



Thermal Camera PCE-TC 31

160 x 120 Pixel / Temperature Range up to 350 °C / PC-Reporter-Software included / internal Flash Memory for more than 1000 Pictures / Thermal sensitivity ≤ 0.1 °C

At the core of this thermal camera PCE-TC 31 is an uncooled focal plane array with a resolution of 160 x 120 pixels. The thermal camera PCE-TC 31 is ergonomical and easy to use with only one hand. Thanks to its light weight of only 600g, it's ideal for the analysis of machines and systems, for thermographics in construction, for industrial maintenance and many other applications. The thermal camera PCE-TC 31 offers a measurement accuracy of ± 2 °C or ± 2 % within a temperature range of -20 °C to +350 °C, and with a sensitivity of only 0.1 °C (at 30 °C) . Two moveable points can be manipulated in situ on the camera's colour display upon which the corresponding temperature is shown. This device also allows the user to automatically see the Hot-Spot and Cold Spot. With these top-of-the-range functions, irregularities can immediately be spotted and appropriate measures can be taken in situ. The integrated laser pointer allows for the device to be accurately aimed to ensure that the correct area is being measured. Images that are saved to the camera's SD memory card can be transferred to a computer via the USB port or it is also possible to take measurements while the camera is connected to a computer. Software comes included and it does more than just allow for analysis of thermal images: it permits the user to generate reports without extensive knowledge of or experience using the device. [Here](#) you will find other thermal cameras with similar characteristics to this one. This [link](#) shows an overview of all the thermal cameras that you could need. We would gladly to assist you in choosing the best device to suit your requirements. If you have questions about the Thermal Camera, see the technical data below or contact us. Our technicians and engineers will be happy to advise you on this Thermal Camera or any other product on the field of [regulation and control](#) or [scales and balances](#) of PCE Instruments.



Contact:

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- 160 x 120 Pixel
- 60Hz Frame frequency
- Hot Spot and Cold Spot
- automatic temperature range adjusting
- ≤ 0.1 °C thermal sensitivity
- 1.3 mrad spatial resolution
- 2.5 " color LCD
- PC-Reporter Software included

Technical specifications of the thermal-camera PCE-TC 31

Detector Performance

Type	Uncooled focal plane
Resolution	160 x 120 Pixel
Range of λ	8 ... 14 μm
Thermal sensitivity	≤ 0.1 °C @30 °C

Image Performance

Frame frequency	60 Hz
LCD	High resolution 2.5 " color LCD

Lens parameter

Field of view	18 ° x 13 °
Focusing	0,3 m ... ∞

Focus type

Manual

Spatial resolution

1.9 mrad

Measurement analysis

Measurement range -20 ... +350 °C

Measurement accuracy ± 2 °C

Palette

3

Measurement calibration

Auto/Manual

Measurement mode

Spot temperature measurement and area temperature measurement (Maximum, minimum and mean value)

Quantity of measurement spot

1

Quantity of measurement area

1

Measurement analysis mode

Isothermal temperature, Temperature difference, Temperature alarm (voice, color)

Setting function

Date/Time, Temperature unit °C / °F / K, Language

Emissivity revise

Range: 0.01 ... 1.0 or revise according the pre-defined emissivity table.

Background temperature revise

Auto, based on the background temperature

Image storage

Medium type

Internal Flash

Capacity

64 MB

Store Type

Manual single frame image save

File format

JPEG, 14 bits data

File size

60 KB (typical value)

Laser

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Laser indicator	Second class, 2,1 mW/ 635 nm Red
Power system	
Battery type	Rechargeable lithium battery
Battery working time	≥3 h
Power save mode	Yes
Environment parameter	
Ambient temperature	-15 ... +50 °C
Humidity	≤90 % r.H. (Non-condensable)
Preventive class	IP54
Appearance	
Size	250 mm x 100 mm x72 mm
Weight (exclude battery)	0,6 kg
Interface	
USB	Standard Mini USB interface

Thermal Camera PCE-TC 31

The thermal imaging camera is not just used for inspections for the evaluation of machine parts. The thermal camera is the perfect device to create clear and significant results to the current operating condition of machinery, equipment and technical systems. The beauty is that these checks and measurements during operation are possible so that errors can be detected in time before it comes to faults and shutdowns of production facilities. If an industrial enterprise, a machine fails, caused operating losses of 1.000£ / h and more, which would have the use of thermal imaging cameras can be prevented.



