

 Authorized Distributor



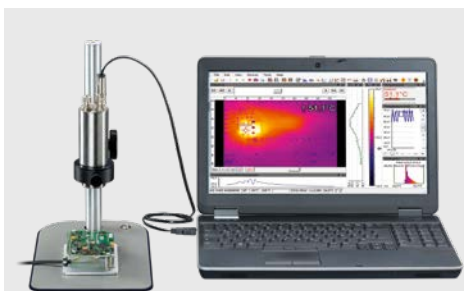
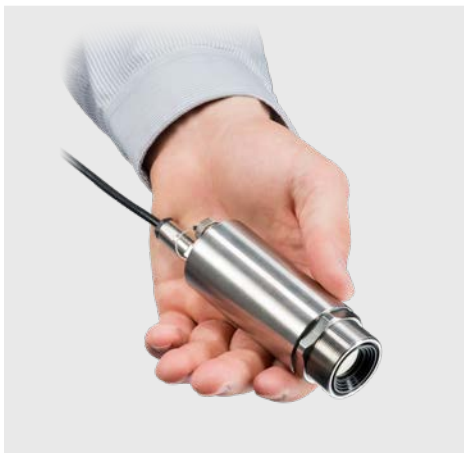
THERMAL IMAGING KITS

For inspecting and analyzing electronic boards, PCBs, and tiny components.

**Compact spot finder
IR camera**

Features:

- Industrial imager with 382 x 288 pixels for exact temperature measurement of -20 °C to 900 °C (-4 °F to 1652 °F)
- Small sized rugged camera with motorized focus
- Superb distance-to-spot-size-ratio up to 390:1 with sighting capabilities
- 80 Hz frame rate for monitoring of fast thermal processes
- Extensive ready-to-use package for an affordable price – including versatile image processing software with line-scan feature and connection cables



Xi400 Microscope optics lens kit

Type	Xi 400
Optical resolution	382 x 288 pixels
Detector	FPA, uncooled (17 µm x 17 µm pitch)
Spectral range	8 – 14 µm
Temperature ranges	-20 ... 100 °C (-4 ... 212 °F), 0 ... 250 °C (32 ... 482 °F), (20 [68])150 ... 900 °C ¹⁾ (302 ... 1652 °F) ¹⁾
Frame rate	80 / 27 Hz
Optics (FOV)	18° x 14° (f = 20 [0.79]), 29° x 22° (f = 12.7 [0.50]), 53° x 38° (f = 7.7 [0.30]), 80° x 54° (f = 5.7 [0.22])
Microscope optics (FOV)	18° x 14° (f = 20), smallest measuring spot (MFOV): 240 µm
Focus	Manual motor focus
Optical resolution (D:S)	390:1 (18° optics)
Thermal sensitivity (NETD)	80 mK
Accuracy	±2 °C or ±2 % (±4 °F or ±2 %), whichever is greater
PC interface	USB 2.0 / optional USB to GigE (PoE) conversion
Process interface (PIF), standard	0–10 V input, digital input (max. 24 V), 0–10 V output
Process interface (PIF), industrial	2 x 0–10 V inputs, digital input (max. 24 V), 3 x 0–10 V outputs, 3 x relay (0–30 V / 400 mA), fail-safe relay
Cable length (USB)	1 m (3.3 ft) (standard), 3 m (9.8 ft), 5 m (16.4 ft), 10 m (32.8 ft), 20 m (65.6 ft)
Ambient temperature	0 °C to 50 °C (32 °F to 122 °F)
Enclosure (size / rating)	Ø 36 mm x 100 mm (Ø 1.42 in x 3.9 in) (M30x1 thread) / IP 67 (NEMA 4)
Weight (without mounting bracket)	216 - 220 g, (7.6 - 7.7 oz) depending on lens
Shock ²⁾ / Vibration ²⁾	IEC 60068-2-27 (25 G and 50 G); IEC 60068-2-6 (sinus shaped); IEC 60068-2-64 (broadband noise)
Power supply	USB
Scope of supply	<ul style="list-style-type: none"> • Process imager Xi • USB cable (1 m [3.3 ft]) • Standard PIF cable (1 m) incl. terminal block • Mounting bracket with nut • Software package optris PIX Connect

