Software

Installation

➡ Connect the USB stick to your PC and launch the `setup.exe` or use the following link to download the software:
www.micro-epsilon.de/tim8

➡ Follow the instructions in the wizard until the installation has been completed.

After installation, you will find the software on your desktop (as a program icon) and in the Start menu under `Start\Programs\TIM Connect`.

If you want to uninstall the software, please use `Uninstall` in the Start menu.

Connecting the Camera

The device can either be powered by PoE via the Ethernet connection and a managed PoE switch or using a separate power supply via the process interface cable.

Alternatively, the camera can be connected to your PC using the USB cable.

ℹ Please be mindful of the limited device frequency (4 Hz) when doing so. First, connect the USB cable to the camera and then connect the camera to the PC.

You can download a PDF of detailed operating instructions from our website:
https://www.micro-epsilon.com/tim8

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TIM 41   PoE Adapter   PC

Ethernet   Ethernet
Ethernet PoE Switch
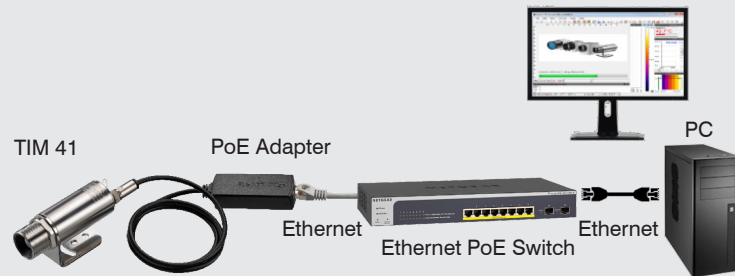
PoE adapter and Ethernet PoE switch connection option for TIM 41

➡ Carry out the steps in reverse order to disconnect the camera from the PC.

➡ Now apply the network settings on your PC, see operating instructions.

The device is delivered with the following factory settings:

TCP/IP Settings	— □ ✕
Device address (TIM41 #21024284):	192 . 168 . 0 . 101
Send to address (local computer):	192 . 168 . 0 . 100
Subnet mask:	255 . 255 . 255 . 0
Port number:	50101
☑ auto assign port number	

OK   Cancel

Minimum System Requirements
- Windows 7, Windows 10
- USB interface
- Hard drive with at least 30 MByte storage space
- At least 128 MByte RAM

Starting the Software

ℹ To change the language settings, go to `Extras > Language`.

➡ Start the software and activate the Ethernet function.

➡ To do this, go to `Devices > Activate Ethernet`.

A Windows Firewall window will appear.

ℹ Make sure that all three networks are allowed in order to ensure a connection to the device.

The camera is now ready for the Ethernet connection and will be listed in the menu under `Devices`.

➡ Select the device and a connection to the camera will be established.

The calibration data is already provided on the device and a real-time camera image will appear on your screen after successful installation.

➡ Load the layout `TIM8_TIM40 camera` in the menu under `Extras > Layout > Layout`.

The TIM 41 camera has motorized focus, which can be set in the software via the menu `View > Window > Distance`.

Distance	✕
⏮ ⏪ ◀	▶ ⏩ ⏭
0 44,2 ∞	
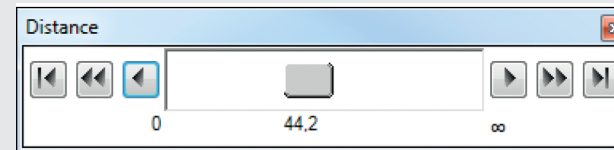
Setting the motorized focus in the TIM Connect software

MICRO-EPSILON

Assembly Instructions
thermoIMAGER TIM 41

Functions

The thermoIMAGER TIM 41 camera measures the infrared radiation emitted by objects and calculates the surface temperature based on this. The two-dimensional detector (FPA – focal plain array) provides a two-dimensional measurement, which is displayed as a thermographic image via standardized color scales. Radiometric processing of the image data allows for subsequent detailed image analysis using the convenient TIM Connect software.

Warnings

Connect the power supply and the display/output device according to the safety regulations for electrical equipment.

> Risk of injury

> Damage to or destruction of the camera

Avoid pointing the camera at sources of intense energy (e.g. devices that emit laser radiation or reflections thereof). This also applies when the camera is switched off.

> Impairment of measurement accuracy

> Irreparable damage to the infrared detector

Avoid static charging and do not allow the device near strong electromagnetic fields (e.g. arc welding equipment or induction heaters).