Contact:



Calculation example:

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Formula: $t \text{ amortization} = \frac{\text{purchase}}{\text{operating losses} / h}$

Electrical Trades: $t \text{ amortization} = \frac{1395 \text{ £}}{80 \text{ €} / \text{£}} \approx 18h$

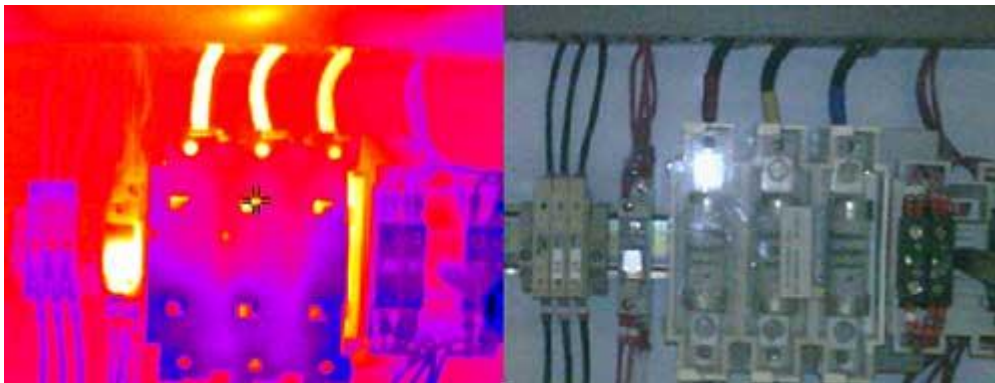
Mechanical engineering: $t \text{ amortization} = \frac{1395 \text{ £}}{280 \text{ £} / h} \approx 5h$

Woodwork: $t \text{ amortization} = \frac{1395 \text{ £}}{2800 \text{ £} / h} \approx 30 \text{ min}$

Metallurgy: $t \text{ amortization} = \frac{1395 \text{ £}}{50.000 \text{ £} / h} \approx 2 \text{ min}$

Preventive servicing and maintenance of low voltage

Preventive thermal cameras like the PCE-TC 31 are widely used for electrical inspections. Loose electrical connections will be opposite to the flow resistance, leading to a rise in temperature. Under certain circumstances, this causes the failure of components. Unforeseen system failures, short circuits or major fires with significant costs are the result. Before failure also decreases the efficiency of an electric system because energy is consumed to generate heat, and thus additional losses. This can be avoided with the thermal imaging camera, as you recognize the evolving faults before they occur and take appropriate preventive measures.



Preventive servicing and maintenance in the high voltage area

Using a thermal camera to be checked power transformers. To engage preventive if necessary, the temperatures of the fin and the high-voltage connections can be compared. Other high-voltage systems are also checked with a thermal camera are circuit breakers and switching devices and high-voltage lines. In the infrared image to potential problem areas can be clearly seen.

Preventive servicing and maintenance in the field of mechanics

Mechanical systems are the heart of the operation in many areas of production. When monitoring of mechanical systems using a thermal camera thermographic data can be an invaluable source of additional information for vibration tests therefore the thermal cameras PCE-TC 31 is ideal for the prevention of such applications on construction sites and managing the home.

Use in road construction

Contact:





When delivering asphalt to construction limits must be observed. So the mix in the final bucket must be evenly distributed, so that a uniform distribution of temperature above 150 ° C is guaranteed. Even temperature distribution means here that there are no cold mixing batches may form in corners and winding. For this, the use of thermal camera PCE-TC 31 is ideal. With the thermal camera PCE-TC 31, it is possible to easily and quickly scan the entire mix to cold places. The cost of normal thermometers is annoying and time consuming, as the thermometer must be inserted at various points in the mix. This is not the case with the thermal camera PCE-TC 31. With the thermal camera PCE-TC 31, it is even possible to examine the mix in the discharge of cold spots. Such a thing is not possible with ordinary thermometers.

Below you see a list of other applications of the thermal camera:

- Bearings and housing
- Belt and chain drives
- Conveyor belt bearing
- Alignment of coupling (coupling systems)
- Heat exchanger
- Air conditioning
- Ventilation
- Pipe Insulation
- Pumps
- Compressors
- Heat-resistant insulation
- Vapor separator
- Valves
- Blowers
- Welding Robot
- Electric motors
- Distribution
- Control inspections
- Electrical connection problems
- Fuses and Circuit
- Transformer Cooling

Excerpt from the thermal camera software:



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Delivery Content:

- 1x Thermal camera PCE-TC 31
- 1x Reporter software
- 1x USB cable
- 1x Carry box
- 1x Lithium batteries
- 1x Battery charger
- 1x Lens cap
- 1x Adumbral cover
- 1x Manual PCE-TC 31
- 1x Manual Reporter Software

Below you can find more products of the category "[Thermal Camera](#)"

- [Thermal Camera PCE-TC 9](#)

(-20 ... +250 °C, 384 x 288 Pixel, motorized Auto-Focus)

- [Thermal Camera Flir i3 / i5 / i7](#)

(-20 ... +250 °C, up to 140 x 140 Pixel, focus free, compact and lightweight)

- [Thermal Camera Flir Ebx-Series](#)

(-20 ... +120 °C, up to 320 x 240 Pixel, picture-in-picture, interchangeable lens)

- [Thermal Camera Flir B-Series](#)

(-20 ... +120 °C, up to 320 x 240 Pixel, dew-point and thermal-bridge alarm)

- [Thermal Camera Flir E-Series](#)

(-20 ... 120 °C, data transfer to smart-phone or tablet-PC, picture-in-picture function)

- [Thermal Camera FLIR T- Series](#)

(-20 ... +650 °C, up to 320 x 240 Pixel, touchscreen, MeterLink)



Here you will find an overview of all the [measuring instruments](#) available at PCE Instruments.

Contact: