optris **PI 400i**
TECHNICAL DATA

**optris**
infrared measurements

Compact high resolution infrared camera

Features:

- Smallest camera in its class (46 x 56 x 68 – 77 mm)
- Interchangeable lenses and industrial accessories
- Framerate 80Hz
- License-free analysis software and full SDK included

Technical specifications

Optical resolution	382 x 288 pixels
Detector	FPA, uncooled (17 μm x 17 μm)
Spectral range	8 – 14 μm
Temperature ranges	–20 ... 100 °C, 0 ... 250 °C, (20) 150 ... 900 °C[1], optional temperature range: 200 ... 1500 °C
Frame rate	80 Hz / switchable to 27 Hz
Optics (FOV)	18° x 14° / f = 20 mm or 29° x 22° / f = 12.7 mm or 53° x 38° / f = 7.7 mm or 80° x 54° / f = 5.7 mm
Thermal sensitivity (NETD)	75 mK with 29° x 22° FOV / F = 0.9 75 mK with 53° x 38° FOV / F = 0.9 75 mK with 80° x 54° FOV / F = 0.9 0.1 K with 18° x 14° FOV / F = 1.1
System Accuracy	±2 °C or ±2 %, whichever is greater
PC interfaces	USB 2.0 / optional USB to GigE (PoE) interface
Standard process interface (PIF)	0 – 10 V input, digital input (max. 24 V), 0 – 10 V output
Industrial process interface (PIF) (optional)	2x 0 – 10 V input, digital input (max. 24 V), 3x 0/4 – 20 mA outputs, 3x relays (0 – 30 V/ 400 mA), fail-safe relay
Cable length (USB)	1 m (standard), 5 m, 10 m, 20 m 5 m and 10 m also as high temperature USB cable (180 or 250 °C)
Ambient temperature	0 ... 50 °C
Storage temperature	–40 ... 70 °C
Relative humidity	20 – 80 %, non condensing
Enclosure (size / protection)	46 x 56 x 68 – 77 mm (depending on lens + focus position) / IP 67 (NEMA 4)
Weight	237 - 251 g (depending on lens)
Shock / Vibration[2]	IEC 60068-2-27 (25G and 50G) / IEC 60068-2-6 (sinus shaped), IEC 60068-2-64 (broadband noise)
Tripod mount	¼ – 20 UNC
Power supply	via USB
Scope of supply (standard)	• USB camera, incl. 1 lens • USB cable (1 m) • Table tripod • PIF cable, incl. terminal block (1 m) • Software package optris PIX Connect • Test certificate • Aluminum case
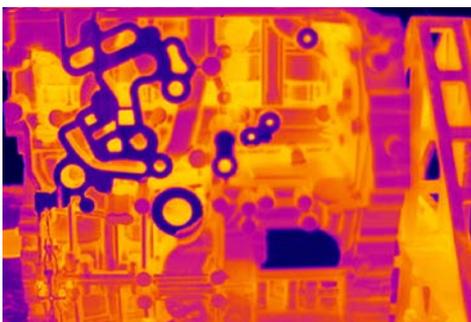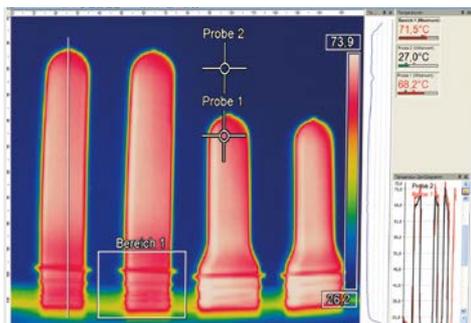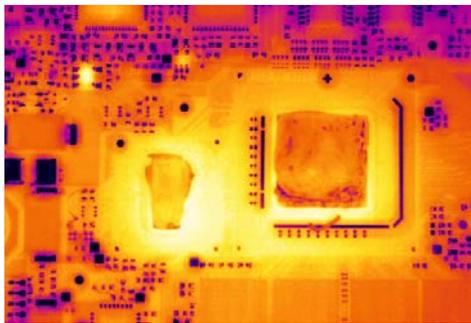
[1] Accuracy for the (20°C) 150 °C ... 900 °C range effective starting at 150 °C
[2] For further information see operator's manual.

optris **PI 400i**

Dimensions

M 4
6 mm deep
ca.17
∅ 12
∅ 14
16
6
46
56
33
1/4"- 20 UNC
6 mm deep
5
39
52
16 – 25
(lens set and focus position depending)
∅ 33
18
20

