





Committing to the future

See more with the thermal imagers  
**testo 875 and testo 881**

NEW



For professional  
building thermography



## testo 875 and testo 881 for professional building thermography

Thermal imager testo 881



Infrared radiation cannot be seen by the human eye. However, all objects with a temperature above absolute zero, approximately - 273 degrees Celsius, emit infrared thermal radiation. Thermal imagers can convert infrared radiation into electrical signals and thus render it visible.

The testo 875 and testo 881 thermal imagers discover anomalies and weak spots in buildings quickly and damage-free. Whereas with other methods you have to dismantle cable or pipeline systems, with a Testo thermal imager, a single glance is enough.

**With the testo 875 and testo 881, you are hot on the trail of energy losses in building thermography, helping your customers to avoid expensive heating costs.**

Even the smallest temperature differences can be identified with the high temperature resolution of the Testo thermal imagers. Highly flexible and application-oriented, exchangeable lenses ensure that the right image section is always visible in the imager display.

The additionally integrated digital camera considerably facilitates documentation. The presentation of surface humidity for fast localization of mould risk spots is unique in building thermography.

**Testo thermal imagers provide security in building thermography and prevent damage!**

Thermal imager testo 875



## Testo thermal imagers stand out thanks to:

### 1. Professional analysis software

The clearly structured and user-friendly PC software enables the comprehensive analysis and evaluation of thermograms. You can now process and analyze several infrared images at the same time and document them in a thermography report together with their respective real image. The software offers report templates specially for the inspection of the building shell for thermal bridges with which reports can be created quickly and easily in accordance with DIN EN 13187. For precise analysis results, it is possible to correct the different emissivities of the various materials by area in the thermal image, right up to individual pixels. **The professional software is included in delivery with all Testo thermal imagers.**



Easy and precise analysis

### 2. Soft-Case for your thermal imager

Your thermal imager is always securely transported in the practical Soft-Case. It is no longer necessary to hold it in your hand or store it in the case between measurements, but can be toted easily using the shoulder strap – **day-to-day work is more flexible, both hands are free.**



Just take it with you in the Soft-Case

### 3. Exchangeable lenses for more flexibility

A wide-angle lens and a telephoto lens enable the adaptation to various sizes of and distances from the measurement objects. The 32° standard lens shows a large image section and thereby ensures a quick overview. The 9° telephoto lens offers the option of reliably detecting more details, even at greater distances. **The Testo exchangeable lenses for individual thermography.**



Simply change the lens

### 4. Intuitive menu

The one-hand operation with motor focus and 5-way joystick offers a fast and exact limitation of possible damage and thereby supports targeted maintenance. With the simple addition of folder structures, the administrative efforts for planning and managing the images as well as locations and tours are reduced to a minimum.



Easy operation



## Advantages and typical applications of the testo 875

The 4 most important advantages of the testo 875 thermal imager:

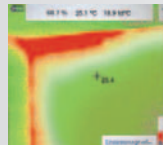
### 1. Good image quality

With the temperature resolution of  $< 110 \text{ mK}$ , even minimal temperature differences are shown.



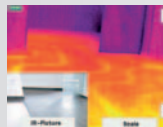
### 2. Detection of mould risk spots

Via the manual input of ambient temperature, air humidity and dewpoint in the room, the testo 875 visualizes mould risk spots in the thermal image at a glance.



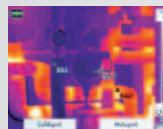
### 3. Integrated digital camera

The testo 875 with integrated digital camera links real and infrared images for fast, reliable and simple documentation of the measurement.



