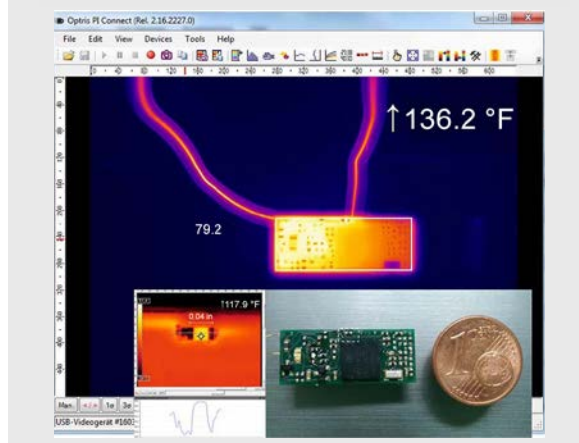


### Microscope optics for the inspection of electronic boards

#### Features:

- Exchangeable, focusable optics for most flexible use of the camera
- Analysis of small chip level components down to 28  $\mu\text{m}$
- 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  $\pm 2$  °C measurement accuracy
- License-free analysis software and complete SDK included



Typ	Specification
Temperature range (scalable)	-20 ... 100 °C, 0 ... 250 °C, (20)150 ... 900 °C <sup>1)</sup>
Detector	FPA, 640 x 480 pixels @ 32 Hz 640 x 120 pixels @ 125 Hz
Spectral range	8 – 14 $\mu\text{m}$
Microscope optics (FOV)	12° x 9° (F=1.1) / f= 44 mm
Minimum spot size (IFOV)	28 $\mu\text{m}$
MFOV	85 $\mu\text{m}^2$
Working distance	80 – 100 mm
System accuracy	$\pm 2$ °C or $\pm 2$ %, 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 (IPIF)	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
Ambient temperature	0 ... 50 °C
Storage temperature	-40 ... 70 °C
Relative humidity	20–80 %, non condensing
Enclosing <sup>3)</sup> (size / rating)	46 x 56 x 119 - 126 mm (depending on focus position) / IP 67 (NEMA 4)
Weight	370 g, incl. lense
Shock/Vibration <sup>3)</sup>	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"> <li>• PI camera (PI 640i)</li> <li>• Microscope optics (MO44)</li> <li>• Standard USB cable (1 m)</li> <li>• Manual PI camera</li> <li>• Rugged outdoor transport case</li> <li>• Software package optris PIX Connect on USB flash drive</li> <li>• Microscope stand</li> <li>• Standard PIF</li> </ul>

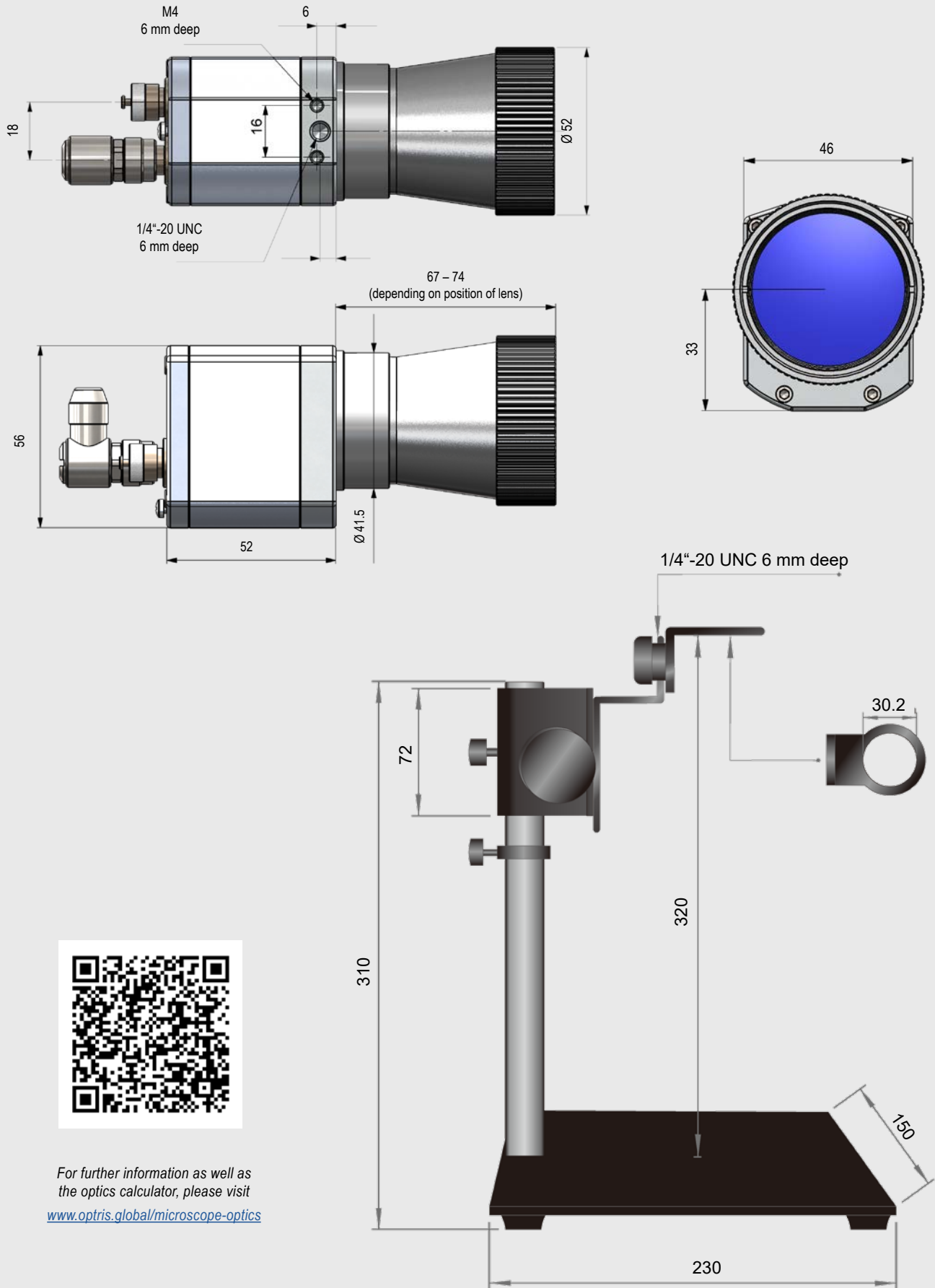
<sup>1)</sup> Accuracy statement effective from 150 °C

<sup>2)</sup> MFOV on PI 640i 3 x 3 px

<sup>3)</sup> For more details see operator's manual

# optris PI 640i Microscope optics

## Dimensions in mm



For further information as well as  
the optics calculator, please visit  
[www.optris.global/microscope-optics](http://www.optris.global/microscope-optics)