

optris® PI 160

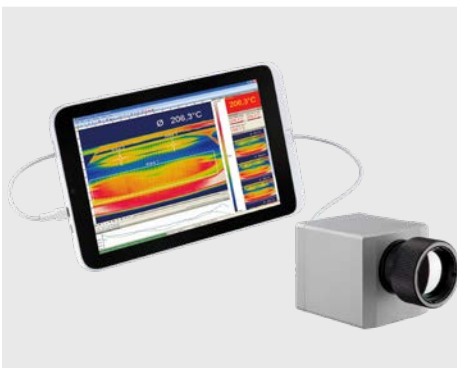
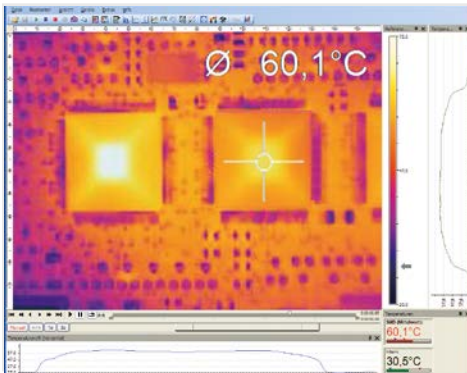
TECHNICAL DATA



Small IR camera ideal for fast processes

Features:

- Outstanding price performance ratio
- Temperature range from -20 to 1500 °C
- High frame rate of 120 Hz
- Compact size: $45 \times 45 \times 60 - 76$ mm ($1.8 \times 1.8 \times 2.4 - 3.0$ in)



For further information as well as the product configurator, please visit:
www.optris.com/thermal-imager-pi160

Technical specifications

Optical resolution	160 x 120 pixels
Detector	FPA, uncooled ($25 \mu\text{m} \times 25 \mu\text{m}$)
Spectral range	8 – 14 μm
Temperature ranges	$-20 \dots 100$ °C, $0 \dots 250$ °C, (20) $150 \dots 900$ °C ¹⁾ , $(-4 \dots 212$ °F, $32 \dots 482$ °F, [68] $302 \dots 1652$ °F) optional temperature range: $200 \dots 1500$ °C ¹⁾ ($392 \dots 2732$ °F) ²⁾
Frame rate	120 Hz
Optics (FOV)	$6^\circ \times 5^\circ$ FOV / $f = 35.5$ mm (1.40 in) or $23^\circ \times 17^\circ$ FOV / $f = 10$ mm (0.39 in) or $41^\circ \times 31^\circ$ FOV / $f = 5.7$ mm (0.22 in) or $72^\circ \times 52^\circ$ FOV / $f = 3.3$ mm (0.13 in)
Thermal sensitivity (NETD)	40 mK with $23^\circ \times 17^\circ$ FOV / $F = 0.8$ 0.3 K with $6^\circ \times 5^\circ$ FOV / $F = 1.6$ 0.1 K with $41^\circ \times 31^\circ$ FOV and $72^\circ \times 52^\circ$ FOV / $F = 1$
Accuracy	± 2 °C or $\pm 2\%$ (± 3.6 °F or $\pm 2\%$), whichever is greater
PC interface	USB 2.0 / optional USB to GigE (PoE) interface
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), 3x 0 – 10 V output, 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), 20 m (65.6 ft) 5 m (16.4 ft) and 10 m (32.8 ft) also as HT cable (180 or 250 °C [356 or 482 °F])
Ambient temperature	0 °C ... 50 °C (32 °F ... 122 °F)
Storage temperature	-40 ... 70 °C (-40 ... 158 °F)
Relative humidity	20 – 80 %, non-condensing
Enclosure (size / rating)	$45 \times 45 \times 60 - 76$ mm ($1.8 \times 1.8 \times 2.4 - 3.0$ in) (depending on lens + focus position) / IP 67 (NEMA 4)
Weight	195 g (6.88 oz), lens included
Shock / Vibration ³⁾	IEC 60068-2
Tripod mount	$\frac{1}{4}$ - 20 UNC
Power supply	via USB
Scope of supply	<ul style="list-style-type: none"> • USB camera with 1 lens • USB cable (1 m [3.3 ft]) • Table tripod • Standard PIF with cable (1 m [3.3 ft]) and terminal block • Software package optris® PIX Connect • Aluminum case

