



More Precision

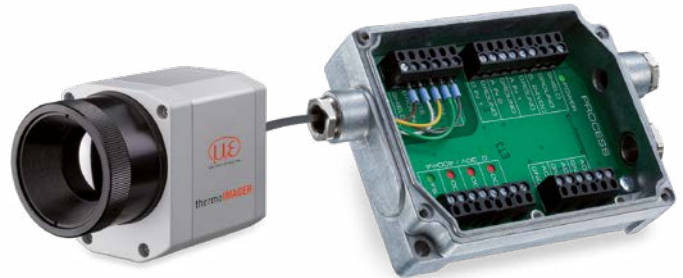
thermo**IMAGER** TIM // Compact thermal imaging cameras



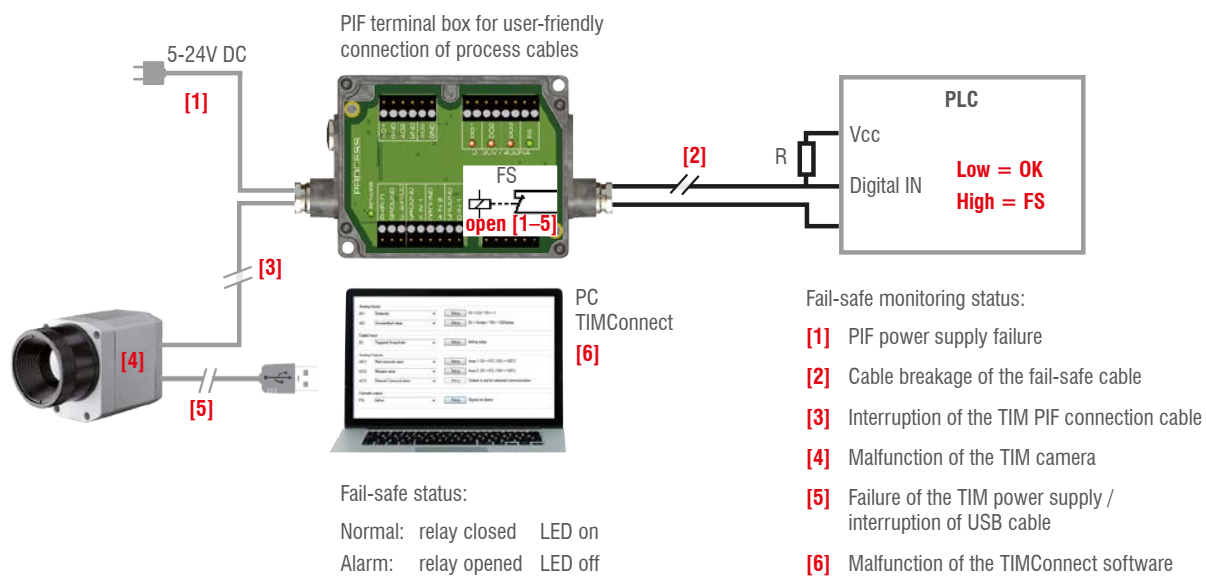
Industrial process interface

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



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

Sensors and Systems from Micro-Epsilon



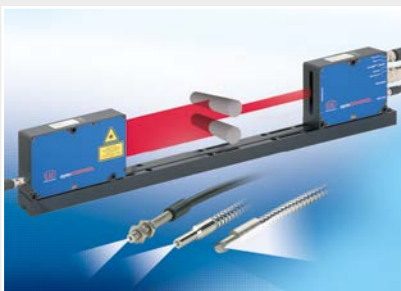
Sensors and systems for displacement, distance and position



Sensors and measurement devices for non-contact temperature measurement



Measuring and inspection systems for metal strips, plastics and rubber



Optical micrometers and fiber optics, measuring and test amplifiers



Color recognition sensors, LED analyzers and inline color spectrometers



3D measurement technology for dimensional testing and surface inspection