OPTRIS® PI 450i
TECHNICAL DATA

distrame
instruments de mesures électroniques

optris
infrared sensing

IR camera for the detection of slightest temperature differences
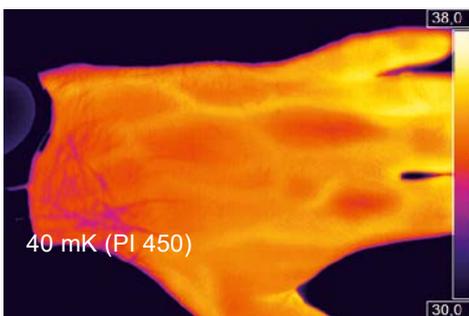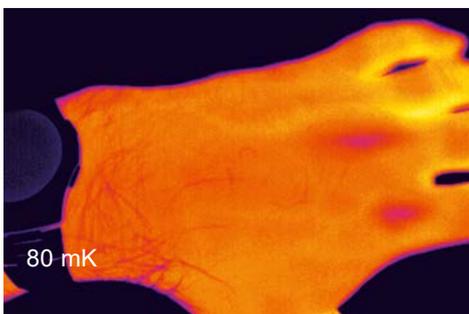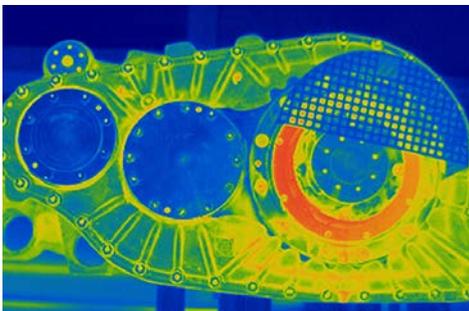
Features:
- Smallest camera in its class (45 x 45 x 60 – 75 mm)
- Interchangeable lenses and industrial accessories
- Superb thermal sensitivity of 40 mK
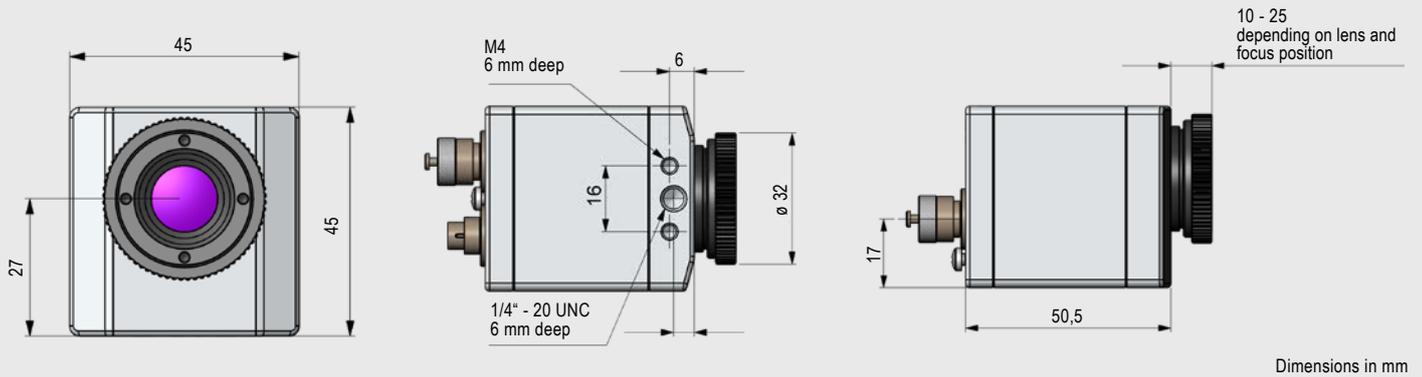- Licence-free analysis software and full SDK included

80 mK

40 mK (PI 450)