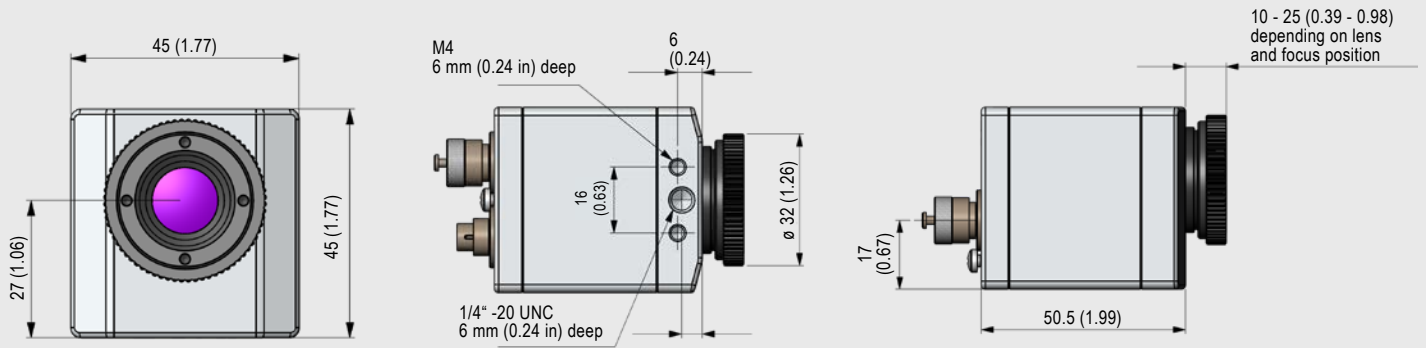
¹⁾ Accuracy effective starting at 150 °C (302 °F)

²⁾ The additional measuring range is not available for 72° HFOV

³⁾ For more details see operator's manual

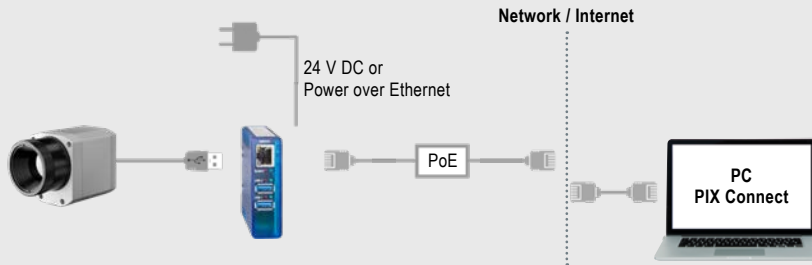
optris® PI 160

Dimensions



Dimensions in mm (in)

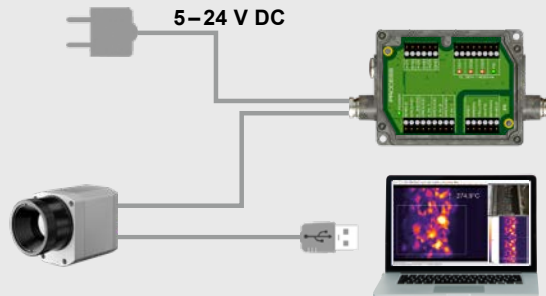
Process integration



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

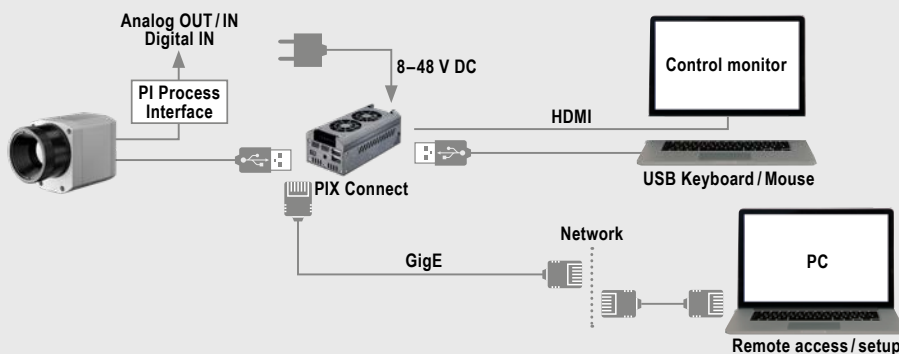
For further information please visit www.optris.com/usb-server-industry-isochron



optris® Industrial process interface

- Use of camera for process monitoring in industrial environments
- Continuous 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.com/industrial-process-interface



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.com/pi-netbox



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