

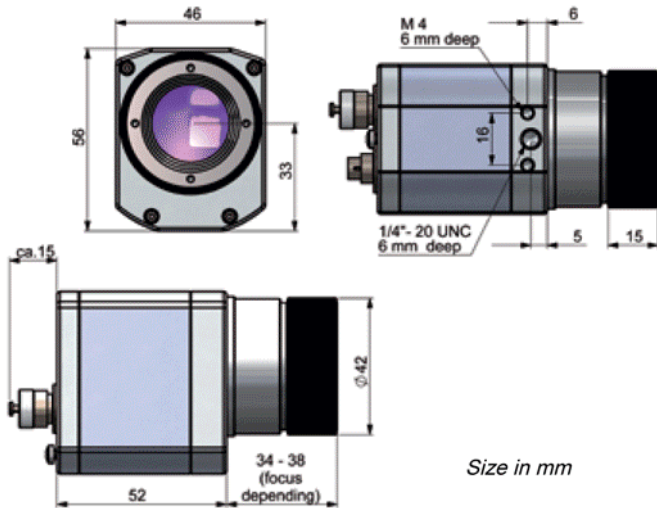
Thermal imager with 382 x 288 pixels



Important Features

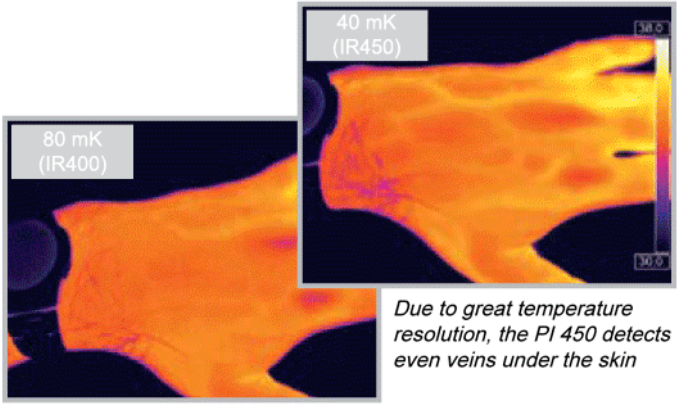
- Detector with 382 x 288 pixels
- Fast real-time thermal imager with up to 80 Hz
- Very high thermal sensitivity with 80 mK (IR 400) and 40 mK (IR 450)
- Smallest camera in its class (46 x 56 x 90 mm)
- Lightweight (320 g incl. optics)
- Extensive license-free analysis software inclusive
- Exchangeable lenses & industrial accessories

Smallest camera in its class



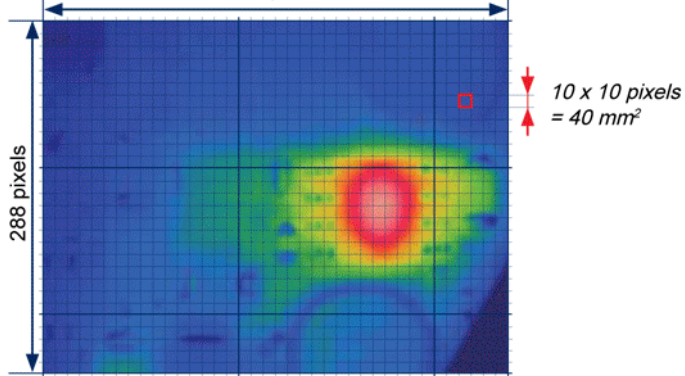
High temperature resolution of 40 mK

The IR 450 offering a resolution of 40 mK is used to detect tiny temperature differences, for example in product quality inspections or medical prophylaxis.

