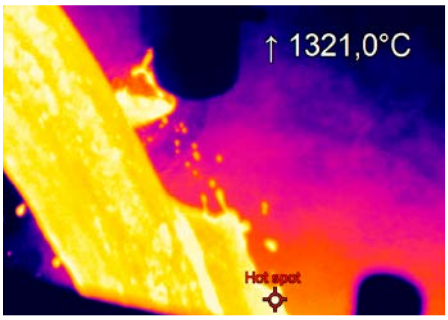
optris® PI 05M
TECHNICAL DATA

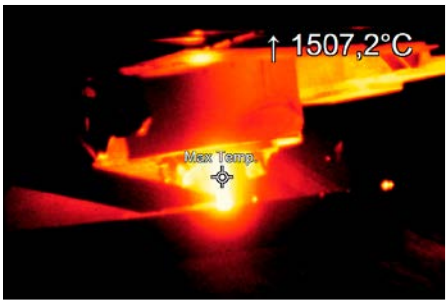
optris infrared measurements

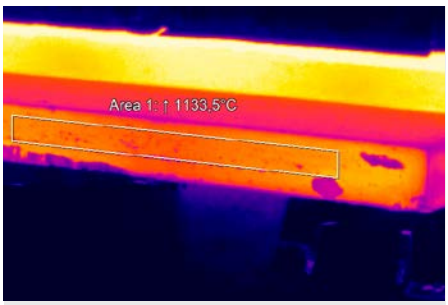
Short wavelength and ultra compact infrared camera

Features:

- Wide measurement range from 900 °C to 2000 °C without sub-ranges
- Usable without filter for laser applications
- Special wavelength range of 500-540 nm minimizes errors due to uncertainty of emissivity
- High 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







For further information as well as the product configurator, please visit:
www.optris.global/neu-thermal-imager-optris-pi-05m

Technical specifications

Optical resolution (switchable)/ Frame rate	764 x 480 pixels @ 32 Hz 382 x 288 pixels @ 80 Hz (switchable to 27 Hz) 72 x 56 pixels @ 1 kHz [1] 764 x 8 pixels @ 1 kHz (fast linescanning mode)[1]
Detector	CMOS (15 µm x 15 µm)
Spectral range	500 – 540 nm
Temperature range	900 °C ... 2000 °C (27 Hz mode) 950 °C ... 2000 °C (32 / 80 Hz mode) 1100 °C ... 2000 °C (1 kHz mode)
Optics	**FOV @ 764 x 480 px:** 26° x 16° (f = 25 mm) **FOV @ 382 x 288 px:** 13° x 10° (f = 25 mm)
Thermal sensitivity (NETD)	< 2 K (1400 °C) for 27 Hz, 32 Hz and 80 Hz <2.5 K (1400 °C) for 1 kHz
Accuracy	±1.5 % of reading
PC interface	USB 2.0 / optional USB to GigE (PoE) conversion
High speed analog output (@ 1 kHz mode)	0 – 10 V real time output of 8x8 pixel (1 ms response time)
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 – 10 V outputs, 3x relay (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 hight temperature USB cable (180 or 250 °C)
Ambient temperature	5 °C ... 50 °C
Storage temperature	– 40 °C ... 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)[2]
Weight	320 g, incl. lens
Shock / Vibration [3]	IEC 60068-2
Tripod mount	¼ – 20 UNC
Power supply	via USB
Scope of supply (standard)	• USB camera with 1 lens • Lens protection tube incl. protective window • USB cable (1 m) • Table tripod • PIF cable (1 m) incl. terminal block • Software package optris® PIX Connect • Aluminum case, Optional: CoolingJacket, • High temperature cable

[1] Can be placed anywhere within the full FOV
[2] Only applies when lens protection tube is used
[3] For more details see operator's manual

