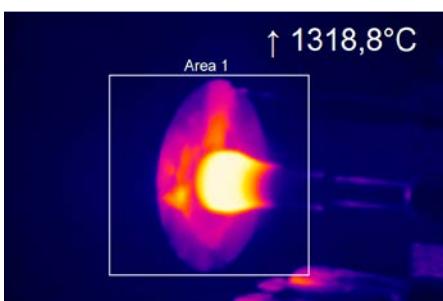
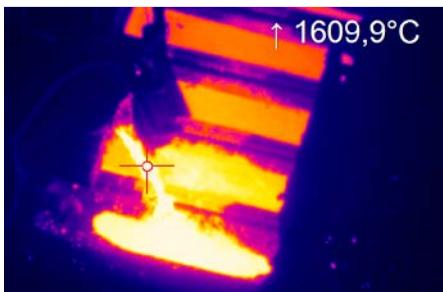


**Short wavelength  
and ultra compact  
IR camera for  
metal surfaces**



For further information as well als the  
product configurator, please visit  
[www.optris.global/thermal-imager-optris-pi-1m](http://www.optris.global/thermal-imager-optris-pi-1m)

**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

**Technical specifications**

|  |  |  |
|--|--|--|
| Optical resolution<br>(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   | FOV @ 764 x 480 px:<br>39° x 25° (f = 16 mm)<br>26° x 16° (f = 25 mm)<br>13° x 8° (f = 50 mm)<br>9° x 5° (f = 75 mm)   | FOV @ 382 x 288 px:<br>20° x 15° (f = 16 mm)<br>13° x 10° (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<br>(@ 1 kHz mode)     | 1 ms real-time analog output (0 - 10 V) of 8 x 8 pixels (position selectable)  |  |
| Standard process<br>interface (PIF)            | 0–10 V input, digital input (max. 24 V), 0–10 V output   |  |
| Industrial process<br>interface (PIF)          | 2x 0-10 V inputs, digital input (max. 24 V), 3x 0/4 – 20 mA outputs,<br>3x relay (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) <sup>4)</sup>  |  |
| Weight   | 245 - 311 g, (depending on lens)   |  |
| Shock <sup>5)</sup>                            | IEC 60068-2-27 (25G and 50G) / IEC 60068-2-6 (sinus shaped),<br>IEC 60068-2-64 (broadband noise)   |  |
| Tripod mount                                   | 1/4–20 UNC   |  |
| Power supply                                   | via USB  |  |
| Scope of supply<br>(standard)                  | • USB camera incl. 1 lens<br>• USB cable (1 m)<br>• PIF cable (1 m) incl. terminal block<br>• Optional: CoolingJacket,<br>high temperature cable   | • Lens protection tube incl. protective window<br>• Table tripod<br>• Aluminum case<br>• Software package optris PIX Connect |

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

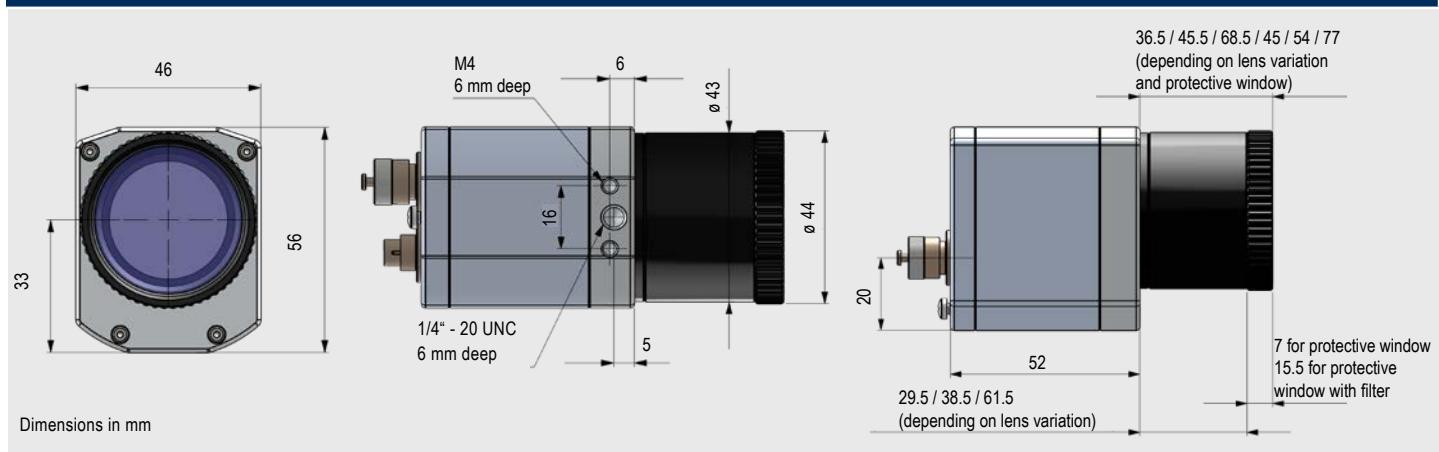
<sup>2)</sup> Specified NETD value applies to all frequencies

