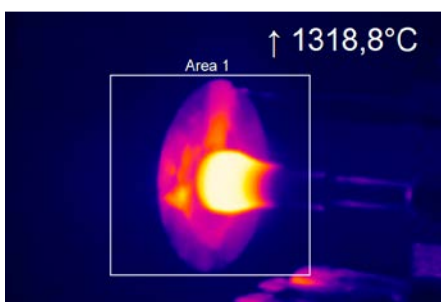
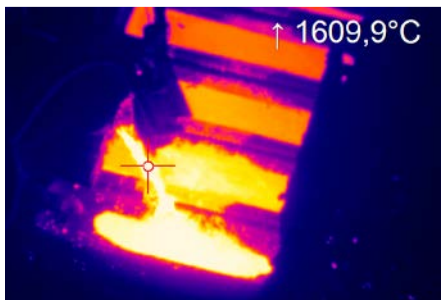


Short wavelength and  
ultra compact IR camera  
for metal surfaces

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.global/thermal-imager-optris-pi-1m](http://www.optris.global/thermal-imager-optris-pi-1m)

Technical specifications

|   |  |  |
|---|--|--|
| Optical resolution (switchable)/ Frame rate | 764 x 480 pixels @ 32 Hz<br>382 x 288 pixels @ 80 Hz (switchable to 27 Hz) <sup>1)</sup><br>72 x 56 pixels @ 1 kHz <sup>1)</sup><br>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)<br>500 <sup>2)</sup> ... 1800 °C (80 Hz and 32 Hz mode)<br>600 <sup>2)</sup> ... 1800 °C (1 kHz mode)   |  |
| Optics                                      | <b>FOV @ 764 x 480 px:</b><br>41° x 25° (f = 16 mm)<br>27° x 17° (f = 25 mm)<br>13° x 8° (f = 50 mm)<br>9° x 6° (f = 75 mm)  | <b>FOV @ 382 x 288 px:</b><br>20° x 15° (f = 16 mm)<br>14° x 11° (f = 25 mm)<br>7° x 5° (f = 50 mm)<br>4° x 3° (f = 75 mm) |
| Thermal sensitivity (NETD) <sup>3)</sup>    | < 2 K (< 900 °C)<br>< 4 K (< 1400 °C)  |  |
| Accuracy (at T <sub>amb</sub> = 23 °C)      | <b>For object temperature &lt; 1400 °C:</b><br>±1 % of reading for 27/32/80 Hz / ±1,5 % of reading for 1 kHz<br><b>For object temperature &lt; 1600 °C:</b><br>±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 relays (0–30 V/ 400 mA), fail-safe relay   |  |
| Cable length (USB)                          | 1 m (standard), 5 m, 10 m, 20 m<br>5 m and 10 m also available as high temperature USB cable (180 or 250 °C)   |  |
| Ambient temperature                         | 0 ... 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) /<br>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

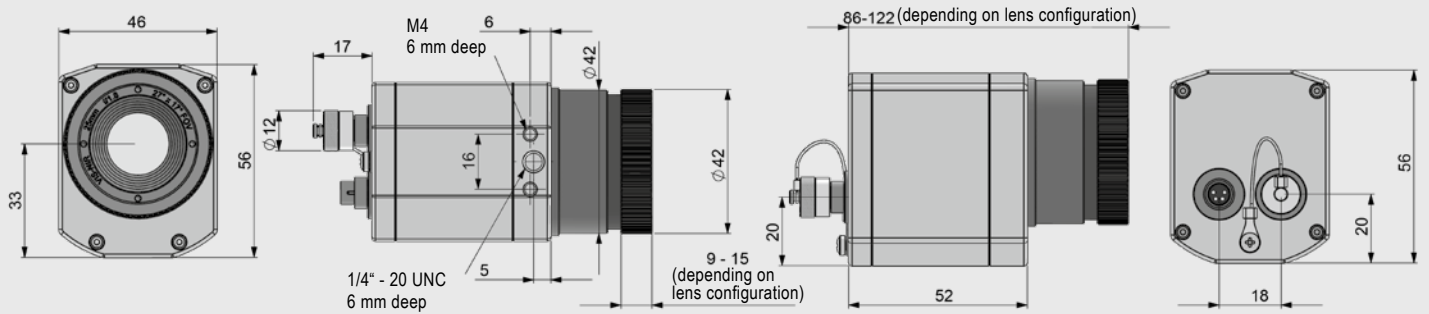
<sup>2)</sup> Lenses with focal lengths f = 50 mm and f = 75 mm have an elevated starting temperature of +75 °C

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

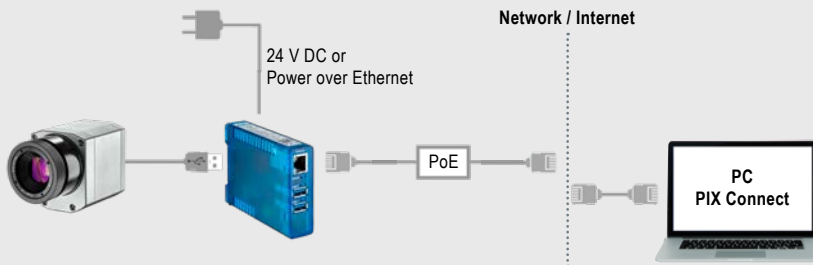
<sup>4)</sup> For further information see operator's manual

# optris PI 1M

## Dimensions in mm



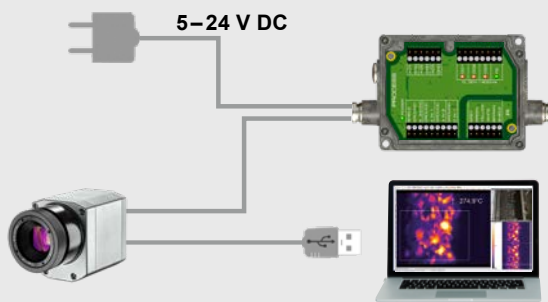
## Process integration



### 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

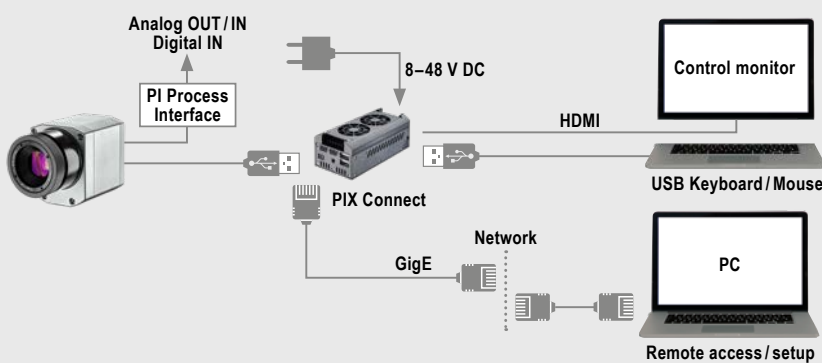
For further information please visit [www.optris.global/usb-server-gigabit](http://www.optris.global/usb-server-gigabit)



### 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.global/neu-industrial-process-interface](http://www.optris.global/neu-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: 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.global/pi-netbox](http://www.optris.global/pi-netbox)