> Damage to or destruction of the camera

Avoid shocks, impacts and vibrations to the camera.

> Damage to or destruction of the camera

The supply voltage must not exceed the specified limit.

> Damage to or destruction of the camera

Avoid exposure of camera (both optics and housing) to cleaning agents that contain solvents.

> Damage to or destruction of the camera

Avoid abrupt changes in ambient temperature.

> Incorrect device displays

Protect the USB cable against damage.

> Failure of the camera

Notes on CE Marking

The following apply to the thermoIMAGER TIM 41 measuring system:
- EU Directive 2014/30/EU
- EU Directive 2011/65/EU

The sensor satisfies the requirements if the guidelines in the operating instructions are maintained in installation and operation.

Unpacking/Included in Delivery

- 1 thermoIMAGER TIM 41
- 1 USB cable (1 m)
- 1 Ethernet PoE cable: 1 m
- 1 Mounting nut and mounting bracket (adjustable in one axis, tripod socket)
- 1 Process interface cable inclusive terminal block (1 m)
- 1 USB stick with TIM Connect software package
- 1 Assembly instructions

Mechanical Installation

The thermoIMAGER TIM 41 camera has a socket for a tripod and can either be secured using this socket or using the mounting nut (M30 x 1). Alternatively, the mounting bracket provided may be used.
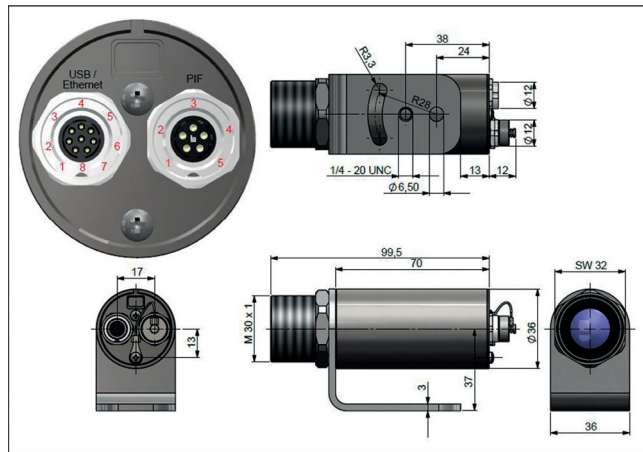
*Dimensional drawing of thermoIMAGER TIM 41, dimensions in mm (inches)*

Pin Assignments

TIM 41 Plug

Pin	USB	Ethernet	PIF
1	VCC		VCC
2	D+		RS485 or AO
3	D-		RS485 or AI
4		Tx+	GND
5		Tx-	GND-ISO
6		Rx+	
7		Rx-	
8	GND		

Left: Plug for USB/Ethernet [1] / PoE cable
Right: Plug for inputs and outputs or RS485

1) When using the Ethernet interface, either a PoE source or a 5 ... 30 V DC power supply via the terminal block must be used.

TIM 41 Process Interface
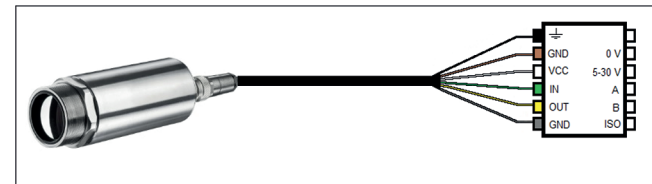
Connection diagram of thermoMETER TIM 41 terminal block

Name		Description	Color
⏚		Shielding	Black
GND	0 V	Ground	Brown
VCC	5 - 30 V	Power supply [1]	White
IN	A	Analog/digital input or RS485 (A)	Green
OUT	B	Analog output or RS485 (B)	Yellow
GND	ISO	Isolated ground for IN and OUT	Gray

Connection diagram of thermoMETER TIM 41 terminal block

The TIM 41 offers the following direct inputs and outputs:

Name	Description	Max. Range / Status
AI	Analog input	0 - 10 V [2]
or	Digital input	24 V
DI	(Low active = 0 ... 0.6 V)	
AO	Analog output	0/4 - 20 mA
	Alarm output	0/4 - 20 mA

1) Power supply only required when using the Ethernet connection (without PoE) or during autonomous operation

2) The AI is designed for max. 24 V, but voltage levels above 10 V are not used.

In addition to the direct inputs and outputs mentioned above, the TIM 41 also has an RS485 interface. The external, industrial PIF can be controlled via this interface.