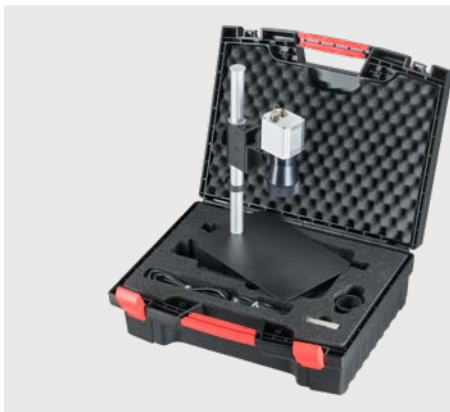
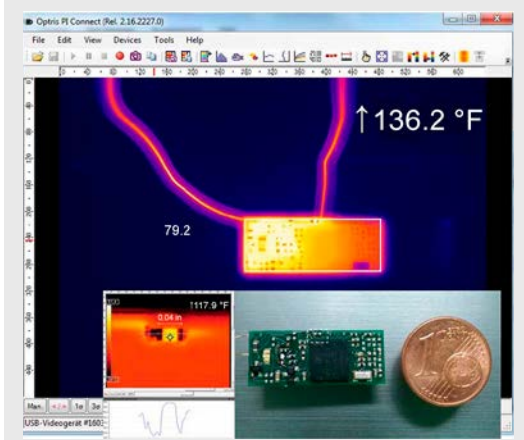
¹⁾ Accuracy statement effective from 150 °C (302 °F)

²⁾ For more details see operator's manual

Microscope optics for the inspection of electronic boards

Features:

- Exchangeable, focusable lenses for most flexible use of the camera
- Analysis of small chip level components down to 28 μm
- Hands-free operation for simultaneous testing and IR imaging
- Frame rates up to 125 Hz allow inspection of fast processes (like pulsed laser diodes)
- Radiometric video or tiff recording with ± 2 °C (± 3.6 °F) measurement accuracy
- License-free analysis software and complete SDK included



Typ	Technical Specifications
Temperature range (scalable)	-20 ... 100 °C, 0 ... 250 °C, (20) 150 ... 900 °C ¹⁾ (-4 ... 212 °F, 32 ... 482 °F, (4) 302 ... 1652 °F) ¹⁾
Detector	FPA, 640 x 480 pixels @ 32 Hz 640 x 120 pixels @ 125 Hz
Spectral range	8 – 14 μm
Microscope optics (FOV)	12° x 9° (F=1.1) / f= 44 mm (f= 1.73 in)
Minimum spot size	28 μm
MFOV	85 μm^2
Working distance	80 – 100 mm (3.15 – 3.94 in)
System accuracy	± 2 °C or ± 2 %, whichever is greater (± 3.6 °F or ± 2 %, whichever is greater)
Temperature resolution (NETD)	80 mK
PC interface	USB 2.0
Standard process interface (PIF)	0–10 V input, digital input (max. 24 V), 0–10 V output
Industrial process interface (IPF)	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), 3 m, 5 m, 10 m, 20 m (3.3 ft [standard], 9.8 ft, 16.4 ft, 32.8 ft, 65.6 ft)
Ambient temperature	0 ... 50 °C (32 ... 122 °F)
Storage temperature	-40 ... 70 °C (-40 ... 158 °F)
Relative humidity	20–80 %, non condensing
Enclosing ³⁾ (size / rating)	46 x 56 x 130 mm (1.81 x 2.20 x 5.12 in) / IP 67 (NEMA 4)
Weight	370 g (13.1 oz), incl. lense
Shock/Vibration ³⁾	IEC 60068-2-27 (25G and 50G) / IEC 60068-2-6 (sinus shaped), IEC 60068-2-64 (broadband noise)
Tripod mount	1/4 – 20 UNC
Power supply	via USB
Emissivity	0.100...1.100
Software	optris PIX Connect / Windows and Linux SDKs
Scope of supply (PI camera + Microscope accessory kit)	<ul style="list-style-type: none"> • PI camera (PI 640i) • Microscope optics (MO44) • Standard USB cable (1 m [3.3 ft]) • Rugged outdoor transport case • Software package optris PIX Connect on USB flash drive • Microscope stand • Standard PIF • Manual PI camera