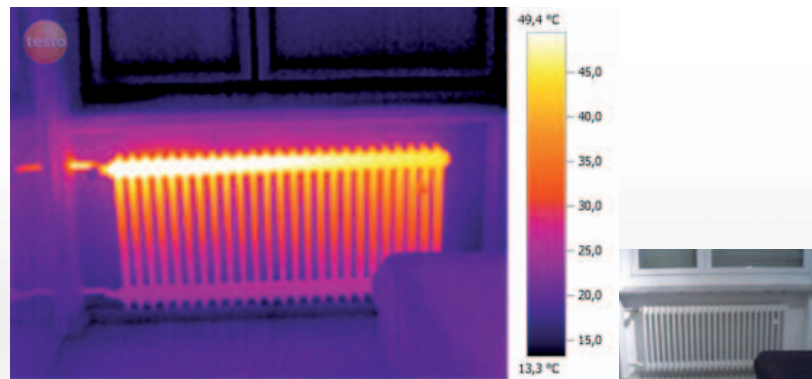
### 4. Automatic Hot/Cold Spot Recognition

Critical temperature conditions are shown with the Automatic Hot/Cold Spot Recognition. Uninterrupted error localization on site is therefore ensured. The Auto Hot/Cold Spot Recognition also helps you with analysis and documentation when evaluating the details later on a PC.



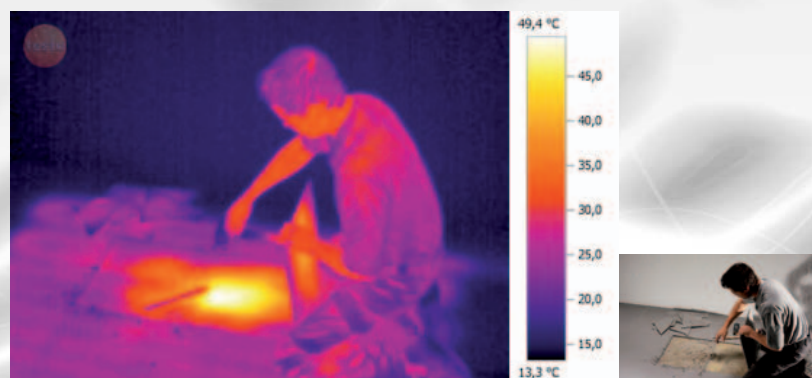
## Test heating systems and installations with the testo 875

Thanks to the simple and intuitive operation of the imager, heating and air conditioning/ventilation systems are quickly and reliably tested. A glance with the thermal imager is sufficient for detecting irregular temperature distributions. Sludge accumulation and obstructions are therefore reliably detected at radiators.