Dimensions in mm

Process integration

Network / Internet

24 V DC oder
Power over Ethernet

PoE

PC
PIX Connect
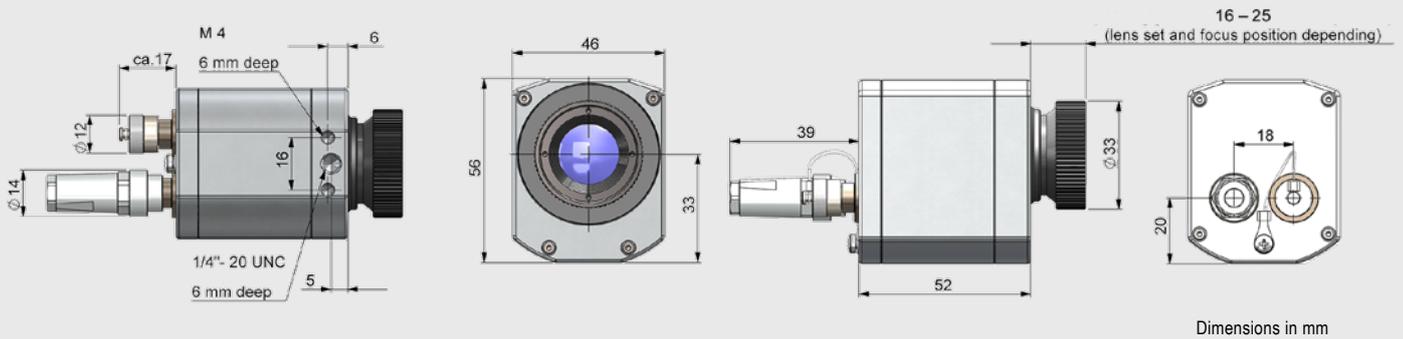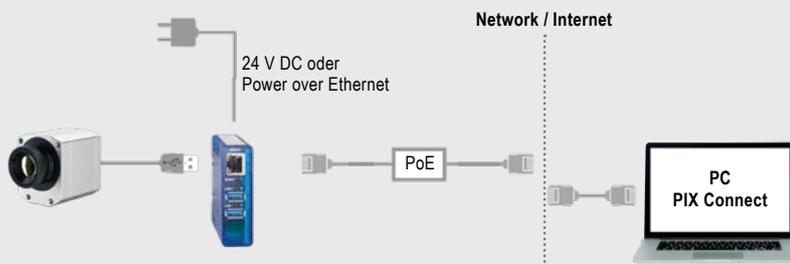
optris USB-Server Gigabit 2.0

- Network connection via Gigabit Ethernet
- Full TCP/IP support incl. routing and DNS
- Two independent USB ports
- Power via PoE or external voltage supply at 24 – 48 V DC
- Galvanic isolation 500 V_{RMS}
- Remotely configurable via web based management

For further information please visit
www.optris.global/usb-server-gigabit

5 – 24 V DC
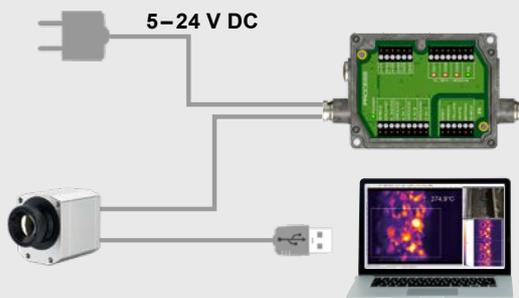
optris Industrial Process Interface

- Use of camera for process monitoring in industrial environments
- Continous fail safe monitoring of imager, software and cable connections
- 3 analog / alarm outputs,
  2 analog inputs,
  1 digital input,
  3 alarm relays,
  1 fail-safe relay

For further information please visit
www.optris.global/neu-industrial-process-interface

Analog OUT / IN
Digital IN

PI Process
Interface

8 – 48 V DC

Control monitor

HDMI

USB Keyboard / Mouse

PIX Connect

GigE

Network

PC

Remote access / setup
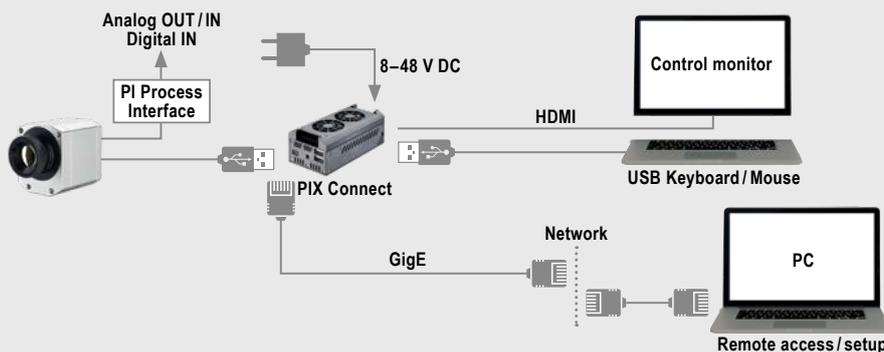
optris PI NetBox

- Miniature PC as add-on to the PI series for stand-alone system
- Integrated hardware and software watchdog
- Connections: 2x USB 2.0, 1x USB 3.0, 1x Mini-USB 2.0, Micro-HDMI, Ethernet (Gigabit Ethernet), micro SDHC / SDXC card

For further information please visit
www.optris.global/pi-netbox