Technical specifications

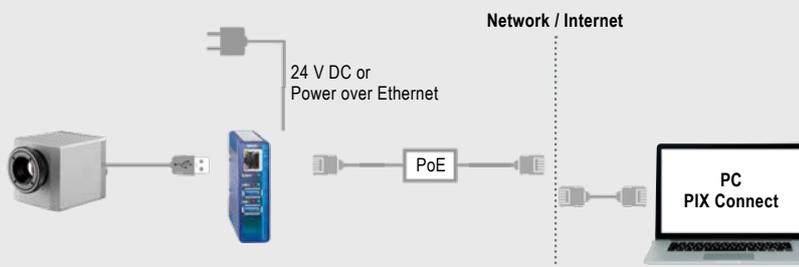|	
Optical resolution	382 x 288 pixels
Detector	FPA, uncooled (17 μm x 17 μm)
Spectral range	8 – 14 μm
Temperature ranges	–20 ... 100 °C, 0 ... 250 °C, (20) 150 ... 900 °C[1], optional temperature range: 200 ... 1500 °C
Frame rate	80 Hz / switchable to 27 Hz
Optics (FOV)	18° x 14° / f = 20 mm or 29° 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)	40 mK with 29° x 22° FOV / F = 0.9 40 mK with 53° x 38° FOV / F = 0.9 40 mK with 80° x 54° FOV / F = 0.9 0.06 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)	2x 0 – 10 V input, digital input (max. 24 V), 3x 0/4 – 20 mA output, 3x relay (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 available as high temperature USB cable (180 or 250 °C)
Ambient temperature	0 ... 70 °C
Storage temperature	–40 ... 85 °C
Relative humidity	20 – 80 %, non condensing
Enclosure (size / protection)	45 x 45 x 60–75 mm (depending on lens + focus position) / IP 67 (NEMA 4)
Weight	195 g, incl. lens
Schock / Vibration[2]	IEC 60068-2
Tripod mount	¼ – 20 UNC
Power supply	via USB
Scope of supply (standard)	• USB camera, incl. lens • USB cable (1 m) • Table tripod • PIF cable, incl. terminal block (1 m) • Software package optris PIX Connect • Aluminum case

[1] Accuracy for the (20) 150 ... 900 °C range effective starting at 150 °C
[2] For further information see operator's manual

optris® PI 450i

Dimensions

45

27

45

M4
6 mm deep

6

16

ø 32

1/4" - 20 UNC
6 mm deep

17

50,5

10 - 25
depending on lens and
focus position

Dimensions in mm

Process integration

Network / Internet

24 V DC or
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 portsschlüsse
• Power over PoE or external voltage supply
  at 24 – 48 V DC
• Galvanic isolation 500 V_{RMS}
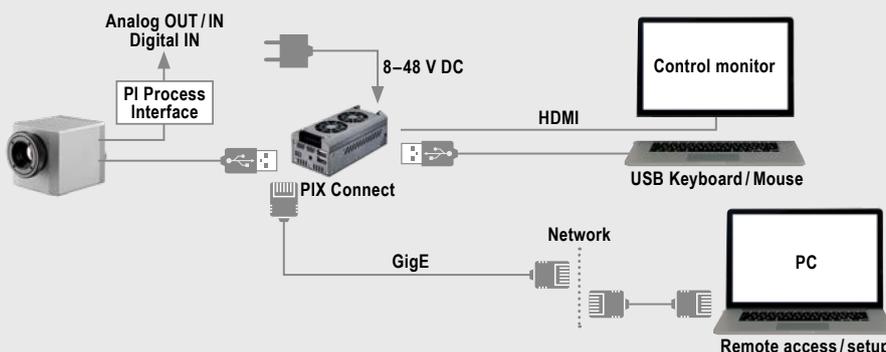• Remotely configurable via web based
  management

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

5 – 24 V DC
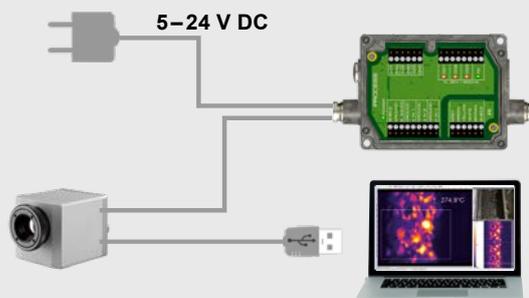
optris® Industrial process interface

• 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