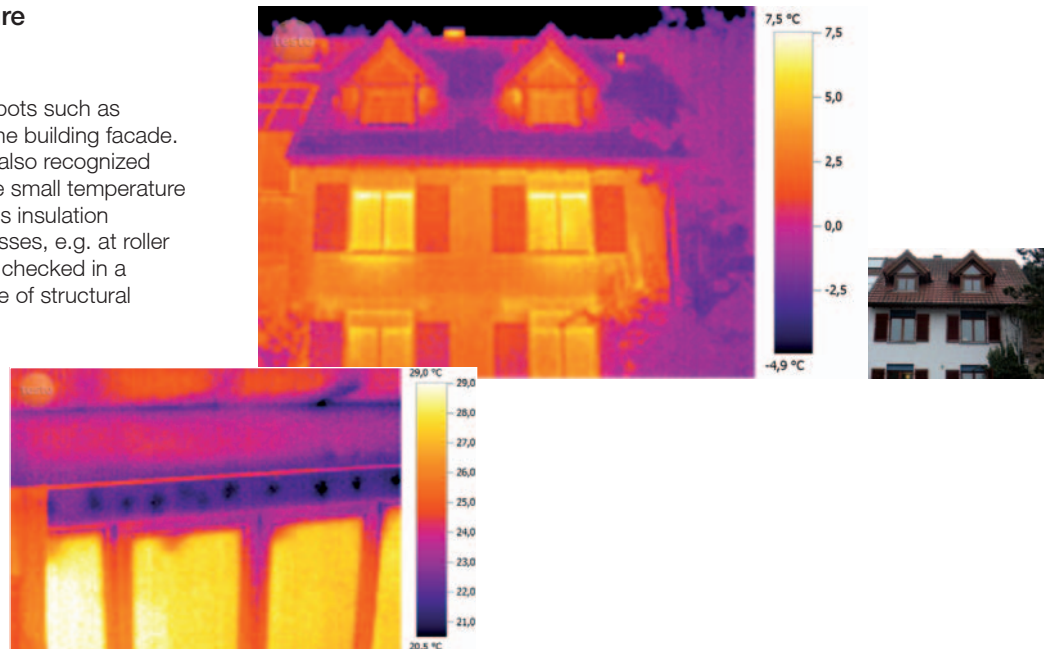
## Hot on the trail of pipe rupture

If a pipe rupture is suspected, the only solution is often to break open whole walls and floors. The testo 875 localizes leakages of underfloor heating systems and other inaccessible pipe systems precisely and damage-free. Broken-up areas are therefore reduced to a minimum and the cost of repair is significantly lower.



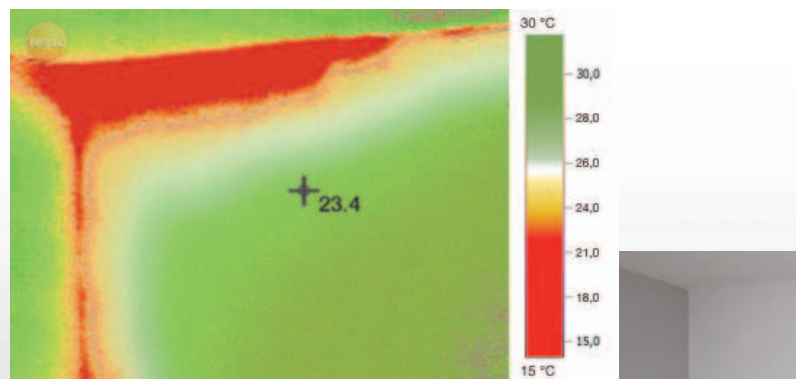
## Detect construction faults and ensure building quality

The testo 875 thermal imager shows weak spots such as thermal bridges and constructional flaws at the building facade. Poor insulating material or faulty insulation is also recognized in this manner. Thanks to the ability to resolve small temperature differences  $< 110 \text{ mK}$ , the testo 875 visualizes insulation defects on buildings and the resulting heat losses, e.g. at roller blind boxes. The building quality can thus be checked in a targeted manner and the correct performance of structural measures can be proven.



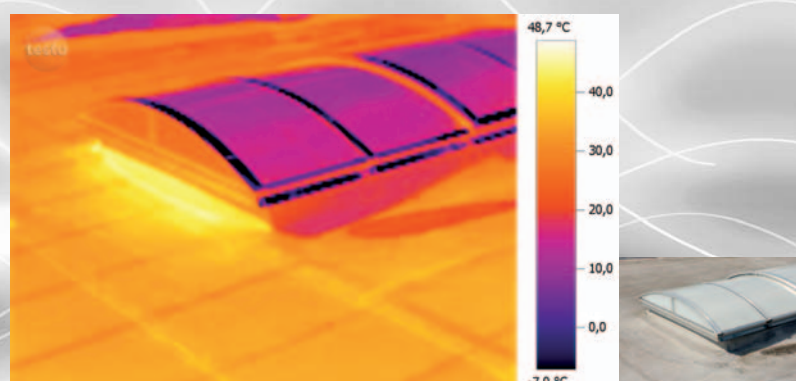
## Prevent mould growth

The testo 875 reliably searches out cold corners and niches in a room. It recognizes mould risk spots immediately, before the mould develops. In the thermal image, the components are analyzed directly with regard to the risk of mould growth.



## Precisely localize roof leaks

An additional possibility for use of the testo 875 is the inspection of flat roofs for moisture penetration. Moisture-penetrated areas in the roof construction retain the heat from the sunlight longer than intact areas. The roof construction therefore cools unevenly in the evening. As a result of these temperature differences, the testo 875 accurately shows the areas on the roof with enclosed moisture or damaged insulation.

