Infrared camera with BI-SPECTRAL Technology

Features:
- Time-synchronized visual image recording at up to 32 Hz (640 x 480 pixels)
- Real image camera is highly sensitive in low-light conditions
- Thermal images up to 128 Hz (160 x 120 pixels)
- Compact design 45 x 45 x 60 mm

Technical specifications

- Optical resolution: 160 x 120 pixels
- Detector: FPA, uncooled (25 µm x 25 µm)
- Spectral range: 8 – 14 µm
- Temperature range: –20 ... 100 °C, 0 ... 250 °C, (20) 150 ... 900 °C, optional temperature range: 200 ... 1500 °C
- Frame rate: 128 Hz
- Optics (FOV): 6° x 5° FOV / f = 35.5 mm or 23° x 17° FOV / f = 10 mm (recommended for PI 230) or 41° x 31° FOV / f = 5.7 mm (recommended for PI 200) or 72° x 52° FOV / f = 3.3 mm
- Thermal sensitivity (NETD): 40 mK with 23° x 17° FOV / F = 0.8, 0.3 K with 6° x 5° FOV / F = 1.6, 0.1 K with 41° x 31° FOV und 72° x 52° FOV / F = 1
- Visual camera: Optical resolution 640 x 480 pixels / Frame rate 32 Hz
- Visual camera: Options (FOV): 54° x 40° (PI 200), 30° x 23° (PI 230)
- Accuracy: ±2 °C or ±2 %, whichever is greater
- PC interfaces: USB 2.0 / optional USB to GigE (PoE) interface
- 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 input, digital input (max. 24 V), 3x 0 – 10 V output, 3x relays (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 cable (180 or 250 °C)
- Ambient temperature: 0 ... 50 °C
- Storage temperature: –40 ... 70 °C
- Relative humidity: 20 – 80 %, non condensing
- Enclosure (size / protection): 45 x 45 x 60 – 76 mm (depending on lens + focus position) / IP 67 (NEMA 4)
- Weight: 215 g, incl. lens
- Shock / Vibration: IEC 60068-2
- Tripod mount: ¼ - 20 UNC
- Power supply: via USB
- Scope of supply (standard): • USB camera, 1 lense incl. • USB cable (1 m) • Table tripod • Standard PIF with cable (1 m), terminal block incl. • Software package optris® PIX Connect • Aluminium case

1) Accuracy effective starting at 150 °C
2) Not available für 72° lense
3) Options: 1) IR with 96 Hz at 160 x 120 px; VIS with 32 Hz at 640 x 480 px
2) IR with 128 Hz at 160 x 120 px; VIS with 32 Hz at 596 x 447 px
4) For further details see operator's manual

For further information as well als the product configurator, please visit www.optris.global/thermal-imager-optris-pi200-pi230
### Dimensions

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>45 mm</td>
</tr>
<tr>
<td>Height</td>
<td>45 mm</td>
</tr>
<tr>
<td>Depth</td>
<td>27 mm</td>
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<tr>
<td>Diameter</td>
<td>19 mm</td>
</tr>
<tr>
<td>Thickness</td>
<td>6.5 mm</td>
</tr>
</tbody>
</table>

### 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.global/usb-server-gigabit](http://www.optris.global/usb-server-gigabit)

**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.global/thermal-imager-optris-pi160](http://www.optris.global/thermal-imager-optris-pi160)

**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)