

Be sure. **testo**



# Building thermography.

Simply see more with the thermal imagers from Testo.

## Simply see more **without contact.**

Testo thermal imagers detect anomalies and damage to building shells or interiors quickly and reliably. Materials and components are subjected to completely non-destructive testing by means of an imaging procedure. Energy losses, thermal bridges and leaks can be located without contact. Whereas with other methods, cable or pipeline systems must be exposed over a large area, with a Testo thermal imager, a single glance is enough. The presentation of surface moisture for fast localization of potential mould risk in buildings is unique in building thermography.

### Testo thermal imagers for building thermography:

- prevent damage and save money
- stand out thanks to razor-sharp images
- ensure fast, comprehensive analysis
- are intuitively operated
- guarantee a large image section thanks to the wide-angle lenses



Optimum image resolution, high-quality system components and quality "Made in Germany": simply better thermography with Testo and the experience of 60 years in measurement technology!

### For day-to-day work in the building sector

Thanks to outstanding detector and lens quality as well as intelligent system solutions, no more details are ever overlooked: this applies equally to large-surface panorama images and to small sections of the measurement object. In addition to the intuitive menu, it is the PC software IRSofT in particular which guarantees fast and comprehensive analysis of the image data. Even the smallest temperature differences can be identified with the excellent temperature resolution of the Testo thermal imagers. Building thermography with Testo thermal imagers saves you time, energy and money. This makes for greater energy efficiency all round.

### Optimum image quality and innovative technology

Testo offers the right thermal imager for every application in building thermography. With high-quality optics and the best detector quality, Testo thermal imagers guarantee optimum image quality for every thermographic application. With SuperResolution technology, the geometric resolution of each thermal image is improved by a factor of 1.6 – with four times more pixels. This allows extremely high-resolution thermal images up to megapixel quality of 1280 x 960 pixels to be recorded.

### High-performance, intuitive and reliable

The intuitive operation and the user-friendly handling offer security and flexibility in every situation. The high-performance PC software IRSofT offers extensive functions for the professional analysis of your thermal images: It allows sophisticated image analyses, provides templates for convenient reporting and with TwinPix, offers image overlay of real and thermal images. This means the information from both these images can be presented together in one image on the PC.



### What is thermography?

Infrared radiation cannot be seen by the human eye. Thermal imagers, on the other hand, can convert this infrared radiation into electrical signals and present them as a thermal image. This makes the heat radiation visible for humans.

# Testo thermal imagers in building thermography.

Thermography has proven its worth as a tool for discovering weaknesses in buildings. With the Testo thermal imagers, you can reliably detect energy losses and carry out energy consultations efficiently.



### 1. Detect structural defects and safeguard construction quality

Analysis with a Testo thermal imager is a fast and efficient method of detecting possible construction faults. In addition to this, Testo thermal imagers are ideally suitable as proof of the quality and the correct implementation of structural renovation measures. Heat loss, moisture and lack of air-tightness in a building are visible in a thermal image. Faulty thermal insulation and structural damage are also detected – without contact!

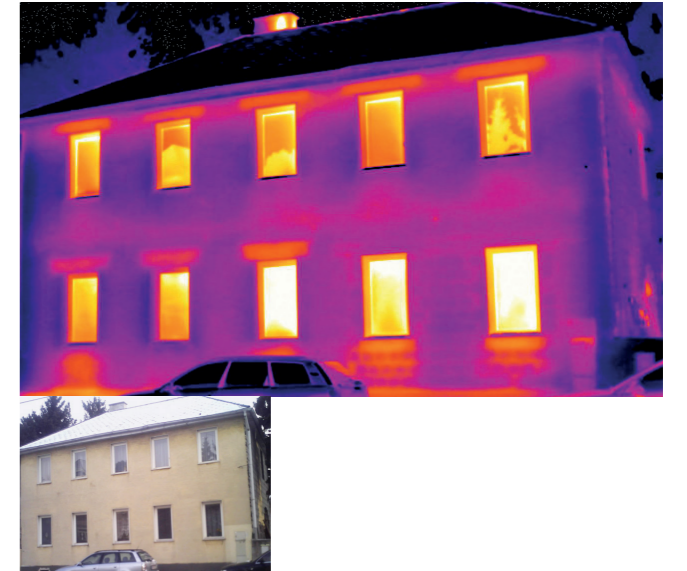


### 2. Carrying out detailed energy consultancy

In building thermography, infrared technology is ideally suited for the fast and effective analysis of energy losses in the heating or air conditioning of buildings. Thanks to their high temperature resolution, Testo thermal imagers provide detailed images of inadequate insulation and thermal bridges. They are ideal for the recording and documentation of energy losses on outer windows and doors, roller blind casings, radiator niches, in roof structures or the entire building shell. Testo thermal imagers are the perfect measuring tool for comprehensive diagnosis and maintenance uses, and whenever providing energy consultation services.

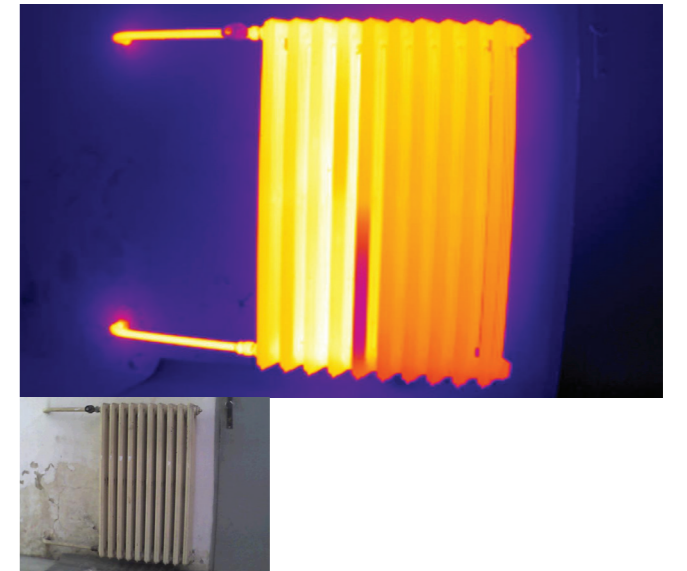
### 3. Analyse building shells at a glance

The task of taking thermal images of large buildings poses several challenges for users. Spatial restrictions due to walls, roads or safety zones around neighbouring buildings can make it impossible to capture the measurement object in a single image. In such cases, Testo thermal imagers help users obtain the necessary overview. The panorama image assistant can be used to combine several images of the building shell taken at close range into a single thermal image. Users can therefore identify thermal irregularities at a glance across the entire building shell with a high degree of detail.