<sup>3)</sup> For further information see operator's manual

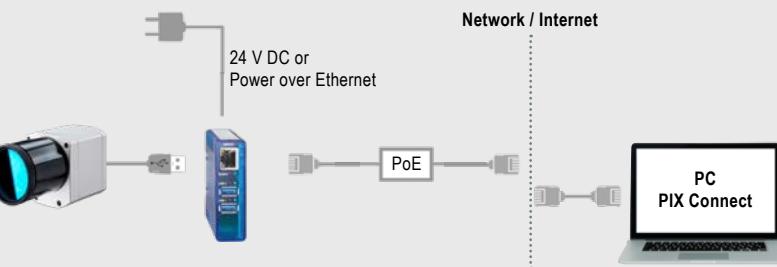
<sup>4)</sup> Only applies when using protection tube

# optris PI 1M

## Dimensions



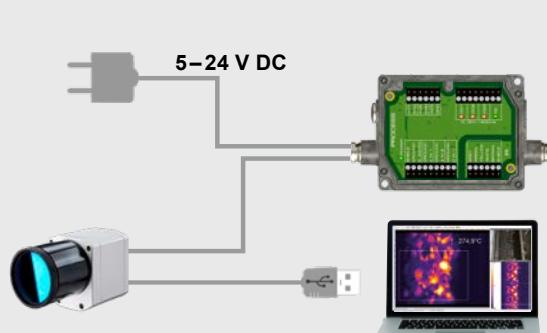
## Process integration



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

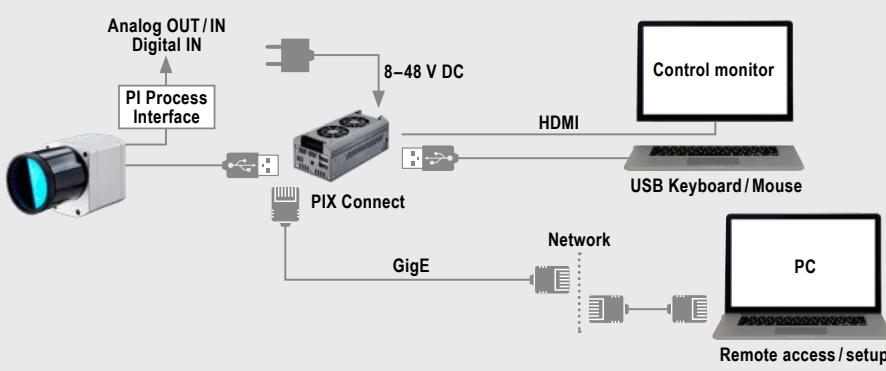
For further information please visit  
[www.optris.global/usb-server-gigabit](http://www.optris.global/usb-server-gigabit)



### 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 relais,  
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: 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.global/pi-netbox](http://www.optris.global/pi-netbox)