



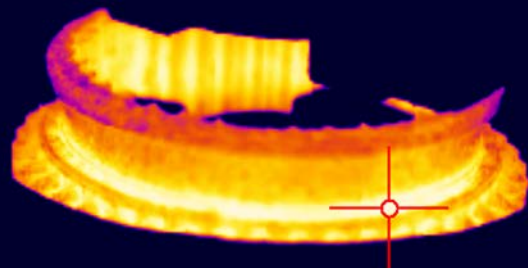
**New**

## PI 1M

Short wavelength and ultra compact infrared camera for non-contact temperature measurement of metallic surfaces

innovative infrared technology

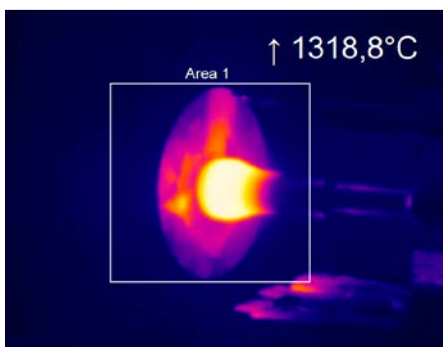
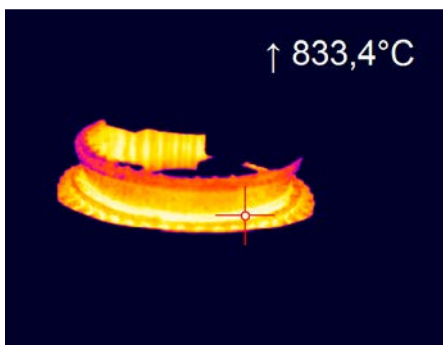
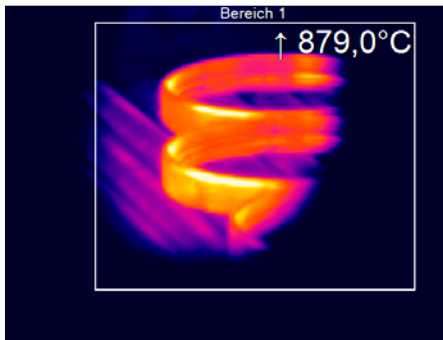
↑ 833,4°C



**Short wavelength  
and ultra compact  
infrared camera**

**Features:**

- High dynamic CMOS detector with up to 764 x 480 pixels resolution
- Wide measurement ranges from 450 °C to 1800 °C without sub-ranges
- Up to 1 kHz frame rate for fast processes
- Real-time analog output with 1 ms response time
- Extensive software package and SDK included



Typ	PI 1M														
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														
Detector	CMOS (15 µm x 15 µm)														
Spectral range	0.92 – 1.1 µm														
Temperature ranges	450 ... 1800 °C (32 and 27 Hz mode) 500 ... 1800 °C (80 Hz mode) 600 ... 1800 °C (1 kHz mode)														
Optics	<table border="0"> <tr> <td><b>FOV @ 764 x 480 px:</b></td> <td><b>FOV @ 382 x 288 px:</b></td> </tr> <tr> <td>87° x 62° (f = 6 mm)</td> <td>51° x 40° (f = 6 mm)</td> </tr> <tr> <td>51° x 33° (f = 12 mm)</td> <td>27° x 20° (f = 12 mm)</td> </tr> <tr> <td>39° x 25° (f = 16 mm)</td> <td>20° x 15° (f = 16 mm)</td> </tr> <tr> <td>26° x 16° (f = 25 mm)</td> <td>13° x 10° (f = 25 mm)</td> </tr> <tr> <td>13° x 8° (f = 50 mm)</td> <td>7° x 5° (f = 50 mm)</td> </tr> <tr> <td>9° x 5° (f = 75 mm)</td> <td>4° x 3° (f = 75 mm)</td> </tr> </table>	<b>FOV @ 764 x 480 px:</b>	<b>FOV @ 382 x 288 px:</b>	87° x 62° (f = 6 mm)	51° x 40° (f = 6 mm)	51° x 33° (f = 12 mm)	27° x 20° (f = 12 mm)	39° x 25° (f = 16 mm)	20° x 15° (f = 16 mm)	26° x 16° (f = 25 mm)	13° x 10° (f = 25 mm)	13° x 8° (f = 50 mm)	7° x 5° (f = 50 mm)	9° x 5° (f = 75 mm)	4° x 3° (f = 75 mm)
<b>FOV @ 764 x 480 px:</b>	<b>FOV @ 382 x 288 px:</b>														
87° x 62° (f = 6 mm)	51° x 40° (f = 6 mm)														
51° x 33° (f = 12 mm)	27° x 20° (f = 12 mm)														
39° x 25° (f = 16 mm)	20° x 15° (f = 16 mm)														
26° x 16° (f = 25 mm)	13° x 10° (f = 25 mm)														
13° x 8° (f = 50 mm)	7° x 5° (f = 50 mm)														
9° x 5° (f = 75 mm)	4° x 3° (f = 75 mm)														
Thermal sensitivity (NETD)	< 1 K (700 °C), < 2 K (1000 °C)														
Accuracy	±2 % of reading (object temperature < 1500 °C)														
PC interface	USB 2.0														
High speed analog output (@ 1 kHz mode)	0 – 10 V real time output of the center 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 relays														
Cable length (USB)	1 m (standard), 5 m, 10 m 5 m and 10 m also available as HT cable (180 °C)														
Ambient temperature	0 ... 50 °C														
Storage temperature	–40 ... 70 °C														
Relative humidity	20 – 80 %, non-condensing														
Enclosure (size/ rating)	46 mm x 56 mm x 90 mm/ IP 67 (NEMA 4)														
Weight	320 g, incl. lens														
Shock <sup>1)</sup>	IEC 60068-2-27 (25 g and 50 g)														
Vibration <sup>1)</sup>	IEC 60068-2-6 (sinus-shaped)/ IEC 60068-2-64 (broadband noise)														
Tripod mount	¼ – 20 UNC														
Power supply	USB powered														
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® PI Connect, Aluminum case, Optional: CoolingJacket, High temperature cable														

<sup>1)</sup> For more details see operator's manual