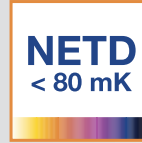


## Advantages and typical applications of the testo 881

The 5 most important advantages of the testo 881 thermal imager:

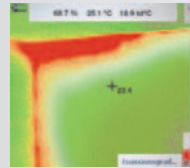
### 1. Excellent image quality

With a thermal resolution of  $< 80$  mK, the testo 881 delivers high-resolution images in which even the smallest temperature differences are emphasized and visualized.



### 2. Detection of mould risk spots

Via the manual input of ambient temperature, air humidity and dewpoint in the room, the testo 881 visualizes mould risk spots in the thermal image at a glance



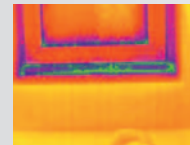
### 3. Built-in digital camera with power LEDs

In addition to the infrared recording, the testo 881 creates a parallel real image of the location with the integrated digital camera. The integrated power LEDs guarantee you optimum illumination of dark areas when recording real images.



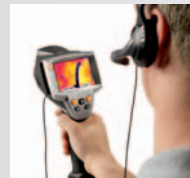
### 4. Isotherm function

With the optical colour alarm in the thermal image of the testo 881, areas of critical temperature on the measurement object are immediately marked.



### 5. Voice recording

The practical headset and the integrated voice recording function facilitate the documentation of the measurement results. Comments can be made on every recording on site. This valuable additional information is stored together with the thermal image.



## Prevent mould growth

The testo 881 shows mould risk spots in the thermal image. These important data help improve the ambient conditions and prevent a dangerous, allergenic mould growth or minimize the risk of mould contamination - even in the hidden corners and niches of a house.

