



More Precision

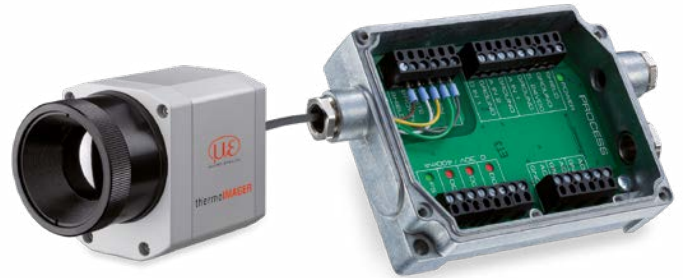
thermoIMAGER TIM // Compact thermal imaging cameras



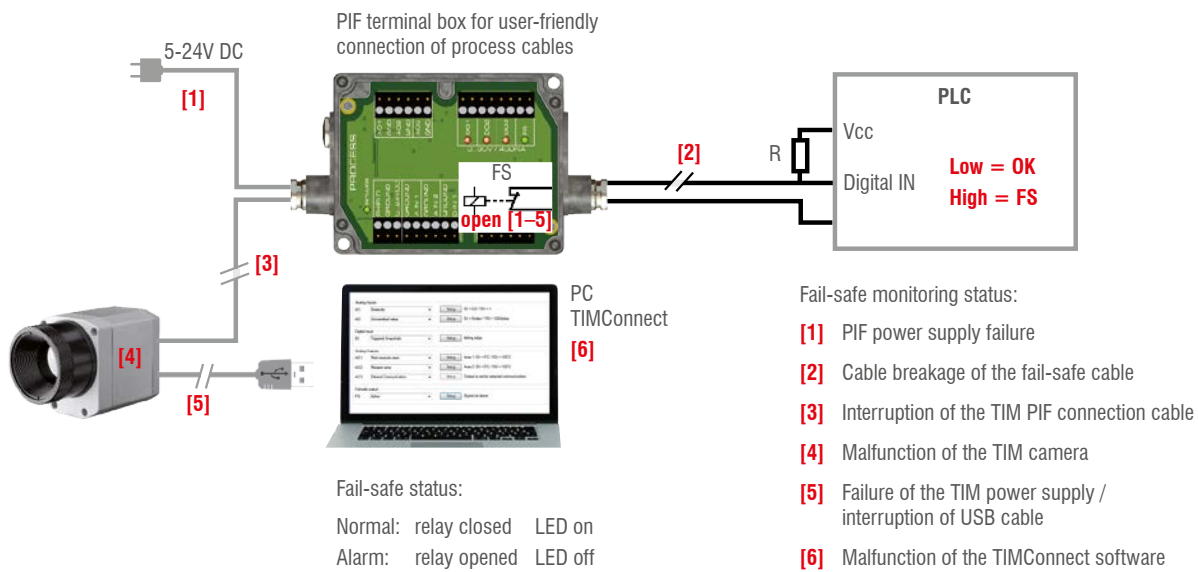
Industrial process interface

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
- 500V 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



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

¹⁾ active when AO1, 2 or 3 is / are programmed as alarm output ²⁾ available only for the models TIM M1 / TIM M05

High performance sensors made by Micro-Epsilon



Sensors and systems for displacement and position



Sensors and measurement devices for non-contact temperature measurement



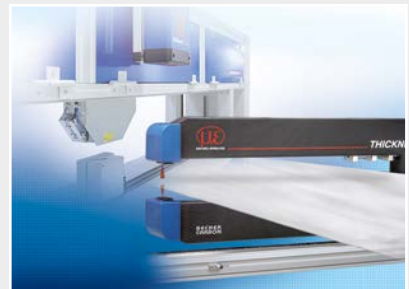
2D/3D profile sensors (laser scanner)



Optical micrometers, fiber optic sensors and fiber optics



Color recognition sensors, LED analyzers and color online spectrometer



Measurement and inspection systems