

More Precision



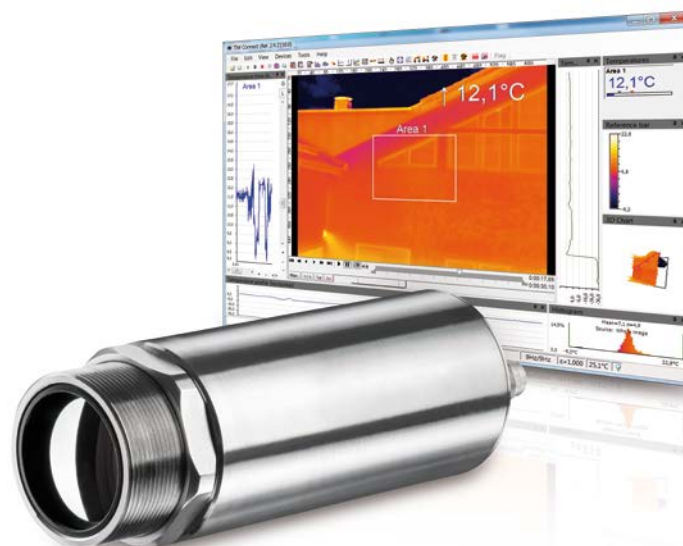
thermoIMAGER TIM 40

Compact OEM thermal imaging camera

The TIM 40 is a robust and compact thermal imaging camera with motorized focus which enables the user to focus easily on targets via remote control. Its compact design and favorable price make the industrial camera ideally suitable for OEM purposes.

Advantages

- Industrial camera with 382 x 288 pixels for precise temperature measurements from -20 °C to 900 °C
- Robust and compact imager with motorized focus
- Excellent optical resolution with distance-to-spot-size-ratio up to 390:1
- Frame rate of 80 Hz for monitoring of fast thermal processes
- Comprehensive ready-to-use package including versatile software with SDK



Model	TIM 40
Optical resolution	382 x 288 pixels
Temperature ranges	-20 °C to 100 °C, 0 °C to 250 °C, (20) 150 °C to 900 °C ¹⁾
Spectral range	8 to 14 μm
Frame rate	switchable 80 Hz or 27 Hz
System accuracy	±2 °C or ±2 %, whichever is greater
Fixed lens	18° x 14° FOV / f = 20 or 29° x 22° FOV / f = 12.7 or 53° x 38° FOV / f = 7.7 or 80° x 54° FOV / f = 5.7
Focus	manual motorized focus
Thermal sensitivity (NETD)	80 mK
Detector	FPA, uncooled (17 μm x 17 μm)
Outputs/digital	USB 2.0 / optional interface USB to GigE (PoE)
Standard process interface (PIF)	0-10 V input, digital input (max. 24 V), 0-10 V output
Industry process interface (PIF)	2x 0-10 V inputs, digit. 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
Power supply	USB powered
Tripod mount	1/4-20 UNC
Protection class	IP67
Ambient temperature	0 °C to 50 °C
Storage temperature	-40 °C to 70 °C
Relative humidity	20 to 80 %, non-condensing
Vibration ²⁾	IEC 60068-2-6 (sinus-shaped) / IEC 60068-2-64 (broadband noise)
Shock ²⁾	IEC 60068-2-27 (25 g and 50 g)
Housing (size) ²⁾	ø 36 mm x 100 mm (M30x1 thread)
Weight	200 g

¹⁾ For the range (20)150 up to 900 °C, the accuracy specification applies from 150 °C