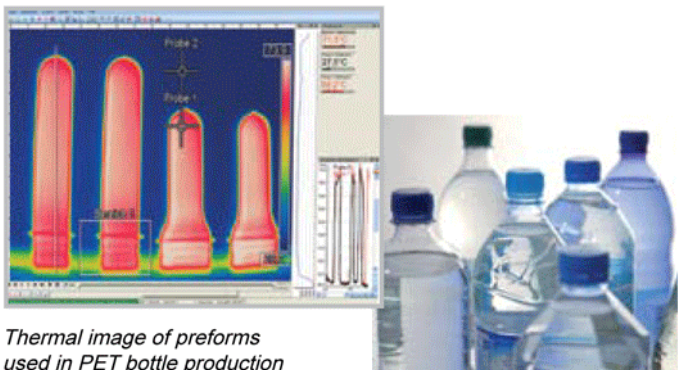


80 Hz data capturing with high resolution

SMD part as measurement object:
Size of part: 32 mm x 24 mm, pixel size: 0,08 mm



The camera displays and stores thermal images with high resolution (382 x 288 px) at full frame rate of 80 Hz (80 images per second).



Basis model	IR 400	IR 450
Type	IR	IR
		
Scope of supply	USB camera incl. 1 lens, USB cable (1 m), table tripod, PIF cable incl. terminal block (1 m), software package optris PI Connect, aluminum case	USB camera incl. 1 lens, USB cable (1 m), table tripod, PIF cable incl. terminal block (1 m), software package optris PI Connect, aluminum case
Detector	FPA, uncooled (25 µm x 25 µm)	FPA, uncooled (25 µm x 25 µm)
Optical resolution	382 x 288 pixel	382 x 288 pixel
Spectral range	7.5 - 13 µm	7.5 - 13 µm
Temperature ranges	-20°C...100°C, 0°C...250°C, 150°C...900°C additional range: 200°C...1500°C (option)	-20°C...100°C, 0°C...250°C, 150°C...900°C
Frame rate	80 Hz	80 Hz
Optics (FOV)	38° x 29° FOV / f = 15 mm <u>or</u> 62° x 49° FOV / f = 8 mm <u>or</u> 13° x 10° FOV / f = 41 mm	38° x 29° FOV / f = 15 mm <u>or</u> 62° x 49° FOV / f = 8 mm <u>or</u> 13° x 10° FOV / f = 41 mm
Thermal sensitivity (NETD)	0.08 K with 38° x 29° FOV / F = 0.8 0.08 K with 62° x 49° FOV / F = 0.8 0.1 K with 13° x 10° FOV / F = 1.0	0.04 K with 38° x 29° FOV / F = 0.8 0.04 K with 62° x 49° FOV / F = 0.8 0.06 K with 13° x 10° FOV / F = 1.0
Option for visual camera (only for BI-SPECTRAL camera)	-	-
Accuracy	±2°C or ±2%	±2°C or ±2%
PC interface	USB 2.0	USB 2.0
Process interface (PIF)		
Standard PIF	0-10V input, digital input (max. 24V), 0-10V output	0-10V input, digital input (max. 24V), 0-10V output
Industrial PIF	2x 0-10V inputs, digital input (max. 24V), 3x 0-10V outputs, 3x relay (0-30V/ 400mA), fail safe relay	2x 0-10V inputs, digital input (max. 24V), 3x 0-10V outputs, 3x relay (0-30V/ 400mA), fail safe relay
Ambient temperature (T _{Amb})	0°C...50°C	0°C...70°C
Storage temperature	-40°C...70°C	-40°C...85°C
Relative humidity	20 - 80%, non condensing	20 - 80%, non condensing
Enclosure (size / rating)	46 mm x 56 mm x 90 mm / IP 67 (NEMA 4)	46 mm x 56 mm x 90 mm / IP 67 (NEMA 4)
Weight	320 g, incl. lens	320 g, incl. lens
Shock / vibration	25G, IEC 68-2-29 / 2G, IEC 68-2-6	25G, IEC 68-2-29 / 2G, IEC 68-2-6
Tripod mount	1/4-20 UNC	1/4-20 UNC
Power supply	USB powered	USB powered

Accessory for thermal imagers

				
Cooling housing and mounting angle, adjustable in two axes*	Mounting flange, for cooling housing*	High temperature USB cable	Mounting base for camera and protective housing (stainless steel), adjustable in two axes	Angular connector

* Not for IR200 / IR230 (BI-SPECTRAL camera versions)