

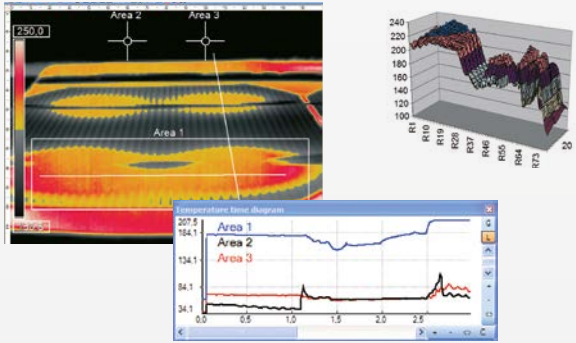


# More Precision

**thermoIMAGER TIM** // Compact thermal imaging cameras



## TIMConnect SOFTWARE FEATURES



### Comprehensive IR camera software

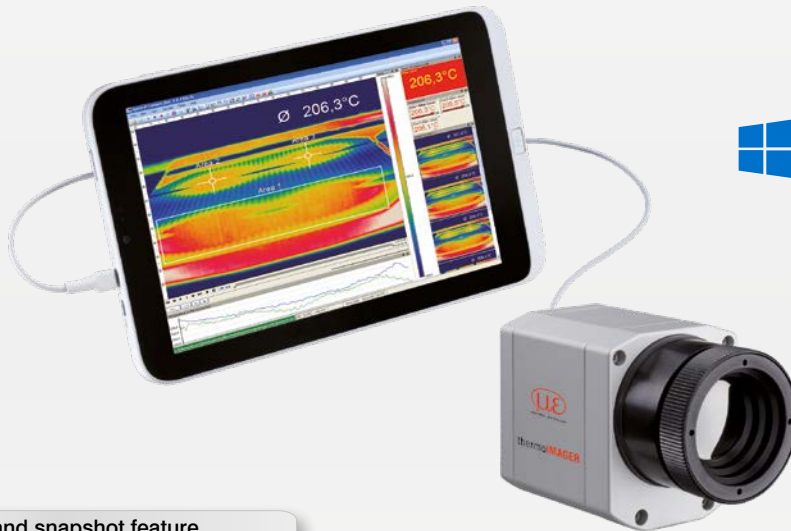
- License-free analysis software and complete SDK included
- Intuitive user interface
- Camera remote control via software
- Displays several camera images in different windows
- Compatible with Windows 7, 8 and 10 and Linux (Ubuntu)
- Data output via PIF hardware interface using up to 3 analog channels



Windows 7

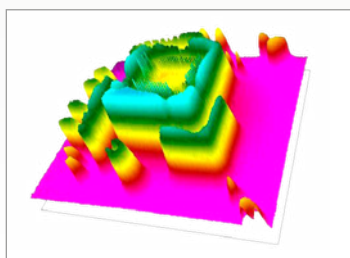
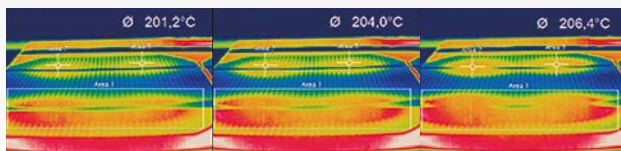


Windows 10



### Video recording and snapshot feature (IR or BI-SPECTRAL)

- Recording of video sequences and individual images for later analysis or documentation
- Adjustable frame rate to reduce data volume
- Display of snapshot process for direct analysis

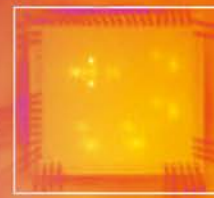


### Online and offline data analysis

- Real-time temperature information (°C or °F) in main window, as digital display or graphic display
- Detailed analysis using measuring fields, automatic hotspot/coldspot search
- Logical linking of temperature information
- Slow-motion replay without connected camera
- Various color palettes to highlight thermal contrasts

### Temperature data analysis and documentation

- Triggered data collection
- Radiometric video sequences (\*.ravi) and snapshots (\*.tiff)
- Thermal images as \*.tiff or text files \*.csv, \*.dat incl. complete temperature information
- Data transfer in real time to other software programs via DLL or COM port interfaces



