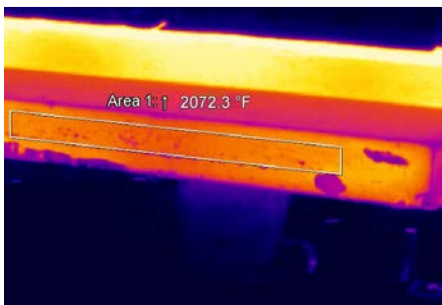
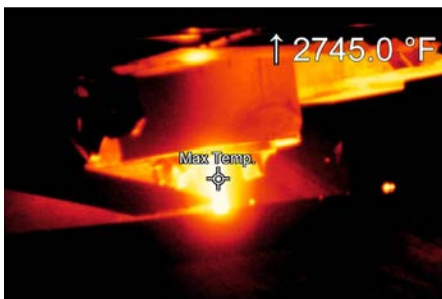
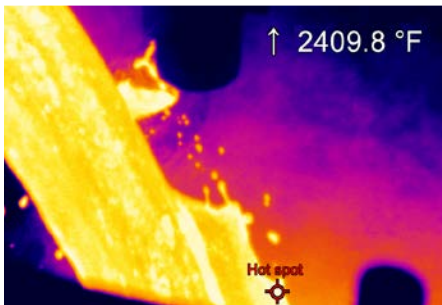


Short wavelength
and ultra compact
infrared camera



Features:

- Wide measurement range from 900 °C to 2450 °C (1652 °F to 4442 °F) without sub-ranges
- Ideal for almost all NIR and CO2 laser processing applications due to spectral response at 540 nm
- Special wavelength range of 500–540 nm minimizes errors due to uncertainty of emissivity
- 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



For further information as well as the
product configurator, please visit:

[www.optris.com/us/products/infrared-cameras/
precision-line/pi-05m](http://www.optris.com/us/products/infrared-cameras/precision-line/pi-05m)

Technical specifications

Optical resolution (switchable) / Frame rate	764 x 480 pixels @ 32 Hz / 382 x 288 pixels @ 80 Hz (switchable to 27 Hz) 72 x 56 pixels @ 1 kHz ¹⁾ / 764 x 8 pixels @ 1 kHz (fast linescanning mode) ¹⁾	
Detector	CMOS (15 µm x 15 µm)	
Spectral range	500 – 540 nm	
Temperature range	900 °C (950 °C [1742 °F] for f=50mm [2.0 in] - optics) ... 2450 °C (27 Hz mode) (1652 °F ... 4442 °F) 950 °C (1000 °C [1832 °F] for f=50mm [2.0 in] - optics) ... 2450 °C (32 / 80 Hz mode) (1742 °F ... 4442 °F) 1100 °C (1150 °C [2102 °F] for f=50mm [2.0 in] - optics) ... 2450 °C (1 kHz mode) (2012 °F ... 4442 °F)	
Optics	FOV @ 764 x 480 px: 27° x 17° (f = 25 mm [1.0 in]) 13° x 8° (f = 50 mm [2.0 in])	
	FOV @ 382 x 288 px: 14° x 11° (f = 25 mm [1.0 in]) 7° x 5° (f = 50 mm [2.0 in])	
Thermal sensitivity (NETD)	< 2 K (1400 °C/ 2552 °F/ 27 Hz to 1 kHz) ²⁾	
Accuracy	For object temperature < 2000 °C (3632 °F): ±1 % of reading for 27/32/80 Hz / ±1.5 % of reading for 1 kHz For object temperature > 2000 °C (3632 °F): ±2 % of reading for 27/32/80 Hz / ±2.5 % of reading for 1 kHz	
PC interface	USB 2.0 / optional USB to GigE (PoE) conversion	
High speed analog output (@ 1 kHz mode)	0–10 V real time output of 8 x 8 pixels (1 ms response time)	
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 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, 32.8ft, 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 (8.46 - 10.97 oz), depending on lens	
Shock / Vibration ³⁾	IEC 60068-2-27 (25G und 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 • Aluminum case	
	• Table tripod • Software package optris PIX Connect • Optional: CoolingJacket, High temperature cable, protective window	