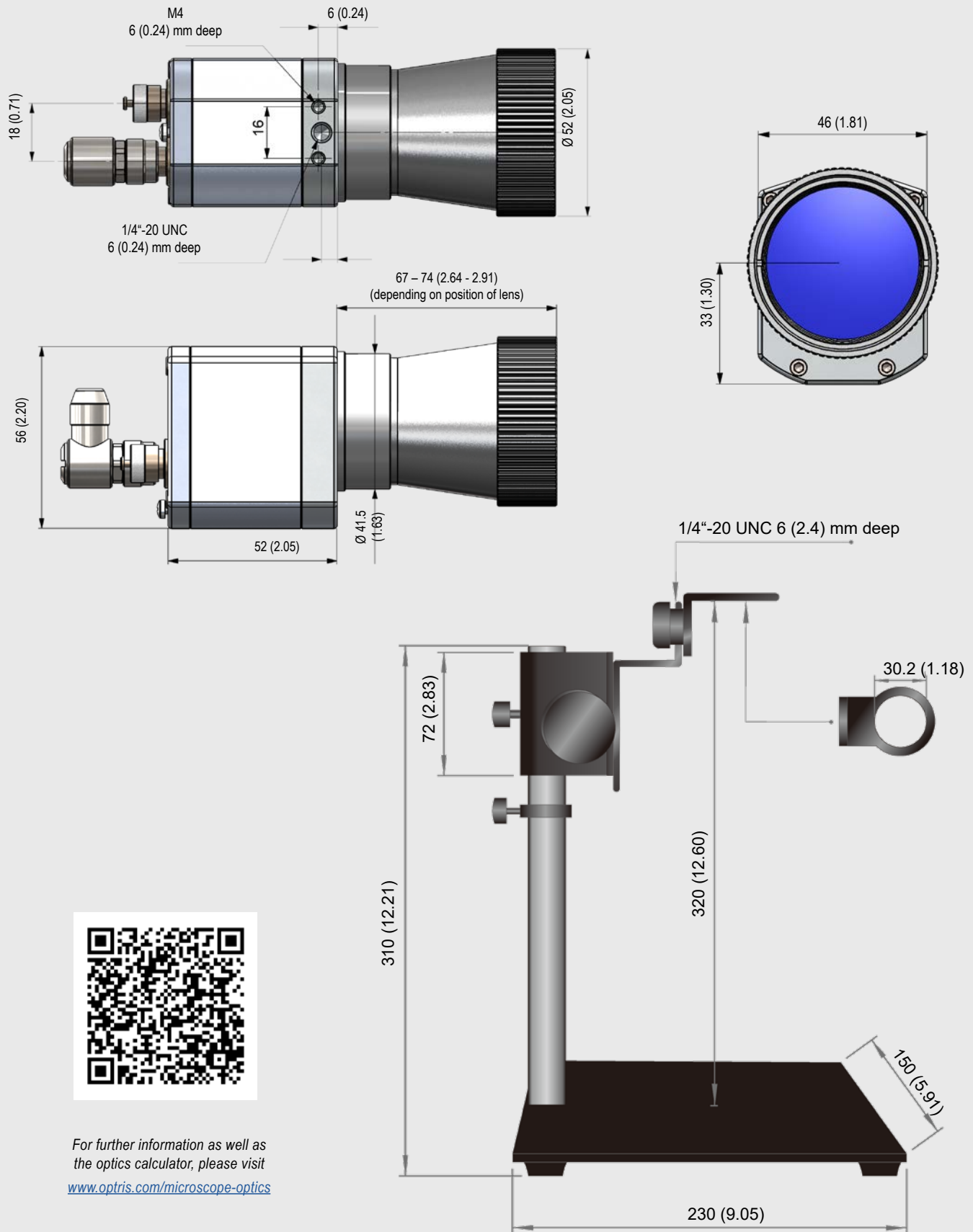
¹⁾ Accuracy statement effective from 150 °C (302 °F)

²⁾ MFOV on PI 640i 3 x 3 px

³⁾ For more information see operator's manual

optris PI 640i Microscope optics

Dimensions in mm (in)



For further information as well as the optics calculator, please visit www.optris.com/microscope-optics



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