### 4. Easy checking of heating systems and installations

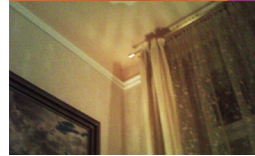
Testo thermal imagers can be used to quickly and reliably check heating, ventilation and air conditioning installations as they are easy and intuitive to operate. A glance with the thermal imager is enough to discover irregular temperature distribution. Silting and blockages in radiators, for example, are reliably detected.



### 5. Hot on the trail of a ruptured pipe

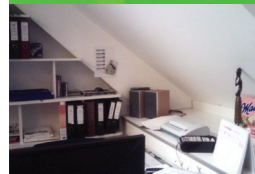
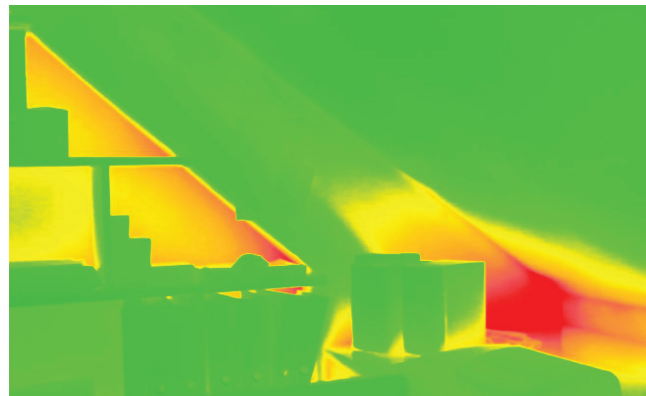
If a pipe rupture is suspected, the only solution left is often to break open entire wall or flooring areas. With Testo thermal imagers, you can minimise the damage and reduce the cost of your work. Leakages in underfloor heating and other inaccessible pipes are located precisely and without damage. This avoids opening up walls and floors unnecessarily and considerably reduces the repair costs.





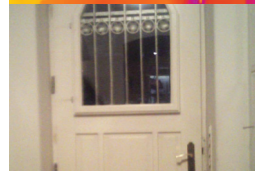
**6. Investigating moisture damage**

Not every damp wall is caused by a ruptured pipe. Rising damp or penetrating water due to the faulty implementation of rain and drain water flow-off can cause damp walls. Moisture damage can also occur due to blocked drains or insufficient seepage. Testo thermal imagers find the cause of rising damp or penetrating rain water straight away, before it can cause major damage.



**7. Prevent mould formation**

Thermal bridges waste energy. Condensation can also form in these places due to humidity in the ambient air. As a result, mould forms in these locations with the associated health risks for the occupants. Testo thermal imagers use the externally determined ambient temperature and humidity as well as the measured surface temperature to calculate the relative surface moisture value for each measuring point. The mould risk is therefore visible on the display before it becomes visible to the naked eye: areas at risk are displayed in red, those not at risk in green. This makes it possible to introduce measures to prevent dangerous mould formation at an early stage - including in hidden corners and niches.

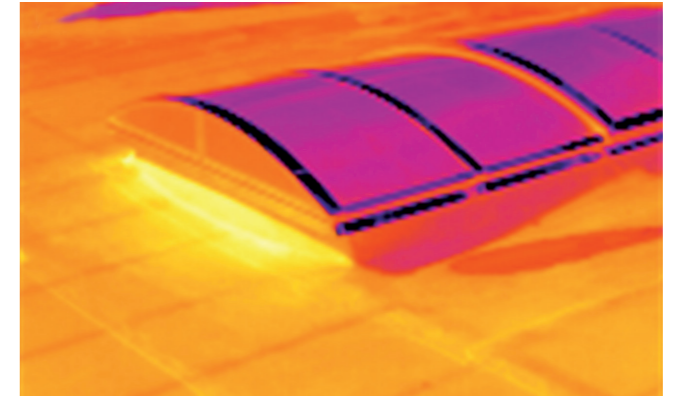


**8. Testing the air tightness of new builds**

If doors or windows are not correctly fitted, in winter cold air can enter or warm indoor air can escape. This results in draughts, increased ventilation heat loss and above all high energy costs. The combination of thermography and BlowerDoor has proved its worth. This procedure involves creating a negative pressure in the building, so that cool outside air can flow into the interior of the building through leaky joints and cracks. The Testo thermal imager makes it far easier to detect the leaks. Any leaks are thus located before facings and fittings for the new build make repair work complicated and costly.

