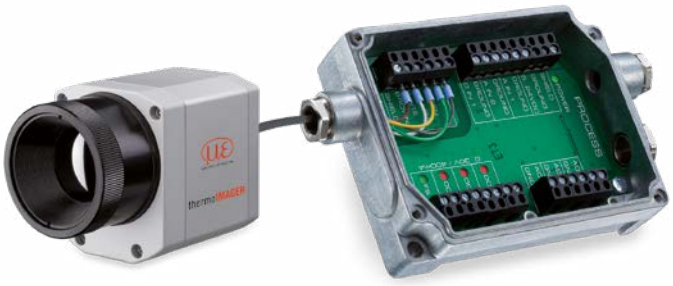
MICRO-EPSILON

More Precision

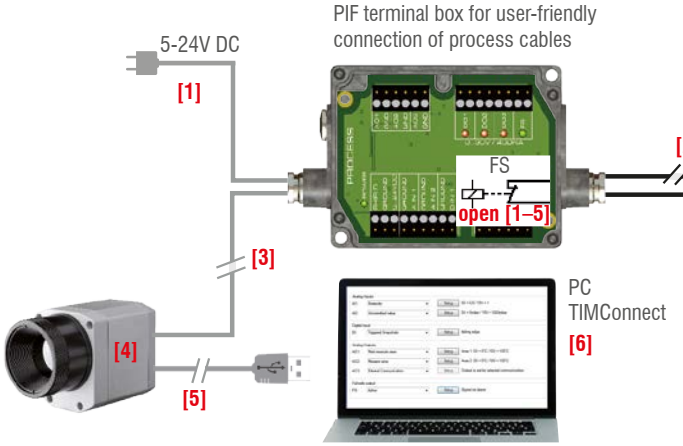
thermoIMAGER TIM // Compact thermal imaging cameras

Industrial process interface
Camera and process control for use in industrial environments

- Industrial process interface with 3 analog / alarm outputs, 2 analog inputs, 1 digital input, 3 alarm relays
- 500 V AC_{RMS} galvanic isolation between TIM camera and process
- Separate fail-safe relay output
- TIM hardware with all cable connections and the TIMConnect software are permanently monitored during operation



Exemplary fail-safe monitoring of the TIM camera with connected PLC



Fail-safe status:

Normal: relay closed LED on
Alarm: relay opened LED off

Fail-safe monitoring status:

[1] PIF power supply failure

[2] Cable breakage of the fail-safe cable

[3] Interruption of the TIM PIF connection cable

[4] Malfunction of the TIM camera

[5] Failure of the TIM power supply / interruption of USB cable

[6] Malfunction of the TIMConnect software

Model	Industrial process interface
Protection class	IP65 (NEMA-4)
Ambient temperature	-30 ... 85 °C
Storage temperature	-30 ... 85 °C
Relative humidity	10 to 95 %, non-condensing
Vibration resistance	IEC 60068-2-6 (non-condensing)/ IEC 60068-2-64 (broadband noise)
Shock resistance	IEC 60068-2-27 (25 g and 50 g)
Weight	610 g (with 5 m cable)
Cable lengths	5 m, optional 10 m and 20 m or HT cable (180 °C or 250 °C)
Power supply	5 to 24 V DC
LED indicators	2 green LEDs for voltage and fail safe / 3 red LEDs for alarm relay status
Insulation	500 V AC_{RMS} between TIM camera and process
Outputs	3 analog / alarm outputs | 3 alarm relays [1]
Inputs	2 analog inputs | 1 digital input
Ranges	0/4-20 mA (for AO 1 – 3) 0 – 30 V / 400 mA (for alarm relays DO1 – 3) 0 – 10 V (for AI 1 – 2) 24 V (for DI)
Analog inputs	Emissivity setting | Ambient temperature compensation | Reference temperature | Uncommitted value | Flag control triggered snapshots, triggered recordings, triggered line scan camera, triggered event grabber | Reset max./min. search
Digital input	Flag control | Triggered snapshots, triggered recordings, triggered line scan camera, triggered event grabber | Reset max./min. search
Analog Outputs	Main measuring range | Measuring range | Internal temperature | Flag status | Alarm | Frame synchronization | Fail safe External communication | Central pixel (direct output) [2]

[1] active if AO1, 2 or 3 is/are programmed as alarm output. [2] Function only available for TIM M-1 models

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