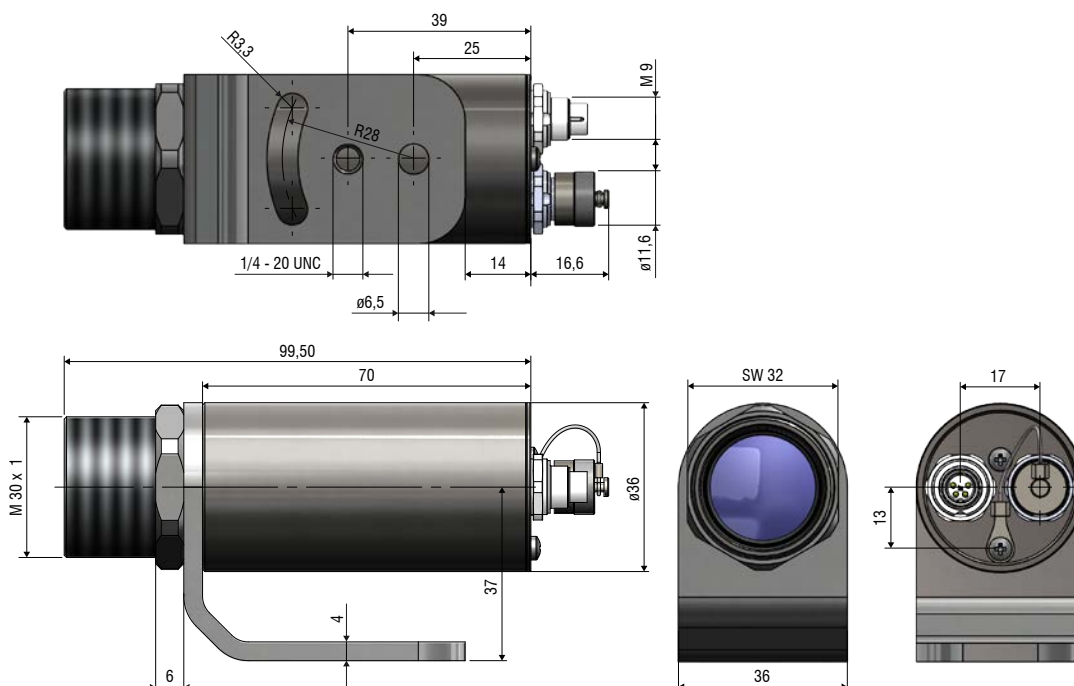
²⁾ For more information see operating instructions

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TIM 40	Focal length	Minimum measurement distance*	Distance to measurement object (measuring field in m, pixels in mm)													
				0.05	0.1	0.2	0.3	0.5	1	2	4	6	10	30	100	
382 x 288 px																
29° x 22° Standard lens	13 mm	0.2 m	HFOV (m) VFOV (m) IFOV (mm)	0.025 0.019 0.1	0.051 0.038 0.1	0.104 0.78 0.27	0.16 0.12 0.4	0.26 0.20 0.7	0.53 0.39 1.3	1.06 0.79 2.7	2.11 1.58 5.4	3.17 2.36 8.1	5.3 3.9 13.4	15.9 11.8 40.3	52.9 39.4 134.4	
18° x 14° Telephoto lens	20 mm	0.3 m	HFOV (m) VFOV (m) IFOV (mm)			0.068 0.051 0.17	0.101 0.076 0.26	0.17 0.13 0.4	0.33 0.25 0.9	0.66 0.49 1.7	1.31 0.99 3.4	1.97 1.48 5.1	3.3 2.5 8.5	9.8 7.4 25.5	32.7 24.6 85.0	
53° x 38° Wide angle lens	8 mm	0.2 m	HFOV (m) VFOV (m) IFOV (mm)		0.107 0.076 0.3	0.21 0.15 0.5	0.31 0.22 0.7	0.51 0.35 1.1	1.01 0.70 2.2	2.00 1.39 4.4	4.00 2.78 8.8	6.00 4.17 13.2	10.0 6.9 22.0	29.9 20.8 66.0	100.0 69.5 220.0	
80° x 54° Super wide angle lens	6 mm	0.2 m	HFOV (m) VFOV (m) IFOV (mm)	0.069 0.047 0.2	0.149 0.098 0.3	0.30 0.20 0.6	0.46 0.30 0.9	0.78 0.51 1.5	1.57 1.01 3.0	3.14 2.03 6.0	6.29 4.06 12.0	9.43 6.10 18.1	15.7 10.2 30.1	47.3 30.5 90.3	157.7 101.7 300.9	

FOV: Horizontal expansion of the total measuring field at the object level; VFOV: Vertical expansion of the total measuring field at the object level;
IFOV: Size of the individual pixels at the object level

* Please note: The measurement accuracy of the camera may lie outside of the specifications for distances below the defined minimum measurement distance.



Scope of supply (standard)

- TIM 40
- USB cable 1 m
- PIF cable incl. terminal block (1 m)
- Mounting angle with tripod thread, mounting nut
- TIMConnect Software
- Assembly instruction