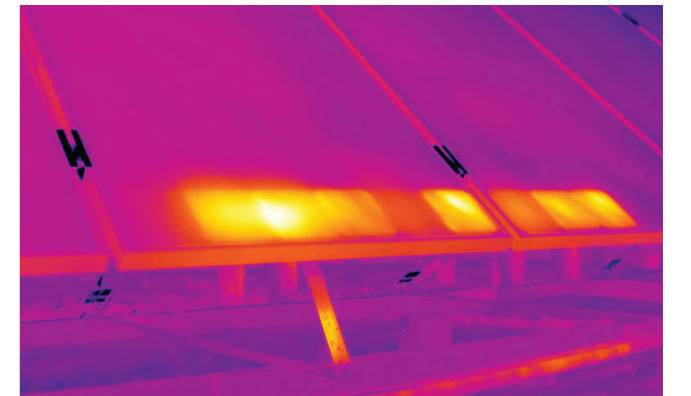
**9. Locate roof leaks exactly**

Damp areas in the roof structure, in particular in flat roofs, store the warmth from the sun for longer than intact areas. This means the roof structure cools unevenly in the evenings. Testo thermal imagers use these temperature differences to pinpoint the exact roof areas with trapped moisture or damaged sealing.



**10. Monitoring and checking solar energy systems**

There are two main reasons for inspecting solar energy systems: safety and performance monitoring. Solar energy systems achieve their top performance in full sunshine. Testo thermal imagers can be used to monitor photovoltaic systems of all sizes in a way that is wide-ranging, contact-free and exceptionally efficient. Malfunctions are detected, the proper functioning of all components is ensured and the greatest possible efficiency is thus achieved. The option of inputting solar radiation intensity, the key measurement parameter, offers extra reliability. The value entered is stored with the thermal image and is subsequently available for image analysis.



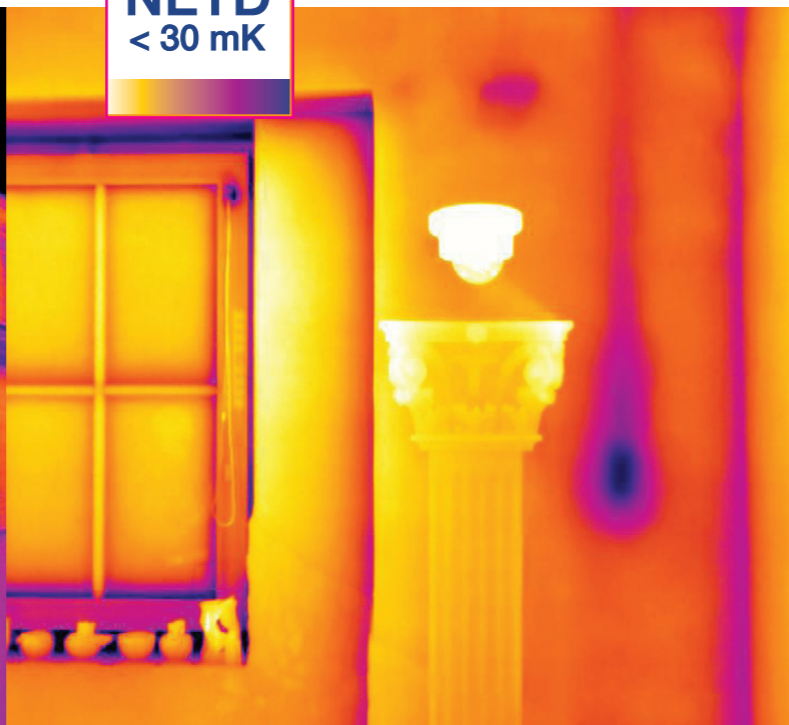
## Innovative technology – easy to use.

Testo thermal imagers offer optimum image quality and intelligent system components. In order to carry out thermographic applications with the highest possible level of security and efficiency, Testo's engineers have not only developed innovative technologies, but also optimally adjusted them to each other in the thermal imagers. This means that every Testo thermal imager is an intuitively operated, highly developed thermography system.

640  
X  
480



NETD  
< 30 mK



### Outstanding image quality

The heart of the thermal imager is the detector. In this regard, Testo values outstanding quality. In Testo thermal imagers, detectors from 160 x 120 pixels up to 640 x 480 pixels are at work. In combination with the premium-quality germanium lenses, an optimum image resolution is ensured in any situation. In addition to this, using the Testo SuperResolution - technology, extremely high-resolution images with up to 1280 x 960 pixels can be recorded.

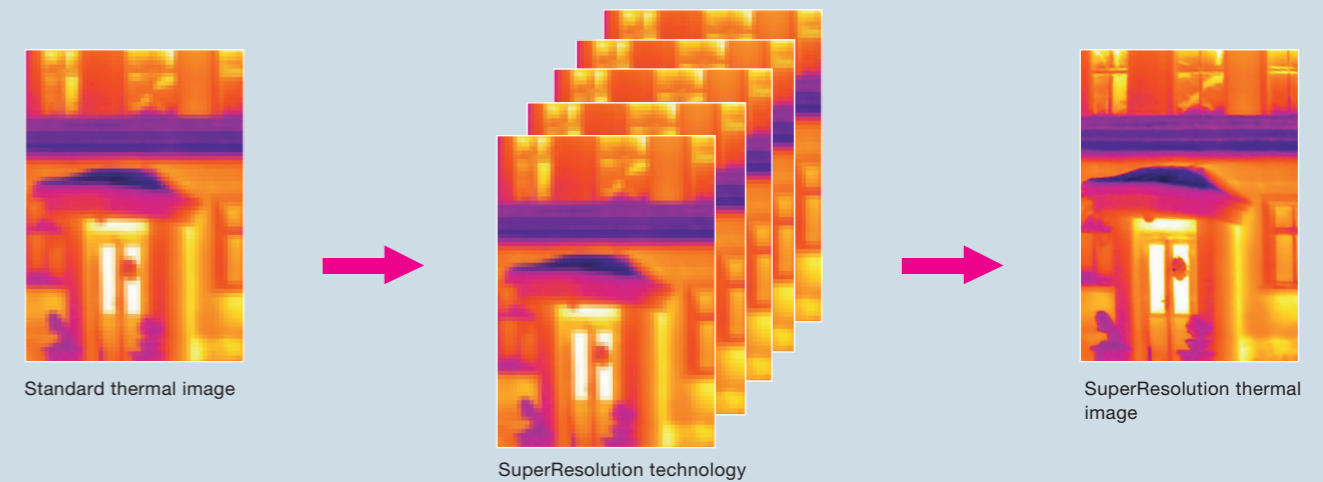
To measure the slightest temperature differences, the best possible thermal sensitivity (NETD) is also essential. Testo thermal imagers offer an excellent NETD of up to < 30 mK. In combination with a high image resolution, this allows the finest temperature differences in the smallest structures to be made visible.