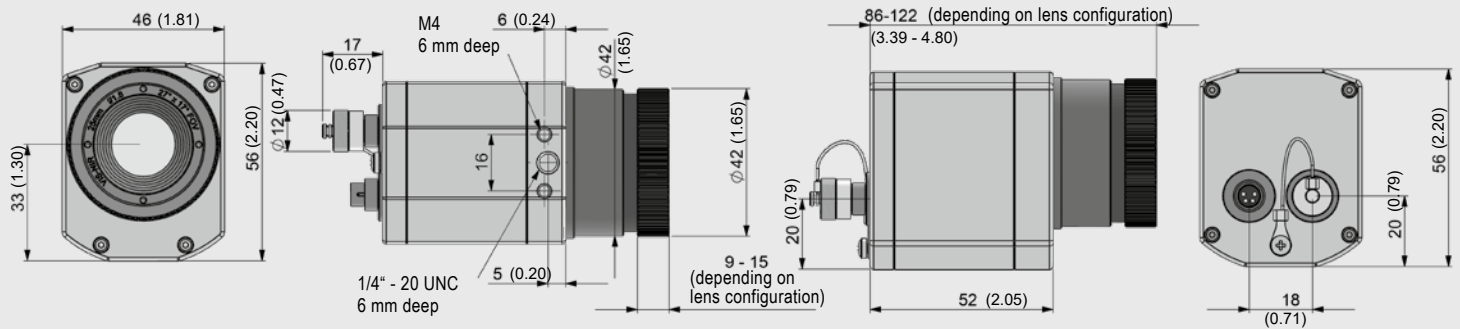
¹⁾ Can be placed anywhere within the full FOV

²⁾ < 4 K (>1400 °C/ 2552 °F) 27 Hz to 1 kHz)

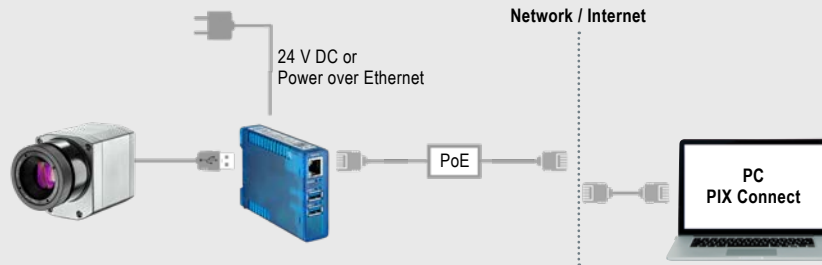
³⁾ For more details see operator's manual

optris PI 05M

Dimensions in mm (in)



Process integration

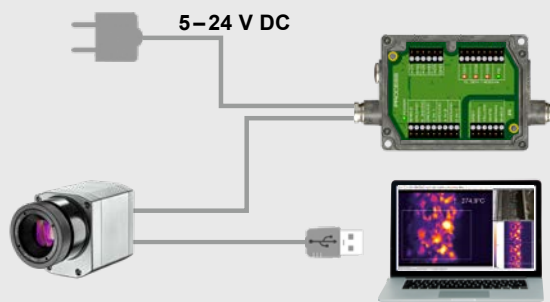


optris USB-Server Gigabit 2.0

- Network connection via Gigabit Ethernet
- Full TCP/IP support incl. routing and DNS
- Two independent USB ports
- Power via Ethernet 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/us/products/infrared-cameras/accessories-for-ir-cameras/usb-server-gigabit-2-0

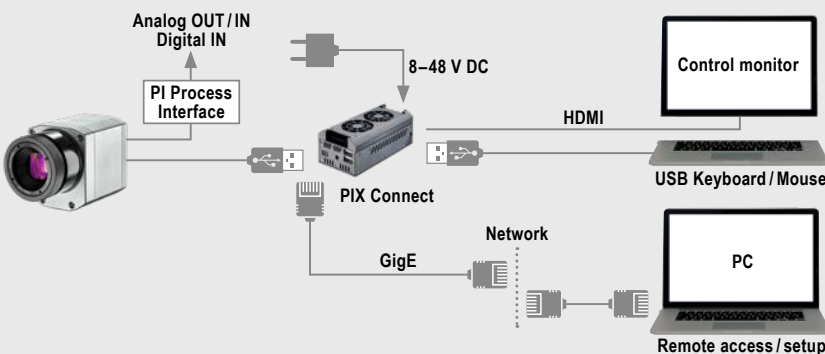


optris Industrial process interface

- 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/us/products/infrared-cameras/accessories-for-ir-cameras/industrial-process-interface-for-usb-native-optris-infrared-cameras



optris PI NetBox

- Miniature PC as add-on to the PI series for stand-alone system
- Integrated hardware and software watchdog
- Connections: 3x USB 2.0, 1x Mini-USB 2.0, Micro-HDMI, Ethernet (Gigabit Ethernet), micro SDHC / SDXC card

For further information please visit

www.optris.com/us/products/infrared-cameras/accessories-for-ir-cameras/pi-netbox