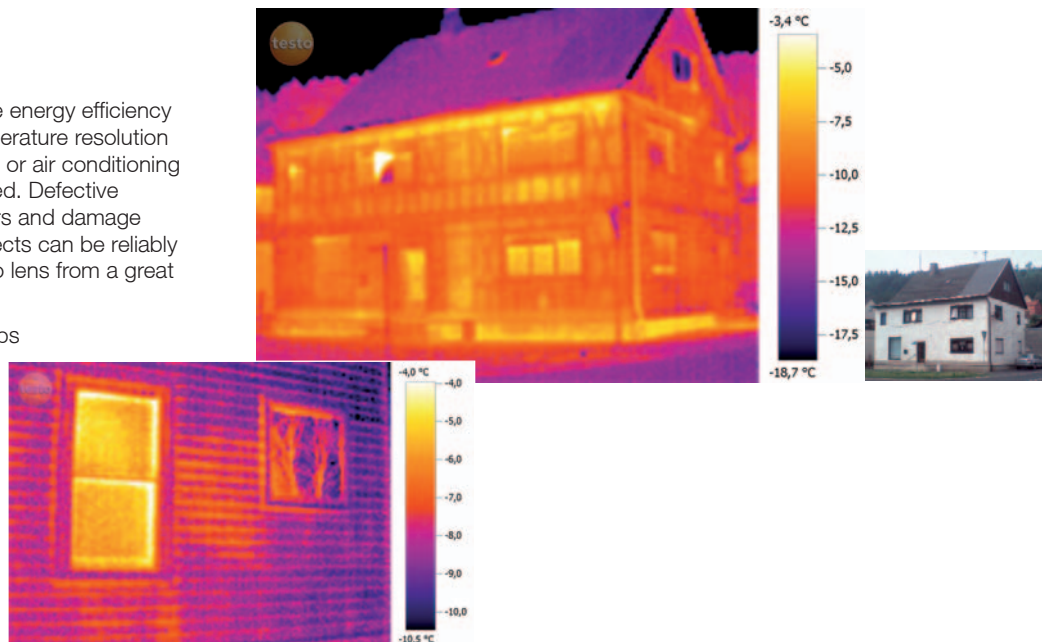




## Analyze building shell and provide comprehensive energy consultation

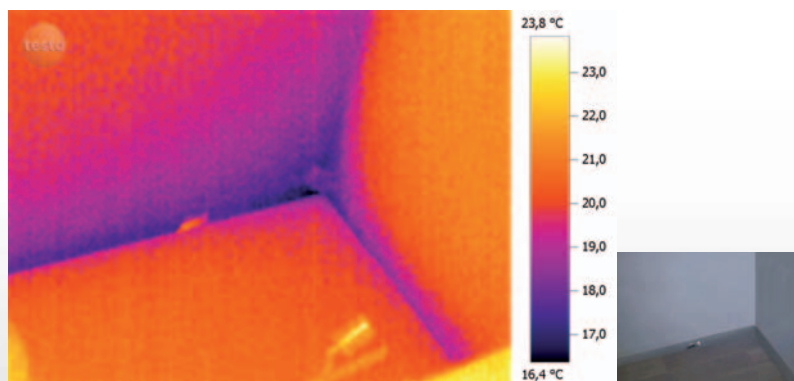
The testo 881 is ideal for the evaluation of the energy efficiency of buildings thanks to its extremely high temperature resolution of < 80 mK. Energy losses during the heating or air conditioning of buildings are quickly and effectively localized. Defective insulation, thermal bridges, construction errors and damage are visualized in detail. Even the smallest defects can be reliably analyzed through the exchangeable telephoto lens from a great distance, such as on the roof.

In addition, the testo 881 provides valuable tips during the renovation of historical buildings and monuments. It visualizes structures hidden under the plaster, e.g. a timber frame, and provides important planning criteria for energy-related redevelopment work.



## Inspect moisture damage

Not every wet wall is caused by a defective water pipe. Rising or penetrating water due to faulty design of rain and sewage disposals can cause wet walls. Moisture damage is also caused by clogged drains or an insufficient seepage capacity. The testo 881 directly finds the cause of rising soil moisture or penetrating precipitation before the water causes major damage. With the high thermal resolution of < 80 mK, moisture damage is reliably localized.



## Check airtightness of new buildings

If doors or windows are incorrectly installed, cold air penetrates or warm ambient air escapes in winter. Draughts, increased ventilation heat losses and above all higher energy costs result from this. The combination of thermography and blower door has proven itself. With this procedure, an underpressure is generated in the building so that cool outside air can flow into the building interior through leaky joints and cracks. In the process, the thermal imager simplifies the detection of leaky spots. Leaks are thereby localized before panelling and installations at the new building render the fault rectification expensive and difficult.





## What is the purpose of these features in thermography?

Feature	testo 875-1	testo 875-2	testo 881-1	testo 881-2	testo 881-3	
High thermal sensitivity (NETD)	< 110 mK		< 80 mK			The NETD indicates the smallest possible temperature difference that can be resolved by the imager. A low NETD guarantees the resolution of the smallest temperature differences. The following rule of thumb applies: The smaller this value is, the better the measurement resolution of the imager and the better the image quality.
Temperature measuring range	-20 to +280 °C		-20 to +350 °C			The temperature range indicates up to which temperatures the imager is able to record and measure the heat radiation of objects.
Refresh rate	9 Hz		33 Hz*			The refresh rate indicates how often the thermal image is refreshed in a second.
Standard lens 32° x 23°	✓	✓	✓	✓	✓	The 32° lens quickly records a large image section and thereby supplies a good overview of the temperature distribution of the measurement object – at one glance, you have more in the picture.
Exchangeable telephoto lens 9° x 7° (optional)		✓		✓	✓	The exchangeable telephoto lens assists in the measurement of smaller details and visualizes details in the thermal image, even at greater distances.
High temperature up to 550 °C (optional)					✓	With the high-temperature option, the measuring range can be flexibly extended. With a high-temperature filter, measurement of temperatures up to 550 °C is possible.
Automatic Hot/Cold Spot Recognition	✓	✓	✓	✓	✓	The coldest and warmest spot of the measurement object are automatically shown directly in the thermal image in the imager display – critical heat conditions can be detected at a glance.
Min./Max. on area calculation				✓	✓	The minimum and maximum values of an image section can be provided at a glance live directly on site.
Isotherm function				✓	✓	The optical colour alarm localizes critical areas easily and directly in the thermal image on site. All spots in the thermal image with a temperature value within a defined range are marked in colour and emphasized.
Display of surface moisture distribution via manual input		✓		✓	✓	Via the manual input of ambient temperature, air humidity and dewpoint in the room, mould risk spots are visualized in the thermal image at a glance.
Voice recording				✓	✓	Identified weak spots can be commented on by means of voice recording. Valuable additional information can thereby be documented on site.
Integrated digital camera		✓	✓		✓	Quick and simple object inspection thanks to the display of infrared and real image. The digital real image is automatically stored simultaneously with each infrared image.
Integrated LEDs					✓	The integrated power LEDs guarantee you optimum illumination of dark areas when recording real images.
Motor focus					✓	The dynamic motor focus allows you to focus the infrared image with just one hand.