## The SuperResolution technology.

### High-resolution thermal images

Optimum thermographing is basically very simple: the better the image resolution and the more pixels, the more detailed and clearer the display of the measuring object will be. And high-resolution image quality is particularly essential if you are unable to get very close to the measuring object

or need to detect the finest structures. This is because the more you can detect in the thermal image, the better your analysis will be.



### Simply see more with SuperResolution

With the SuperResolution technology included in all Testo thermal imagers, the image quality of the Testo thermal imagers is improved by one class, i.e. by four times more pixels and a geometric resolution improved by a factor of 1.6. For example, 160 x 120 pixels turn into 320 x 240 pixels at a stroke, or 640 x 480 pixels into 1280 x 960 pixels.

The innovation from Testo uses your natural hand movements and takes multiple, slightly offset images very rapidly one after another. These are then processed into one image by means of an algorithm. The result is four times more pixels and a considerably better geometric resolution of the thermal

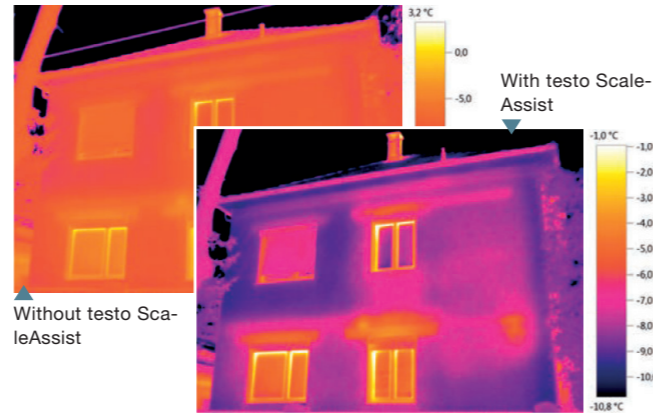
image. The SuperResolution technology thus delivers high-resolution thermal images with up to 1280 x 960 pixels. In most testo Thermal imagers, the SuperResolution thermal images can now be viewed directly in the imager and in the Thermography App.



## Useful functions for the Testo thermal imagers.

### testo ScaleAssist: Comparable thermal images

With testo ScaleAssist, the correct evaluation of construction errors and thermal bridges is easier than ever before, since the thermal image scale is automatically and optimally set. This prevents interpretation errors which can be caused by a false evaluation of the scaling. Undesired extreme temperatures are automatically filtered out, and building faults realistically presented. This makes infrared images comparable in spite of altered ambient conditions. This is of great significance in before-and-after images, for example.



### testo ε-Assist: Set emissivity automatically

For precise thermal images, it is important to set the emissivity ( $\epsilon$ ) and the reflected temperature (RTC) of the object in the imager. Up to now, this has been time-consuming, with a tendency to inaccuracy. testo  $\epsilon$ -Assist changes all that: Simply attach one of the reference stickers ( $\epsilon$ -markers) included in delivery to the measurement object. Via the integrated digital camera, the thermal imager recognises the sticker, determines the emissivity and reflected temperature and sets both values automatically.



### The testo Thermography App

With the free testo Thermography App, available for iOS and Android for almost all thermal imagers, compact reports can be made quickly, saved online and sent by e-mail. Apart from this, the App offers useful tools for fast analysis on site – for example for inserting additional measurement points, determining the temperature development via a line or adding comments to a thermal image. Also very useful, with the App you can transmit thermal images live to your smartphone/tablet, and can use it as a second display – for example for your customers.



### Connectivity with testo 605i and testo 770-3

Thermal imagers such as the testo 883 connect wirelessly with the thermohygrometer testo 605i and the clamp probe testo 770-3. The measurement values of both compact measuring instruments are transmitted to the imagers by Bluetooth. This allows you to identify quickly and clearly in the thermal image where exactly in a building damp spots are located or at what load a switching cabinet is running.



### Versatile, exchangeable lenses

Thanks to their ability to use several lenses, the thermal imagers testo 883 and testo 890 can be flexibly adapted to different measurement requirements. For a large field of view and thus faster work, there are the imagers with wide-angle lens. If the application requires the resolution of small structures or if images need to be taken from a large distance, telephoto lenses are available.



### Special lens protection glass

In order to save the valuable Germanium lenses from damage, the Testo thermal imagers offer a special glass for the optimum safeguarding from scratching or dust.



