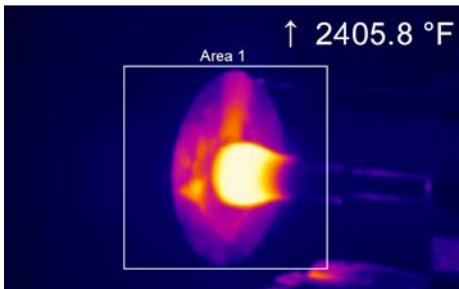
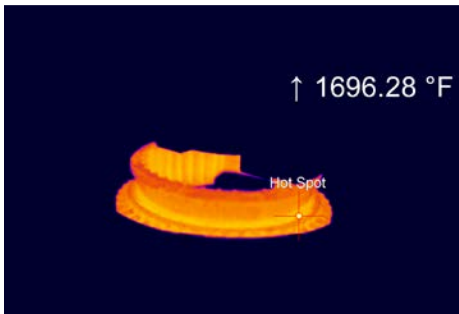
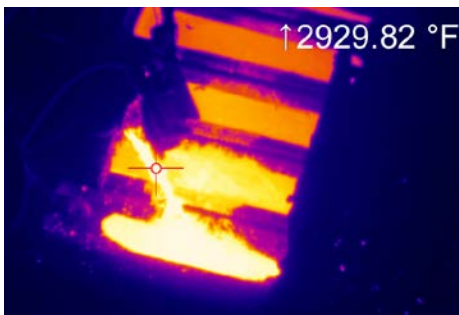


Short wavelength and ultra compact infrared camera for metal surfaces

Features:

- Wide measurement ranges from 450 °C to 1800 °C (842 °F to 3272 °F) without sub-ranges
- Highly 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
- Optional 1 kHz linescanning function



For further information as well as the product configurator, please visit:
www.optris.com/thermal-imager-optris-pi-1m

Technical specifications

Optical resolution (switchable)/ Frame rate	764 x 480 pixels @ 32 Hz 382 x 288 pixels @ 80 Hz (switchable to 27 Hz) ¹⁾ 72 x 56 pixels @ 1 kHz ¹⁾ 764 x 8 pixels @ 1 kHz ¹⁾ (fast linescanning mode) ¹⁾	
Detector	CMOS (15 µm x 15 µm)	
Spectral range	0.85 – 1.1 µm	
Temperature ranges	450 ²⁾ ... 1800 °C (842 ... 3272 °F) (27 Hz mode) 500 ²⁾ ... 1800 °C (932 ... 3272 °F) (80 Hz and 32 Hz mode) 600 ²⁾ ... 1800 °C (1112 ... 3272 °F) (1 kHz mode)	
Frame rate	1 kHz	
Optics	FOV @ 764 x 480 px: 39° x 28° (f = 16 mm) (f = 0.6 in) 26° x 16° (f = 25 mm) (f = 1.0 in) 13° x 8° (f = 50 mm) (f = 2.0 in) 9° x 5° (f = 75 mm) (f = 3.0 in)	
Thermal sensitivity (NETD) ³⁾	< 1 K (700 °C [< 1292 °F]), < 2 K (1000 °C [1832 °F])	
Accuracy (at T _{amb} = 23 °C)	± 1 % of reading (object temperature < 1400 °C [2552 °F])	
PC interface	USB 2.0 / optional USB to GigE (PoE) interface	
High speed analog OP (@ 1 kHz mode)	1 ms real-time analog output (0 - 10 V) of 8 x 8 pixels (position selectable)	
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 (standard) 5 / 10 / 20 m (3.3 [standard] / 16.4 / 32.8 / 65.6 ft) 5 and 10 m (16.4 and 32.8 ft) available as HT cable (180 or 250 °C [356 °F])	
Ambient temperature	0 ... 50 °C (32 ... 122 °F)	
Storage temperature	– 40 ... 70 °C (– 40 ... 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) ⁴⁾	
Weight	245 - 311 g (8.46 - 10.97 oz), depending on lens	
Shock ⁵⁾ / Vibration ⁵⁾	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)	<ul style="list-style-type: none"> • USB camera (1 lens) • USB cable (1 m [3.3 ft]) • PIF cable (1 m [3.3 ft]) incl. terminal block • Table tripod 	
	<ul style="list-style-type: none"> • Lens protection tube incl. protective window • Software package optris PIX Connect • Aluminum case • Optional: CoolingJacket, high temperature cable 	