\*inside the EU, outside 9 Hz

## Technical data, testo 875 and testo 881

	testo 875-1	testo 875-2	testo 881-1	testo 881-2	testo 881-3
<b>Infrared image output</b>					
Detector type	FPA 160 x 120 pixels, a.Si		FPA 160 x 120 pixels, a.Si		
Thermal sensitivity (NETD)	< 110 mK at +30 °C		< 80 mK at +30 °C		
Field of view/min. focus distance	32° x 23° / 0.1 m (standard lens), 9° x 7° / 0.5 m (telephoto lens)		32° x 23° / 0.1 m (standard lens) 9° x 7° / 0.5 m (telephoto lens)		
Geometric resolution (IFOV)	3.3 mrad (standard lens), 1.0 mrad (telephoto lens)		3.3 mrad (standard lens), 1.0 mrad (telephoto lens)		
Image refresh rate	9 Hz		33 Hz for EU, otherwise 9 Hz		
Focus	manual		manual	manual and motor focus	
Spectral range	8 to 14 µm		8 to 14 µm		
<b>Visual</b>					
Optical field/min. focus distance	–	33° x 25° / 0.4 m	33° x 25° / 0.4 m	–	33° x 25° / 0.4 m
Image size	–	640 x 480 pixels	640 x 480 pixels	–	640 x 480 pixels
<b>Image presentation</b>					
Image display	3.5" LCD with 320 x 240 pixels		3.5" LCD with 320 x 240 pixels		
Display options	only IR image	only IR image/ only real image/ IR and real image	only IR image/ only real image/ IR and real image	only IR image	only IR image/ only real image/ IR and real image
Video output	USB 2.0		USB 2.0		
Colour palettes	4 options (ironbow, rainbow, blue/red, greyscale)		9 options (ironbow, rainbow, cold/hot, blue/red, grey, inverted grey, sepia, Testo, ironbow HT)		
<b>Measurement</b>					
Temperature range	-20 °C to +100 °C/ 0 °C to +280 °C (switchable)		-20 °C to +100 °C/ 0 °C to +350 °C (switchable)		
High-temperature measurement (optional)	–		–		+350 °C to +550 °C
Accuracy	±2 °C, ±2 % of mv (-20 °C to +280 °C)		±2 °C, ±2 % of mv (-20 °C to +350 °C)		±3 % of mv (+350 °C to +550 °C)
Minimum diameter measurement point	10 mm at 1 m (standard lens), 3 mm at 1 m (telephoto lens)		10 mm at 1 m (standard lens), 3 mm at 1 m (telephoto lens)		
Setting emissivity	0.01 to 1		0.01 to 1		
Reflected temperature compensation	manual		manual		
<b>Imager equipment</b>					
Digital camera	–	Yes	Yes	–	Yes
Power LEDs	–	–	–	–	Yes
Motor focus	–	–	–	–	Yes
Standard lens (32° x 23°)	–	Yes	–	Yes	
Telephoto lens (9° x 7°)	–	optional	–	optional	
Laser measuring spot marking	–	–	yes (laser classification 635 nm, class 2)		
Voice recording	–	–	–	yes (by means of headset)	
Display of surface moisture distribution	–	yes (by means of manual input)	–	yes (by means of manual input)	
<b>Measuring functions</b>					
	Centre point	Standard measurement (1-point)	Standard measurement (1-point)		
	–	Hot/Cold Spot Recognition	Hot/Cold Spot Recognition		
	–	–	Two-point measurement		
	–	–	Isotherms		
	–	–	Min./Max. on area		
<b>Image storage</b>					
File format	.bmt; export options in .bmp, .jpg, .csv		.bmt; export options in .bmp, .jpg, .csv		
Data storage device	2 GB SD card (approx. 1000 images)		2 GB SD card (approx. 1000 images)		
<b>Power supply</b>					
Battery type	Fast-charging, Li-ion battery can be changed on site		Fast-charging, Li-ion battery can be changed on site		
Operating time	4 hours		4 hours		
Charging options	In instrument/in charging station (optional)		In instrument/in charging station (optional)		
Mains operation	Yes		Yes		
<b>Ambient conditions</b>					
Operating temperature range	-15 °C to +40 °C		-15 °C to +40 °C		
Storage temperature range	-30 °C to +60 °C		-30 °C to +60 °C		
Air humidity	20 % to 80 % not condensing		20 % to 80 % not condensing		
Protection class of housing	IP54		IP54		
Vibration (IEC 68-2-6)	2G		2G		
<b>Physical features</b>					
Weight	approx. 900 g		approx. 900 g		
Dimensions (L x W x H)	152 x 108 x 262 mm		152 x 108 x 262 mm		
Tripod mounting	Yes		Yes		
Housing	ABS		ABS		
<b>PC software</b>					
System requirements	Windows XP (Service Pack 2), Windows Vista, USB 2.0 interface		Windows XP (Service Pack 2), Windows Vista, USB 2.0 interface		
<b>Norms, tests, warranty</b>					
EU guideline	2004/108/EC		2004/108/EC		
Warranty	2 years		2 years		