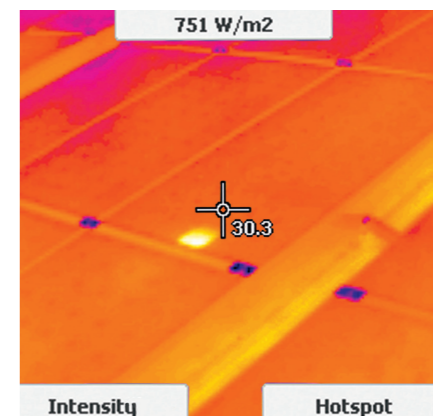
### Integrated digital camera

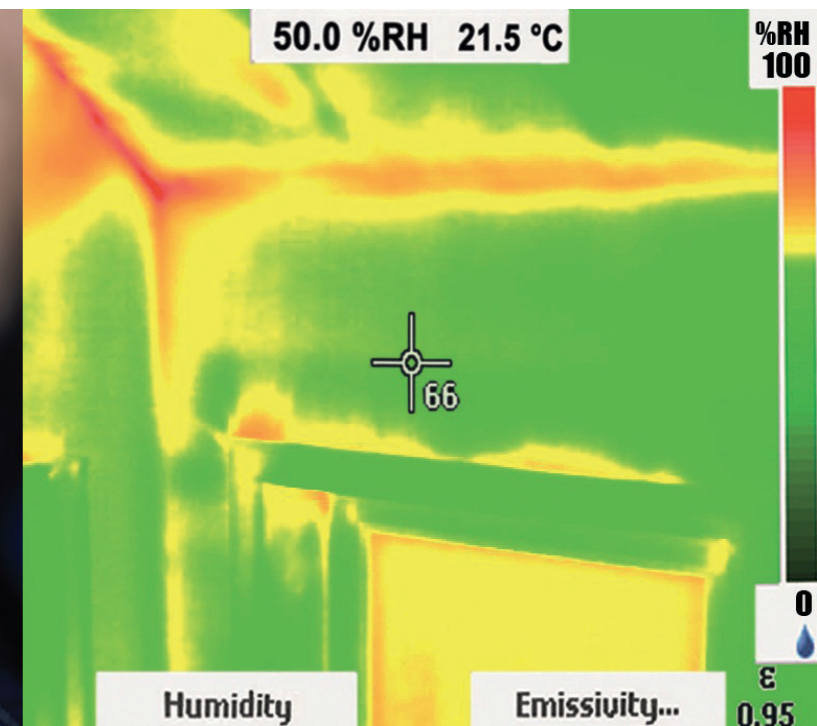
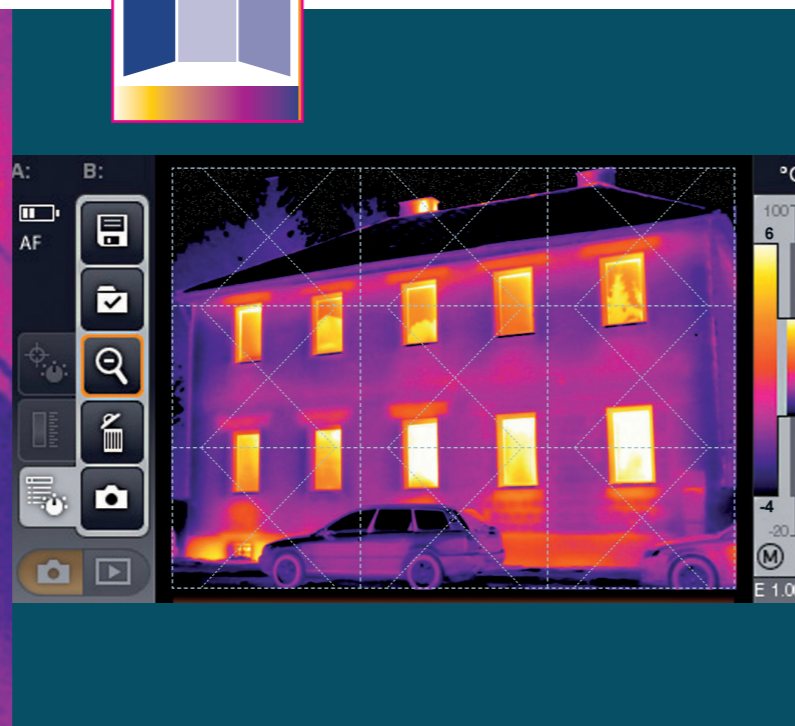
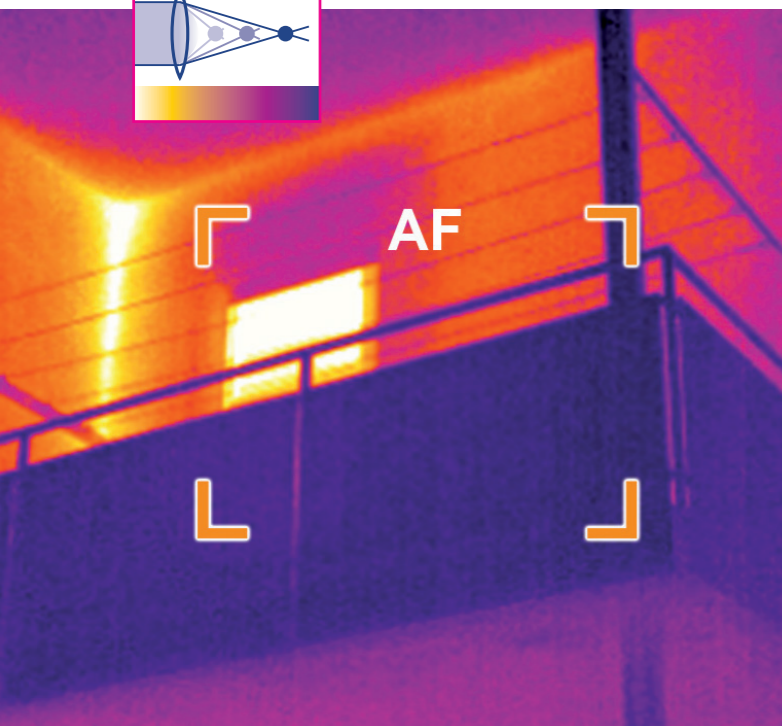
Almost all Testo thermal imagers have an integrated digital camera, with which a real image of the measurement object can be recorded parallel to the thermal image. This means that there is a real image for every thermal image. The power LED integrated in the testo 890 guarantees optimum illumination of dark areas when recording real images.



