technical data *

Analogue output
- 0/4 - 20 mA linear according to NAMUR 43, scalable
- max. burden 500 Ω

Switching output
- PNP open collector active from positive supply voltage (2 independent switching contacts at the PK(L) 68)
- NC or NO
- current-carrying capacity 150 mA
- clocked overload safety shut-off ≥ 250 mA

Interface
- IO-Link V1.1

Test input (in the single-colour thermometer)
- Digital input
  (IEC 61131-2, Typ 3)
  Low level ≤ 5 V DC,
  High level ≥ 11 V DC
  Load current ≤ 11,6 mA
  at 30 V DC

Display
- 4 x 7 segment red, character height 8 mm

Resolution of power output
- 0.2 K + 0.03 % of the set span

Resolution of display
- 0.1 K for T < 200 °C
- 1 K for T ≥ 200 °C

Power supply
- 18 - 32 V DC

Power consumption
- ≤ 50 mA (≤ 75 mA with spot light) at 24 V DC without load current

Ambient temperature
- 0 - 65 °C

Storage temperature
- -20 - +80 °C

Housing material
- Stainless steel V2A (1.4305)

Permissible humidity
- 95 % r.H. max. (non-condensing)

Protection
- IP65 acc. to DIN 40050 protection class III

Connection
- M12 connector, 5-pole A coding (DIN EN 61076-2-101)

Weight
- approx. 0.4 kg

Shock resistance (EN60068-2-27)
- 30 g (11 mg)

Vibration resistance (EN60068-2-6)
- 5 g (10 - 2000 Hz)

* Specifications of the technical data according to DIN IEC TS 62492-1 and DIN IEC TS 62492-2
Calibration of the pyrometers according to VDI / VDE 3511 sheet 4.4

Troubleshooting

- Output overload
- Excess temperature in the sensor
- Measuring range too high/too low
- Incorrect supply voltage connection
- incorrect supply voltage