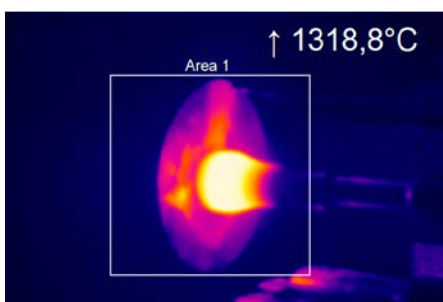
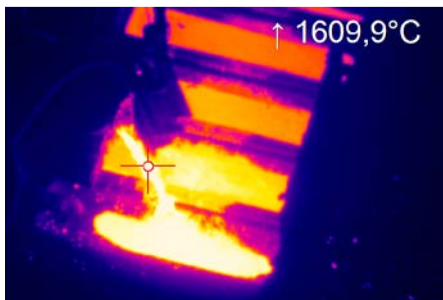


Short wavelength and ultra compact IR camera for metal surfaces

Features:

- Wide measurement ranges from 450 °C to 1800 °C 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/en/product/infrared-cameras/pi-series/pi-1m](http://www.optris.com/en/product/infrared-cameras/pi-series/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) <sup>1)</sup> 72 x 56 pixels @ 1 kHz <sup>1)</sup> 764 x 8 pixels @ 1 kHz <sup>1)</sup>	
Detector	CMOS (15 µm x 15 µm)	
Spectral range	0.85 – 1.1 µm	
Temperature ranges	450 <sup>2)</sup> ... 1800 °C (27 Hz mode) 500 <sup>2)</sup> ... 1800 °C (80 Hz and 32 Hz mode) 600 <sup>2)</sup> ... 1800 °C (1 kHz mode)	
Optics	<b>FOV @ 764 x 480 px:</b> 41° x 25° (f = 16 mm) 27° x 17° (f = 25 mm) 13° x 8° (f = 50 mm) 9° x 6° (f = 75 mm)	<b>FOV @ 382 x 288 px:</b> 20° x 15° (f = 16 mm) 14° x 11° (f = 25 mm) 7° x 5° (f = 50 mm) 4° x 3° (f = 75 mm)
Thermal sensitivity (NETD) <sup>3)</sup>	< 2 K (< 900 °C) < 4 K (< 1400 °C)	
Accuracy (at T <sub>amb</sub> = 23 °C)	<b>For object temperature &lt; 1400 °C:</b> ±1 % of reading for 27/32/80 Hz / ±1,5 % of reading for 1 kHz <b>For object temperature &lt; 1600 °C:</b> ±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) interface	
High speed analog output (@ 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 relais (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 also available as high temperature USB cable (180 or 250 °C)	
Ambient temperature	5 ... 50 °C	
Storage temperature	–40 ... 70 °C	
Relative humidity	20 – 80 %, non-condensing	
Enclosure (size/ rating)	46 x 56 x 88 - 129 mm (depending on lens + focus position) / IP 67 (NEMA 4)	
Weight	245 - 311 g, (depending on lens)	
Shock / Vibration <sup>4)</sup>	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"> <li>• USB camera incl. 1 lens</li> <li>• USB cable (1 m)</li> <li>• PIF cable (1 m) incl. terminal block</li> <li>• Table tripod</li> <li>• Aluminum case</li> </ul>	
	<ul style="list-style-type: none"> <li>• Software package optris PIX Connect</li> <li>• Optional: CoolingJacket, High temperature cable, protective window</li> </ul>	