### Safe solar mode

When monitoring solar plants, the radiation intensity of the sun plays an important part. If this is too low, a meaningful thermographic measurement is not possible. In the Testo thermal imagers' solar mode, the solar radiation value can be quite simply entered into the imager. This value is not lost, as it is stored with each thermal image and is available for evaluation in the PC software.





#### Proper focussing

A clearly focussed measuring object is a prerequisite for any thermographic measurement. With Testo thermal imagers, focussing can be carried out according to personal preference: whether manually, with the motor focus, FixFocus or by auto focus – the user has the choice.

#### Useful panoramic image assistant (testo 890)

Taking thermographic measurements on very large objects presents the user with a great challenge. He is always faced with the conflict between attention to detail and the most complete object coverage possible. In order not to have to administer, view and compare several images, but to be able to analyse and document the entire object at a glance, there is the Testo panorama image assistant. It allows several individual images to be collated into one overall image. This creates an overall image with a high level of detail.

#### Parallax-free laser marker

In order to keep an overview in complicated measurement situations, the laser marker is shown in the display of the Testo thermal imagers. This orientation point mirrors the measurement spot which the laser is pointing at on the measurement object, free of parallax. This means that the display shows exactly the temperature at the location to which the laser is pointing.

#### Unique humidity measurement

Testo thermal imagers reveal sites at risk of mould, such as ceilings, walls or corners, directly on the camera display points at risk are displayed in red, points not at risk appear green. Testo thermal imagers use the externally determined ambient temperature and humidity as well as the measured surface temperature to calculate the relative surface moisture value for each measuring point. Additionally, an external wireless humidity probe can be connected, with which the ambient parameters are transmitted to the thermal imager, making the measurement even more convenient.

## The PC software **IRSoft**.

IRSoft – the high-performance PC software for professional thermography analysis from Testo. IRSoft enables thermograms to be analysed comprehensively on a PC. It is characterised by its clear structure and excellent user-friendliness. All analysis functions are explained using easily comprehensible symbols. ‘Tool tips’ additionally provide explanations of each function by mouseover. This assistance simplifies image processing and allows intuitive operation. A fully functional version of the PC software IRSoft is included with all Testo thermal imagers.

### IRSoft – Precise analysis of thermal images

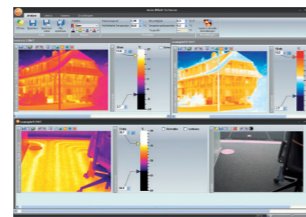
IRSoft enables users to conveniently process and analyse infrared images on a PC. Extensive functions are available for professional image analysis. For example, the different emission levels of various materials can be corrected afterwards for image areas, right up to individual pixels. The histogram function shows the temperature distribution of an image area. Up to five profile lines can be used to analyse the temperature curves. In order to visualise critical temperatures in an image, limit value violations as well as pixels in specific temperature range can be emphasised. In addition, unlimited measurement points can be set, hot/cold spots determined and comments on the analysis made.

### IRSoft – everything important at a glance:

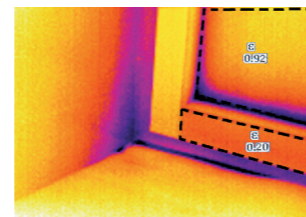
Several infrared images can be opened and analysed in parallel. All analyses in the images are visible at a glance and can be compared. Settings can be adjusted for either the entire infrared image or individual image sections. It is also possible to transfer current image corrections to all open infrared images with a mouse click.

### Easy creation of professional thermography reports

Infrared and real images are displayed in the screen during the analysis and automatically transferred into the report. This makes it possible to document the measurement results simply and professionally. The report wizard guides you step by step to a complete and clear report. Different templates are available for both short, quick reports and also more comprehensive documentation. The templates contain all the relevant information on the measuring location, measuring task and inspection results. In addition, the report designer can be used to create user-defined templates for individual reports.



Simultaneous evaluation and comparison of several images



Change the emissivity of certain areas, for precise temperature analysis



Multi-page reports for complete documentation

### With the IRSoft from Testo:

- you analyse thermal images precisely
- you create professional thermography reports quickly and easily
- you can analyse and compare several images simultaneously

## TwinPix – thermal and real images in one image.

The Testo thermal imagers with integrated digital camera automatically store both an infrared and a real image. With the professional image overlay TwinPix, these two images can be overlaid in the PC software IRSoft. The information from the thermal image and the real image is then jointly displayed in a single image.



See hidden pipelines even in the real image, with TwinPix



### Straight to the perfect result with Testo TwinPix

By setting marking points which correspond in the thermal and the real image, the images are overlaid exactly. Even scenes with measurement objects at different distances can be blended without a problem, and shown simultaneously in one image.

### Show what's important with the professional image overlay from Testo

During the analysis, the image overlay helps with the orientation in the image and with the exact localisation of the damage location. Setting the transparency level allows regulation of the intensity of the infrared or the real image component in the overlay. Critical temperature ranges can be marked by inserting infrared limit values and the infrared range. Even in the real image, problem areas can be directly emphasised, and the temperature status of the measurement object displayed plastically. The overlaid image is taken over into the report for documentation purposes.