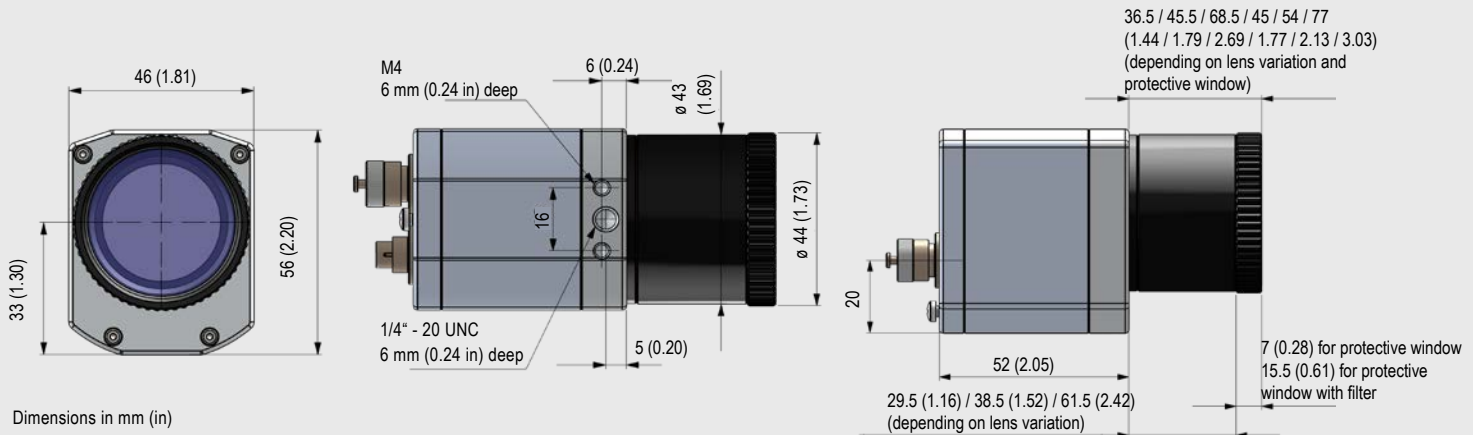
¹⁾ Positioning of choice within FOV

²⁾ Lenses with focal lengths f = 50 mm and f = 75 mm have an elevated starting temperature of +75 °C

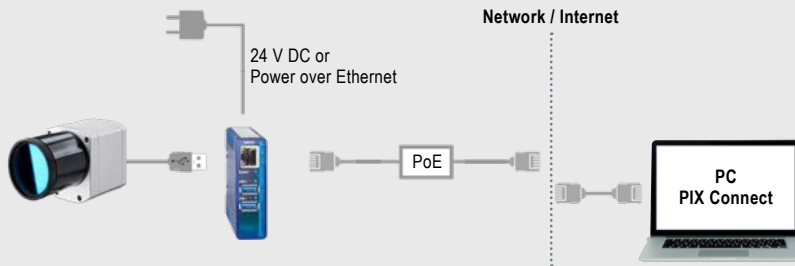
³⁾ At 27 Hz, 32 Hz and 80 Hz ⁴⁾ Only applies when using protection tube ⁵⁾ For further information see operator's manual

optris PI 1M

Dimensions



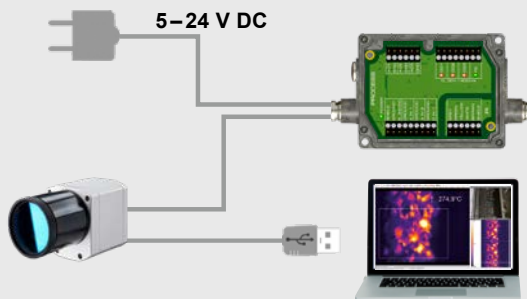
Process integration



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

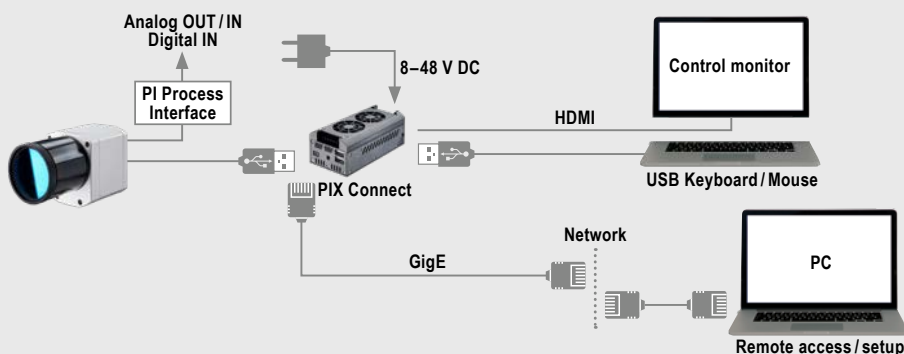
For further information please visit www.optris.com/usb-server-industry-isochron



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