Compact infrared camera for laser applications

Features:
- Wide measurement range from 575 °C to 1900 °C (1652 °F to 3632 °F) without sub-ranges
- Special narrow-band spectral response at 800 nm ideal for almost all NIR and CO₂ laser processing applications
- High dynamic CMOS detector with up to 764 x 480 pixels resolution
- Up to 1 kHz frame rate for fast processes
- Real-time analog output with 1 ms response time
- Extensive software package and SDK included

Technical data

Optical resolution (switchable) / Frame rate
- 764 x 480 pixels @ 32 Hz
- 72 x 56 pixels @ 1 kHz
- 764 x 8 pixels @ 1 kHz (fast linescanning mode)

Detector
CMOS (15 μm x 15 μm)

Spectral range
780 – 820 nm

Temperature range
575 °C ... 1900 °C (27 Hz mode) (1067 °F ... 3452 °F)
625 °C ... 1900 °C (32 / 80 Hz mode) (1157 °F ... 3452 °F)
750 °C ... 1900 °C (1 kHz mode) (1382 °F ... 3452 °F)

Optics

Thermal sensitivity (NETD) < 2 K (<1000 °C (1832 °F)/ 27 Hz to 1 kHz)

Accuracy
+/- 1 % of reading (<1500 °C [2732 °F]) / +/- 1.5 % of reading (>1500 °C [2732 °F])

PC interface
USB 2.0 / optional USB to GigE (PoE) conversion

High speed analog output
0 – 10 V real time output of 8 x 8 pixels (1 ms response time)
0 – 10 V input, digital input (max. 24 V), 0 – 10 V output

Standard process interface (PIF)
2x 0 – 10 V inputs, digital input (max. 24 V), 3x 0/4 – 20 mA outputs, 3x relay (0 – 30 V/ 400 mA), fail-safe relays

Industrial process interface (PIF)
2x 0 – 10 V inputs, digital input (max. 24 V), 3x 0/4 – 20 mA outputs, 3x relay (0 – 30 V/ 400 mA), fail-safe relays

Cable length (USB)
1 m (standard), 5 m, 10 m, 20 m (3.3 ft / standard), 16.4 ft, 32.8 ft, 65.6 ft
5 / 10 m (16.4 / 32.8 ft) also available as HT cable (180 or 250 °C [356 or 482 °F])

Ambient temperature
5 °C ... 50 °C (41 °F ... 122 °F)

Storage temperature
–40 °C ... 70 °C (–40 °F ... 158 °F)

Relative humidity
20 – 80 %, non-condensing

Enclosure (size / rating)
46 x 56 x 88 - 129 mm (1.8 x 2.2 x 3.5 - 5.1 in)
(depending on lens + focus position) / IP 67 (NEMA 4)

Weight
245 - 311 g (8.64 - 10.97 oz), depending on lens

Shock / Vibration
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

Software
optris PIX Connect / IRmobile Android App

Scope of supply (standard)
- USB camera with 1 lens
- USB cable (1 m) (3.3 ft)
- PIF cable (1 m) (3.3 ft incl. terminal block
- Lens protection tube incl. protective window
- Table tripod
- Software package optris PIX Connect
- Aluminum case
- Optional: CoolingJacket, HT cable

1) Can be placed anywhere within the full FOV
2) <4 K (>1000 °C (1832 °F)/ 27 Hz to 1 kHz)
3) for 1 kHz mode: +/- 1.5 % of reading (<1500 °C [2732 °F]) / +/-2 % of reading (>1500 °C [2732 °F])
### Dimensions

![Dimension Diagram](image)

### Process integration

#### 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](http://www.optris.com/pi-netbox)

#### optris USB-Server Gigabit 2.0
- Network connection via Gigabit Ethernet
- Full TCP/IP support incl. routing and DNS
- Two independent USB ports
- Power over Ethernet or external voltage supply at 24 – 48 V DC
- Galvanic isolation 500 V
- Remotely configurable via web based management

For further information please visit [www.optris.com/usb-server-industry-isochron](http://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](http://www.optris.com/industrial-process-interface)