# Comparative overview of thermal imagers from Testo.

## testo 865

- Infrared resolution 160 x 120 pixels
- SuperResolution technology (to 320 x 240 pixels)
- Thermal sensitivity 0.10 °C
- Automatic detection of hot and cold spots
- IFOV warmer
- testo ScaleAssist
- Pro software for image evaluation on the PC



## testo 868

- Infrared resolution 160 x 120 pixels
- SuperResolution technology (to 320 x 240 pixels)
- Thermal sensitivity 0.08 °C
- Automatic detection of hot and cold spots
- IFOV warmer
- Integrated 5 MP digital camera
- Thermography App
- testo ScaleAssist
- testo ε-Assist
- Pro software for image evaluation on the PC



## testo 883

- Infrared resolution 320 x 240 pixels
- SuperResolution technology (to 640 x 480 pixels)
- Thermal sensitivity 0.04 °C
- Automatic detection of hot and cold spots
- Interchangeable telephoto lens (kit testo 883-2 and kit testo 883-1)
- testo 883-2: Wide-angle lens (42°) for large field of view
- testo 883-1: Standard lens (30°)
- Manual focus
- IFOV warmer
- Integrated 5 MP digital camera and laser marker
- Thermography App
- testo ScaleAssist
- testo ε-Assist
- Pro software for image evaluation on the PC
- Min/max/average on area
- Bluetooth connectivity with thermohygrometer testo 605i and clamp meter testo 770-3



## testo 871

- Infrared resolution 240 x 180 pixels
- SuperResolution technology (to 480 x 360 pixels)
- Thermal sensitivity 0.08 °C
- Automatic detection of hot and cold spots
- IFOV warmer
- Integrated 5 MP digital camera
- Thermography App
- testo ScaleAssist
- testo ε-Assist
- Pro software for image evaluation on the PC
- Measurement mode for detecting areas with danger of mould
- Bluetooth connectivity with thermohygrometer testo 605i and clamp meter testo 770-3



## testo 872

- Infrared resolution 320 x 240 pixels
- SuperResolution technology (to 640 x 480 pixels)
- Thermal sensitivity 0.05 °C
- Automatic detection of hot and cold spots
- IFOV warmer
- Integrated 5 MP digital camera and laser marker
- Thermography App
- testo ScaleAssist
- testo ε-Assist
- Pro software for image evaluation on the PC
- Min/max/average on area
- Measurement mode for detecting areas with danger of mould
- Bluetooth connectivity with thermohygrometer testo 605i and clamp meter testo 770-3



## testo 890

- Infrared resolution 640 x 480 pixels
- SuperResolution technology (to 1280 x 960 pixels)
- Flexibility thanks to rotary handle and rotary and pivoting display
- Thermal sensitivity 0.04 °C
- Large field of view with 42° lens
- Exchangeable lenses
- Built-in digital camera with power LEDs
- Lens protection glass
- Voice recording using headset
- Area measurement (min, max & average)
- Manual focus and autofocus
- Panorama image assistant
- Parallax-free laser marker
- Solar mode
- Measurement mode for detecting areas with danger of mould



The thermal imagers testo 871 and testo 872 are also available as a kit with the thermohygrometer testo 605i. The combination of a thermal imager and a wireless humidity probe enables a professional, easy and reliable identification of mould risk. The perfect interaction of the two measuring instruments allows the effortless calculation of the surface moisture on walls and ceilings as well as in corners and recesses – identifying mould risk long before dangerous mould can form.



Thermal imager kit **testo 871** with thermohygrometer **testo 605i**  
Order no. 0560 8717

Thermal imager kit **testo 872** with thermohygrometer **testo 605i**  
Order no. 0560 8726

# Technical details of the Testo thermal imagers.

Features	testo 865	testo 868	testo 871	testo 872	testo 883-1/-2	testo 890
Infrared resolution (in pixels)	160 x 120		240 x 180	320 x 240	320 x 240	640 x 480
SuperResolution technology (in pixels)	to 320 x 240		to 480 x 360	to 640 x 480	to 640 x 480	to 1280 x 960
Thermal sensitivity (NETD)	<0.10 °C (100 mK)	<0.08 °C (80 mK)	<0.08 °C (80 mK)	<0.05 °C (50 mK)	<0.04 °C (40 mK)	<0.04 °C (40 mK)
Measuring range	-20 to +280 °C	-30 to +100 °C 0 to +650 °C (automatic or manual measuring range switching)	-30 to +100 °C 0 to +650 °C (automatic or manual measuring range switching)		-30 to +650 °C (automatic or manual measuring range switching)	-30 to +100 °C 0 to +650 °C High-temperature option: 350 to +1200 °C
Image refresh rate	9 Hz				27 Hz	33 Hz
Standard lens: FOV <sub>geo</sub> / IFOV <sub>geo-SR</sub>	31° x 23° 3.4 mrad		35° x 26° 2.6 mrad	42° x 30° 1.3 mrad	883-1 30° x 23° 1.7 / 1.1 mrad	42° x 32° 1.13 / 0.71 mrad
Exchangeable wide-angle lens IFOV <sub>geo</sub> / IFOV <sub>geo-SR</sub>	-		-	-	883-2 42° x 32° 2.3 / 1.4 mrad	15° x 11° 1.13 / 0.71 mrad
Exchangeable telephoto lens: IFOV <sub>geo</sub> / IFOV <sub>geo-SR</sub>	-	-	-	-	Kit 883-1/883-2 12° x 9° 0.7/0.4 mrad	15° x 11° 0.42/0.26 mrad 6.6° x 5° 0.18/0.11 mrad
Exchangeable super telephoto lens IFOV <sub>geo</sub> / IFOV <sub>geo-SR</sub>	-	-	-	-	-	-
Focusing	Fixed focus				Manual	Manual and auto-focus
Rotatable display	-	-	-	-	-	✓
Rotary handle	-	-	-	-	-	✓
Touchscreen	-	-	-	-	✓	✓
High temperature measurement	up to +280 °C	up to +650 °C				up to +1,200 °C
Centre spot	✓	✓	✓	✓	✓	✓
Auto Hot/Cold Spot Recognition	✓	✓	✓	✓	✓	✓
Min/max on area calculation	-	-	-	✓	✓	✓
Isotherm functions	-	-	-	-	✓	✓
Alarm value function	-	-	-	-	✓	✓
Display of surface moisture distribution via manual input	-	-	✓	✓	✓	✓
Humidity measurement with wireless humidity probe** (automatic measurement value transfer in real time)	-	-	(✓)	(✓)	(✓)	(✓)
Solar mode	-	-	✓	✓	✓	✓
Voice recording	-	-	-	-	✓	✓
Save JPEG	✓	✓	✓	✓	✓	-
Integrated digital camera	-	5 MP	5 MP	5 MP	5 MP	3.1 MP
Integrated power LEDs	-	-	-	-	✓	✓
Panoramic image assistant	-	-	-	-	-	✓
SiteRecognition technology	-	-	-	-	✓	✓
Video measurement with up to 15 measurement points (via USB)	-	-	-	-	✓	✓
Process analysis package: image sequence capturing in instrument and fully radiometric video measurement	-	-	-	-	-	(✓)
Laser marker	-	-	-	✓	✓	✓
IFOV warner	✓	✓	✓	✓	✓	-
testo Thermography App	-	✓	✓	✓	✓	-
testo ScaleAssist	✓	✓	✓	✓	✓	-
testo ε-Assist	-	✓	✓	✓	✓	-
DeltaT	✓	✓	✓	✓	-	-