## The thermal imager testo 875

### testo 875-2 set

- NETD < 110 mK
- High-quality standard lens 32° x 23°
- Integrated digital camera
- Display of surface moisture distribution
- Auto Hot/Cold Spot Recognition
- Manual focus
- Temperature range -20 to +280 °C

#### In addition to the equipment of the testo 875-2, the set also includes:

- Telephoto lens 9° x 7°
- Protective glass
- Additional battery
- Charger
- Sun Shield

#### testo 875-2 set

Order no.: 0563 8752



SAVE NOW!  
with the testo 875-2  
in a set

### testo 875-1

- NETD < 110 mK
- High-quality standard lens 32° x 23°
- Auto Hot/Cold Spot Recognition
- Manual focus
- Temperature range -20 to +280 °C

#### testo 875-1

Order no.: 0560 8751

### testo 875-2

- NETD < 110 mK
- High-quality standard lens 32° x 23°
- Integrated digital camera
- Display of surface moisture distribution
- Auto Hot/Cold Spot Recognition
- Manual focus
- Temperature range -20 to +280 °C
- Telephoto lens (optional)

#### testo 875-2

Order no.: 0560 8752

All imagers are delivered in a robust case incl. professional software, SD card, USB cable, mains unit, Li-ion rechargeable battery and tripod adapter.

#### Accessories

#### Order no.

##### Aluminium tripod

Professional, extremely light and stable aluminium tripod with quick-release legs and a 3-way tripod head

0554 8804

##### Lens protection glass

Special protective glass made of germanium for optimum protection of the lens against dust and scratches

0554 8805

##### Additional battery

Additional lithium-ion battery for extending the operating time

0554 8802

##### Fast battery charger

Desktop fast battery charger for two batteries for optimizing the charging time

0554 8801

##### Sun Shield

Special sun protection for the display of the testo 881 and testo 875 in bright environments

0554 8806

##### Soft-Case

Practical carrying option for testo 881 and testo 875 (incl. shoulder strap)

0554 8814

##### Retrofit telephoto lens

(only with testo 881-2 and -3 and with testo 875-2); please contact our customer service.