TIM 160 / 200		Focal length [mm]	Angle	Minimum measurement distance*	Distance to measurement object [m]											
160 x 120 px					0.02	0.1	0.2	0.3	0.5	1	2	4	6	10	30	100
23° Standard lens	10	23° 17° 29° 2.48 mrad	0.2 m	HFOV [m]	0.012	0.043	0.08	0.12	0.21	0.41	0.81	1.62	2.44	4.1	12.2	40.6
				VFOV [m]	0.009	0.032	0.06	0.09	0.15	0.30	0.60	1.21	1.81	3.0	9.0	30.1
				DFOV [m]	0.015	0.054	0.10	0.16	0.26	0.51	1.01	2.02	3.03	5.1	15.2	50.5
				IIFOV [mm]	0.1	0.3	0.5	0.8	1.3	2.5	5.0	9.9	14.9	24.8	74.4	248.0
6° Telephoto lens	35.5	6° 5° 8° 0.70 mrad	0.5 m	HFOV [m]					0.06	0.11	0.23	0.45	0.68	1.1	3.4	11.3
				VFOV [m]					0.04	0.09	0.17	0.34	0.51	0.8	2.5	8.5
				DFOV [m]					0.07	0.14	0.28	0.57	0.85	1.4	4.2	14.2
				IIFOV [mm]					0.4	0.7	1.4	2.8	4.2	7.0	21.1	70.4
48° Wide angle lens	5.7	41° 31° 51° 4.39 mrad	0.2 m	HFOV [m]	0.022	0.082	0.16	0.23	0.38	0.76	1.51	3.00	4.50	7.5	22.5	74.9
				VFOV [m]	0.016	0.059	0.11	0.17	0.28	0.55	1.10	2.19	3.28	5.5	16.4	54.5
				DFOV [m]	0.027	0.101	0.19	0.29	0.47	0.94	1.86	3.72	5.57	9.3	27.8	92.7
				IIFOV [mm]	0.1	0.4	0.9	1.3	2.2	4.4	8.8	17.5	26.3	43.9	131.6	438.6
72° Wide angle lens	3.3	72° 52° 89° 7.51 mrad	0.2 m	HFOV [m]	0.039	0.152	0.29	0.43	0.72	1.42	2.84	5.66	8.49	14.1	42.4	141.4
				VFOV [m]	0.027	0.106	0.20	0.30	0.50	0.99	1.98	3.95	5.92	9.9	29.6	98.6
				DFOV [m]	0.048	0.186	0.36	0.53	0.87	1.74	3.46	6.91	10.35	17.2	51.7	172.3
				IIFOV [mm]	0.2	0.8	1.5	2.3	3.8	7.5	15.0	30.0	45.0	75.1	225.2	750.8

TIM 400 / 450 / G7		Focal length [mm]	Angle	Minimum measurement distance*	Distance to measurement object [m]											
382 x 288 px					0.02	0.1	0.2	0.3	0.5	1	2	4	6	10	30	100
29° Standard lens	18.7	29° 22° 37° 1.34 mrad	0.2 m	HFOV [m]		0.060	0.11	0.16	0.27	0.53	1.0	2.1	3.1	5.2	15.6	52.1
				VFOV [m]		0.045	0.08	0.12	0.20	0.40	0.78	1.6	2.3	3.9	11.7	39.0
				DFOV [m]		0.074	0.14	0.20	0.33	0.66	1.3	2.6	3.9	6.5	19.5	65.1
				IIFOV [mm]		0.1	0.3	0.4	0.7	1.3	2.7	5.4	8.0	13.4	40.1	133.7
13° Telephoto lens (except for G7)	41	13° 10° 17° 0.61 mrad	0.5 m	HFOV [m]					0.12	0.23	0.47	0.94	1.40	2.3	7.0	23.4
				VFOV [m]					0.09	0.17	0.35	0.70	1.05	1.7	5.2	17.5
				DFOV [m]					0.15	0.29	0.58	1.17	1.75	2.9	8.8	29.2
				IIFOV [mm]					0.3	0.6	1.2	2.5	3.7	6.1	18.4	61.2
53° Wide angle lens	10.5	53° 40° 66° 2.38 mrad	0.2 m	HFOV [m]		0.11	0.21	0.31	0.51	1.0	2.0	4.0	6.0	9.9	29.7	99.0
				VFOV [m]		0.08	0.15	0.23	0.37	0.73	1.4	2.9	4.3	7.2	21.6	71.9
				DFOV [m]		0.14	0.26	0.38	0.63	1.2	2.5	4.9	7.4	12.2	36.7	122.3
				IIFOV [mm]		0.2	0.5	0.7	1.2	2.4	4.8	9.5	14.3	23.8	71.5	238.4
80° Wide angle lens	7.7	80° 56° 97° 3.25 mrad	0.2 m	HFOV [m]		0.182	0.35	0.84	0.84	1.65	3.29	6.55	9.82	16.4	49.0	163.4
				VFOV [m]		0.119	0.23	0.55	0.54	1.08	2.14	4.28	6.41	10.7	32.0	106.6
				DFOV [m]		0.218	0.41	1.00	1.00	1.97	3.92	7.83	11.73	19.5	58.5	195.1
				IIFOV [mm]		0.3	0.7	1.6	1.6	3.3	6.5	13.0	19.5	32.5	97.4	324.7

## High performance sensors made by Micro-Epsilon



Sensors and systems for displacement and position



Sensors and measurement devices for non-contact temperature measurement



2D/3D profile sensors (laser scanner)



Optical micrometers, fiber optic sensors and fiber optics



Color recognition sensors, LED analyzers and color inline spectrometer



Measurement and inspection systems