<sup>1)</sup> Positioning of choice within FOV

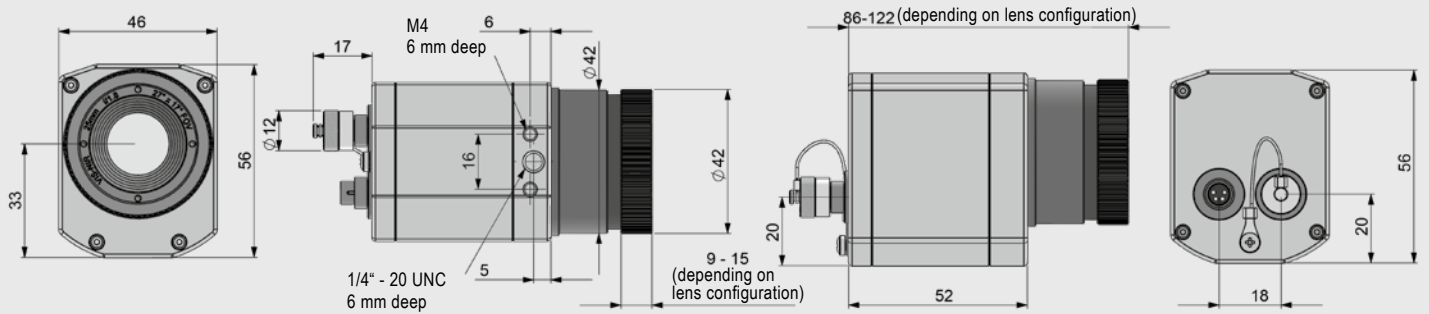
<sup>2)</sup> Lenses with focal lengths f = 50 mm and f = 75 mm have an elevated starting temperature of +75 °C

<sup>3)</sup> Specified NETD value applies to all frequencies

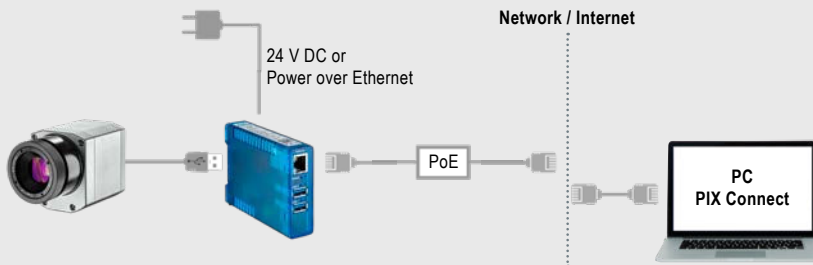
<sup>4)</sup> For further information see operator's manual

# optris PI 1M

## Dimensions in mm



## Process integration

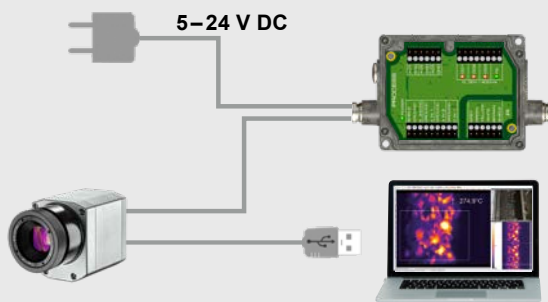


### optris USB-Server Gigabit 2.0

- 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<sub>RMS</sub>
- Remotely configurable via web based management

For further information please visit

[www.optris.com/en/product/infrared-thermometers/accessories/usb-server-gigabit-2-0](http://www.optris.com/en/product/infrared-thermometers/accessories/usb-server-gigabit-2-0)

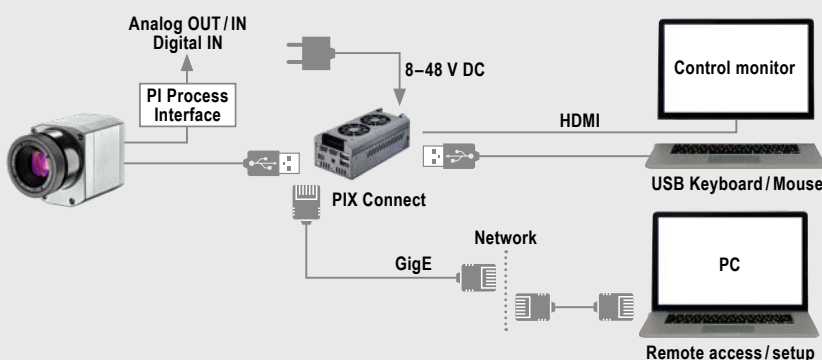


### optris Industrial Prozess Interface

- 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/en/product/infrared-cameras/xi-accessories/industrial-process-interface-pif-for-pi-xi-400-with-connection-box-ip65](http://www.optris.com/en/product/infrared-cameras/xi-accessories/industrial-process-interface-pif-for-pi-xi-400-with-connection-box-ip65)



### 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/en/product/infrared-cameras/pi-accessories/netbox-mini-pc](http://www.optris.com/en/product/infrared-cameras/pi-accessories/netbox-mini-pc)