18 (✓) Optional ✓ Standard - not available

## Your practical advantage

- The infrared resolution indicates the number of temperature measurement points (pixels) with which the image sensor of the thermal imager is equipped. The higher the infrared resolution, the more detailed and clearer the presentation of the measurement objects.
- The SuperResolution technology improves the image quality by one class, i.e. the resolution of the thermal image is four times better.
- The thermal sensitivity (NETD) indicates the smallest temperature difference which can be resolved by the imager. The smaller this value is, the smaller the temperature differences which can be measured.
- The temperature measurement range of the thermal imager indicates the temperatures up to which the thermal imager can measure and record the heat radiation of measurement objects.
- The display refresh rate informs as to how frequently the thermal imager is refreshed per second.
- The standard lens (light wide-angle lens) quickly records a large image section, and thus allows an ideal overview of the temperature distribution of the measurement object.
- The exchangeable wide-angle lenses assist in the measurement of smallest details and visualise these on the thermal image, even from longer distances.
- The exchangeable telephoto lenses assist in the measurement of smallest details and visualise these on the thermal image, even from longer distances.
- The focusing allows the exact adjustment of sharp infrared images. This can be carried out manually, with motor support or automatically.
- With the rotatable display, thermographic recording can be conducted from many additional positions (e.g. overhead). Undesired reflections on the display are avoided.
- The rotary handle allows secure handling of the thermal imager even in difficult-to-access places (e.g. close to the ground)
- In addition to operation by joystick, the thermal imager can also be operated via the touchscreen.
- With the high temperature option, the measuring range can be flexibly extended. Thanks to a high temperature filter, the measurement of temperatures up to 550 °C or 1,200 °C is possible.
- The centre point measurement permanently displays the temperature of one pixel.
- The coldest and hottest parts of a measurement object are automatically shown in the thermal image in the imager's display. This allows critical thermal conditions to be seen at a glance.
- The minimum and maximum temperatures of an image section can be displayed directly on site. This allows critical thermal conditions in this image section to be seen at a glance.
- The optical colour alarm displays all image points whose temperature values are within a defined range, marked in colour in the image.
- The optical colour alarm displays all image points whose temperature values are above or below a defined limit value, marked in colour in the image.
- For each measuring point, the value of the relative surface moisture is displayed. This is calculated from the externally measured ambient temperature and air humidity, and the measured surface temperature.
- For each measuring point, the value of the relative surface moisture is displayed. This is calculated from the ambient temperature and air humidity, automatically transferred in real time by the wireless humidity probe, and the measured surface temperature.
- In solar mode, the solar radiation value can be entered in the imager. This value is stored with every thermal image, and is then available for evaluation in the analysis software.
- Localised weak spots can be easily commented using voice recording. Valuable additional information is documented directly on site.
- The thermal imager additionally saves the thermal image in JPEG format. These thermal images can be viewed using the usual software, and sent to third parties e.g. via e-mail.
- A real image of each measurement object is also saved parallel to the thermal image. This allows object inspections to be carried out more quickly and easily thanks to the simultaneous display of thermal and real images.
- The integrated power LEDs (applies only to testo 890) guarantee you optimum illumination of dark areas when recording real images.
- For large measurement objects, the panorama image assistant (only in testo 890) allows the analysis and documentation of an overall image stitched together from several individual images. This means that there is no need to administer, view and compare several images.
- The SiteRecognition technology (only in testo 890) takes over the identification, saving and administration of thermal images for periodic inspection tours with similar objects.
- With the video measurement (only in testo 890), thermographic video recordings can be transferred directly to a PC. Up to 15 temperature measurement points are now recorded for every individual image, and can be analysed.
- With the process analysis package, thermal processes can be recorded directly in the instrument, or transferred to the PC as a stream and analysed over the time progression. All temperature measurement points are available at all times.
- With the laser pointer, a laser spot can be indicated on the measurement object for orientation purposes. With the laser marker, this laser point is additionally shown parallax-free in the thermal imager display.
- With the IFOV warner, the distance to the measurement object, i.e. the measurement spot size, is determined, and the measurement spot shown in the thermal image. This allows you to avoid measurement errors, as the imager shows you exactly what you are measuring.
- With the free App, compact reports can be made quickly, saved online and sent by e-mail. Transmit thermal images live to your smartphone/tablet, and use it as a second display – e.g. for your customers.
- With testo ScaleAssist, the thermal image scale is optimally adjusted automatically. This prevents interpretation errors which can be caused by a false evaluation of the scaling.
- Via the integrated digital camera, the thermal imager recognises the reference sticker (ε marker), determines the emissivity and reflected temperature and sets both values automatically.
- With the DeltaT function, temperature differences between two measurement points, a measurement point and an input value, a measurement point and the RTC, and between a measurement point and the probe value, are calculated.



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Subject to change, including technical modifications.