##### Retrofit high-temperature measurement

(only with testo 881-3); please contact our customer service.

##### Emissivity adhesive tape

Adhesive tape, e.g. for reflective surfaces (roll, L.: 10 m, W.: 25 mm), E=0.95 heatproof up to +300 °C

0554 0051

##### ISO calibration certificates for testo 880

Calibration points at 0 °C, 25 °C, 50 °C in measuring range -20 °C to 100 °C

0520 0489

Calibration points at 0 °C, 100 °C, 200 °C in measuring range 0 °C to 350 °C

0520 0490

Freely selectable calibration points in the range between -18 °C to 250 °C

0520 0495

# The thermal imager testo 881

## testo 881-3 set

- NETD < 80 mK
- High-quality standard lens 32° x 23°
- Integrated digital camera with power LEDs
- Display of surface moisture distribution
- Auto Hot/Cold Spot Recognition
- Dynamic motor focus
- Temperature range -20 to +350 °C
- 33 Hz (inside the EU, outside 9 Hz)
- Headset for voice recording
- Isotherm display in instrument
- Min./Max. on area calculation
- High-temperature measurement (optional)

In addition to the equipment of the testo 881-3, the set also includes:

- Telephoto lens 9° x 7°
- Protective glass
- Additional battery
- Charger
- Soft-Case

### testo 881-3 set

Order no.: 0563 0881 V4



SAVE NOW!  
with the testo 881-3  
in a set

		testo 881-1	testo 881-2	testo 881-3	testo 881-3 set
	Order no.:	0563 0881 V1	0563 0881 V2	0563 0881 V3	0563 0881 V4
<b>Additionally in case:</b>					
<b>Lens protection glass</b>	C1	●	●	●	●
<b>Telephoto lens</b>	A1	–	●	●	●
<b>Additional battery</b>	D1	●	●	●	●
<b>Fast battery charger</b>	E1	●	●	●	●
<b>Soft-Case</b>	F1	●	●	●	●
<b>High-temperature measurement</b>	G1	–	–	●	●

All imagers are delivered in a robust case incl. professional software, SD card, USB cable, mains unit, Li-ion rechargeable battery and tripod adapter.

● Standard      ● Optional      – Not available

## testo 881-1

- NETD < 80 mK
- High-quality standard lens 32° x 23°
- Integrated digital camera
- Auto Hot/Cold Spot Recognition
- Manual focus
- Temperature range -20 to +350 °C
- 33 Hz (inside the EU, outside 9 Hz)

## testo 881-2

- NETD < 80 mK
- High-quality standard lens 32° x 23°
- Telephoto lens (optional)
- Auto Hot/Cold Spot Recognition
- Display of surface moisture distribution
- Manual focus
- Temperature range -20 to +350 °C
- 33 Hz (inside the EU, outside 9 Hz)
- Headset for voice recording
- Isotherm display in instrument
- Min./Max. on area calculation

## testo 881-3

- NETD < 80 mK
- High-quality standard lens 32° x 23°
- Telephoto lens (optional)
- Integrated digital camera with power LEDs
- Display of surface moisture distribution
- Auto Hot/Cold Spot Recognition
- Dynamic motor focus
- Temperature range -20 to +350 °C
- 33 Hz (inside the EU, outside 9 Hz)
- Headset for voice recording
- Isotherm display in instrument
- Min./Max. on area calculation
- High-temperature measurement (optional)

### testo 881-1

Order no.: 0563 0881 V1

### testo 881-2

Order no.: 0563 0881 V2

### testo 881-3

Order no.: 0563 0881 V3

All imagers are delivered in a robust case incl. professional software, SD card, USB cable, mains unit, Li-ion rechargeable battery and tripod adapter.