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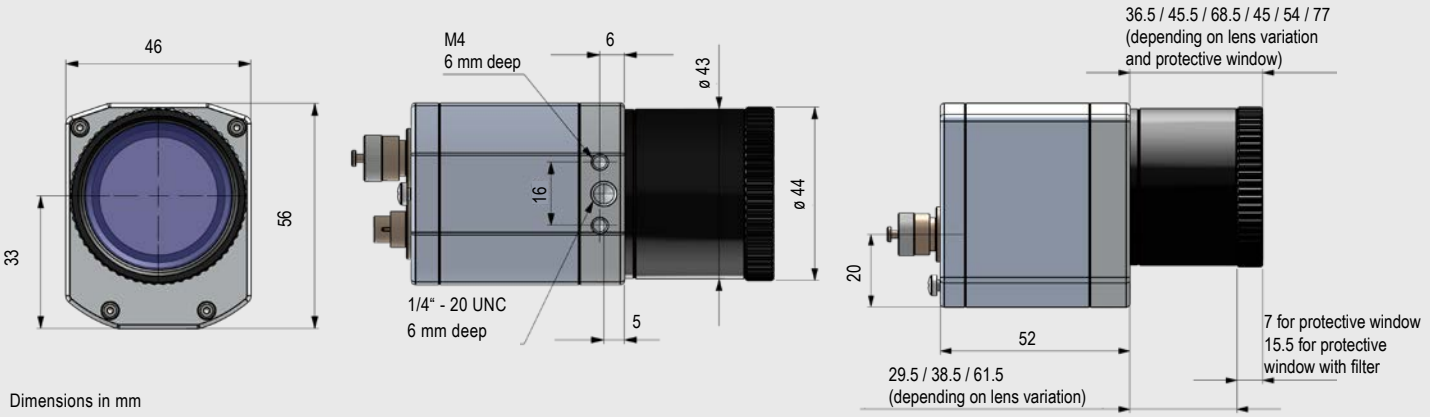
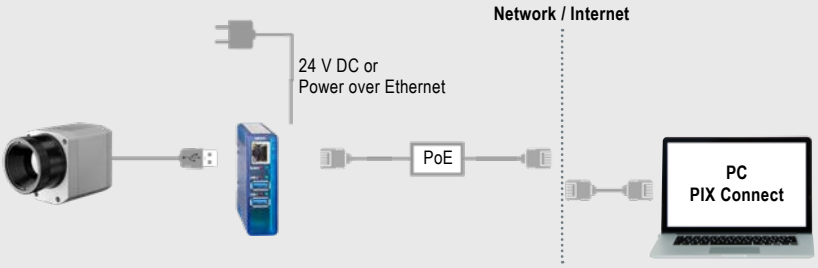
optris® PI 05M

Dimensions



Dimensions in mm

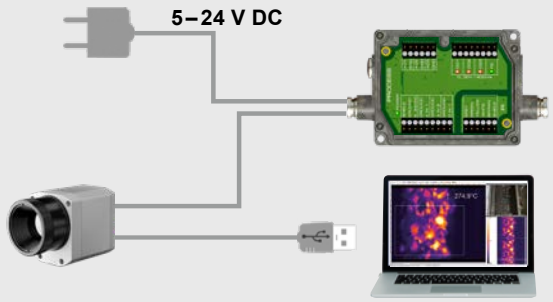
Process integration



optris® USB Server Gigabit 2.0

- Network connection via Gigabit Ethernet
- Full TCP/IP support incl. routing and DNS
- Two independent USB portsschlüsse
- Power over PoE or external voltage supply at 24 - 48 V DC
- Galvanic isolation 500 V_{RMS}
- Remotely configurable via web based management

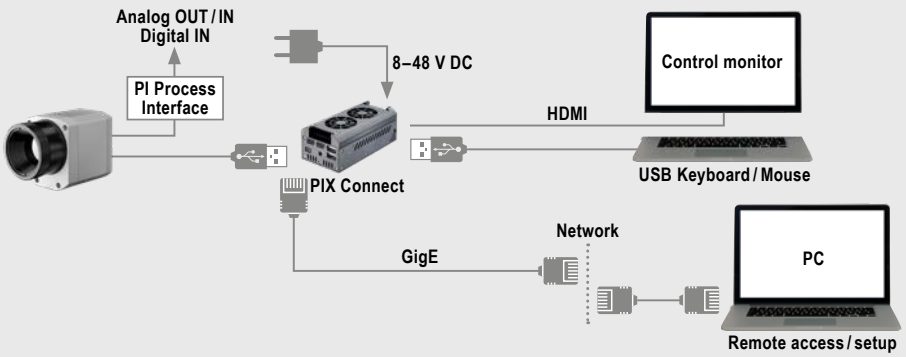
For further information please visit
www.optris.global/usb-server-gigabit



optris® Industrial process interface

- Use of camera for process monitoring in industrial environments
- Continous fail safe monitoring of imager, software and cable connections
- 3 analog / alarm outputs,
  2 analog inputs,
  1 digital input,
  3 alarm relay
  1 fail-safe relay

For further information please visit
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