



## PI 400

Compact and high performance  
infrared camera

innovative infrared technology



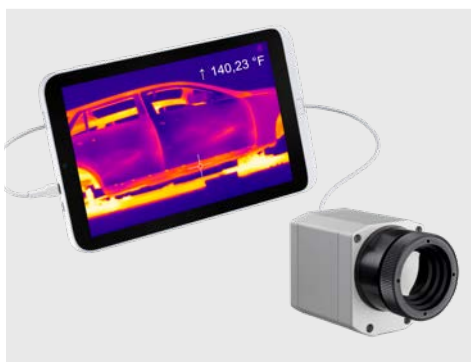
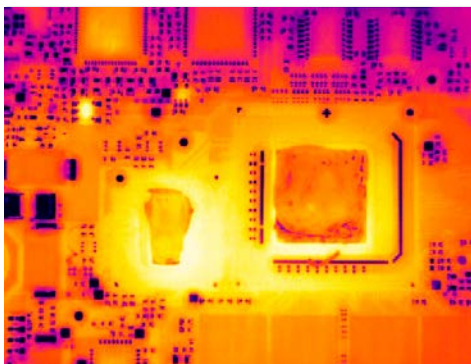
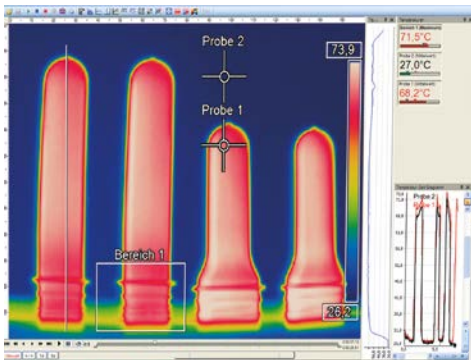
# optris® PI 400

## TECHNICAL DATA

**IR camera for the detection of slightest temperature differences**

### Features:

- Detects slightest differences in temperature due to thermal sensitivity of 40 mK
- Compact in size of 46 mm x 56 mm x 90 mm (1.8 in x 2.2 in x 3.5 in)
- Frame rate of 80 Hz
- Withstands ambient temperatures of up to 60 °C (140 °F) without additional cooling



| Type                                | PI 400  |
|-------------------------------------|---|
| Optical resolution                  | 382 x 288 pixels  |
| Detector                            | FPA, uncooled (25 µm x 25 µm)   |
| Spectral range                      | 7.5 – 13 µm   |
| Temperature ranges                  | -20 ... 100 °C (-4 ... 212 °F)<br>0 ... 250 °C (32 ... 482 °F)<br>150 ... 900 °C (302 ... 1652 °F)<br>additional range 200 ... 1500 °C (392 ... 2732 °F)  |
| Frame rate                          | 80 Hz   |
| Optics (FOV)                        | 13° x 10° / f = 41 mm (f = 1.6 in) or<br>29° x 22° / f = 18.7 mm (f = 0.7 in) or<br>53° x 40° / f = 10.5 mm (f = 0.4 in) or<br>80° x 56° / f = 7.7 mm (f = 0.3 in)  |
| Thermal sensitivity (NETD)          | 0.04 K with 29° x 22° FOV / F = 0.8<br>0.04 K with 53° x 40° FOV / F = 0.8<br>0.04 K with 80° x 56° FOV / F = 0.8<br>0.06 K with 13° x 10° FOV / F = 1.0  |
| Accuracy                            | ±2 °C or ±2 % (±3.6 °F or ±2 %), whichever is greater   |
| PC interface                        | USB 2.0   |
| Process interface (PIF), standard   | 0 – 10 V input, digital input (max. 24 V), 0 – 10 V output  |
| Process interface (PIF), industrial | 2x 0 – 10 V input, digital input (max. 24 V),<br>3x 0 – 10 V output,<br>3x relay (0–30 V/ 400 mA), fail-safe relay  |
| Cable length (USB)                  | 1 m (3.3 ft) (standard), 5 m (16.4 ft), 10 m (32.8 ft)<br>5 m (16.4 ft) and 10 m (32.8 ft) also as HT cable (180 °C [356 °F])   |
| Ambient temperature                 | 0 °C to 60 °C (32 °F to 140 °F)   |
| Storage temperature                 | -40 ... 70 °C (-40 ... 140 °F)  |
| Relative humidity                   | 20–80 %, non-condensing   |
| Enclosure (size / rating)           | 46 mm x 56 mm x 90 mm (1.8 in x 2.2 in x 3.5 in) / IP 67 (NEMA 4)   |
| Weight                              | 320 g (11.3 oz), incl. lens   |
| Shock <sup>1)</sup>                 | IEC 60068-2-27 (25 G and 50 G)  |
| Vibration <sup>1)</sup>             | IEC 60068-2-6 (sinusoidal form) / IEC 60068-2-64 (broadband noise)  |
| Tripod mount                        | ¼-20 UNC  |
| Power supply                        | USB powered   |
| Scope of supply                     | • USB camera with 1 lens    • USB cable (1 m [3.3 ft])    • Table tripod<br>• Standard PIF with cable (1 m [3.3 ft]) and terminal block<br>• Software package optris® PI Connect    • Rugged outdoor case |

<sup>1)</sup> For more details see operator's manual