

## Non-contact temperature measurement of plastic materials from 0 °C to 710 °C

### Features:

- Accurate temperature measurement of thin plastic film materials like PET, PU, PTFE, PA
- Rugged and usable up to 85 °C ambient temperature without cooling
- Separate electronics with easy accessible programming keys and LCD backlit display
- Selectable analog output: 0/4–20 mA, 0–5 V, 0–10 V, thermocouple type K or J
- Optional USB, RS485, RS232 interface, relay outputs (2x optically isolated), CAN-Bus, Profibus DP, Ethernet



### General specifications

|                      |                                                                   |
|----------------------|-------------------------------------------------------------------|
| Environmental rating | IP 65 (NEMA-4)                                                    |
| Ambient temperature  | –20 °C ... 85 °C (sensing head)<br>0 °C ... 85 °C (electronics)   |
| Storage temperature  | –40 °C ... 85 °C (sensing head)<br>–40 °C ... 85 °C (electronics) |
| Relative humidity    | 10–95 %, non condensing                                           |
| Vibration (sensor)   | IEC 68-2-6: 3 G, 11–200 Hz, any axis                              |
| Shock (sensor)       | IEC 68-2-27: 50 G, 11 ms, any axis                                |
| Weight               | 200 g (head with massive housing)<br>420 g (electronics)          |

### Electrical Specifications

|                   |                                                                                                                                        |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Outputs / analog  | 0/4–20 mA, 0–5/ 10 V, thermocouple J, K, alarm output                                                                                  |
| Output / alarm    | 24 V / 50 mA (open collector)                                                                                                          |
| Optional          | Relay: 2 x 60 V DC/ 42 V AC <sub>eff</sub> ; 0.4 A; optically isolated                                                                 |
| Outputs / digital | USB, RS232, RS485, CAN, Profibus DP, Ethernet (optional)                                                                               |
| Output impedances | mA max. 500 Ω (with 8–36 V DC)<br>mV min. 100 kΩ load impedance<br>thermocouple 20 Ω                                                   |
| Inputs            | Programmable functional inputs for external emissivity adjustment, ambient temperature compensation, trigger (reset of hold functions) |
| Cable length      | 3 m (standard), 8 m, 15 m                                                                                                              |
| Power Supply      | 8–36 V DC                                                                                                                              |
| Current draw      | Max. 100 mA                                                                                                                            |

### Measurement specifications

|                                                                                         |                                                                                                  |
|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| Temperature range (scalable via programming keys or software)                           | 0 °C ... 710 °C                                                                                  |
| Spectral range                                                                          | 7.9 μm                                                                                           |
| Optical resolution (90 % energy)                                                        | 10:1                                                                                             |
| System accuracy <sup>2)</sup> (at ambient temp. 23 ±5 °C)                               | ±1 % or ±1.5 °C <sup>1)</sup>                                                                    |
| Repeatability (at ambient temp. 23 ±5 °C)                                               | ±0.5 % or ±0.5 °C <sup>1)</sup>                                                                  |
| Temperature resolution (digital)                                                        | 0.5 K                                                                                            |
| Exposure time (90 % signal)                                                             | 150 ms                                                                                           |
| Emissivity/ Gain (adjustable via programming keys or software)                          | 0.100–1.100                                                                                      |
| Transmissivity/ Gain (adjustable via programming keys or software)                      | 0.100–1.100                                                                                      |
| Signal processing (parameter adjustable via programming keys or software, respectively) | Maximal-, Minimalwerthaltung, Mittelwert, erweiterte Haltefunktionen mit Threshold und Hysterese |
| Software                                                                                | optris® Compact Connect                                                                          |

<sup>1)</sup> Whichever is greater

<sup>2)</sup> At object temperatures ≥25 °C

