

# Thermal imager

**testo 871 – smart thermography for professional demands.**

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Infrared resolution 240 x 180 pixels  
testo SuperResolution technology 480 x 360 pixels

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Thermal sensitivity 90 mK

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With testo Thermography App

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Integrated digital camera

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Wireless measurement data transfer from clamp meter  
testo 770-3 and humidity measuring instrument testo 605i

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testo ScaleAssist and testo  $\epsilon$ -Assist

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The thermal imager testo 871 offers a high-quality 240 x 180-pixel detector, connectivity via the testo Thermography App, as well as the innovative functions testo ScaleAssist and testo  $\epsilon$ -Assist, which enables objectively comparable and error-free thermal images to be recorded.

For even more meaningful thermal images, the thermal imager also wirelessly integrates the measurement values of the clamp probe testo 770-3 as well as the thermohygrometer testo 605i (both available as an option).

# Ordering data

**testo 871**





Thermal imager testo 871 with integrated testo SuperResolution, wireless module BT/wireless LAN, USB cable, mains unit, Lithium ion rechargeable battery, pro software (free download), 3 x  $\epsilon$ -markers, quick-start guide, short instructions, calibration certificate and case



Order no. 0560 8712

**testo Thermography App**

With the testo Thermography App, your smartphone/tablet becomes a second display, and a remote control for your thermal imager. In addition to this, you can use the App to create and send compact reports on site, and to save them online. Download for Android or iOS now free of charge.

Accessories	Order no.
Spare battery, additional Lithium ion rechargeable battery for extending the operating time.	0515 5107
Battery charger, desktop charging station for optimizing the charge time.	0554 1103
testo $\epsilon$ -marker (10 off), markers for the testo $\epsilon$ -Assist function for the automatic determination of emissivity and reflected temperature.	0554 0872
Holster case	0554 7808
ISO calibration certificate, calibration points at 0 °C, +25 °C, +50 °C	0520 0489
ISO calibration certificate, calibration points at 0 °C, +100 °C, +200 °C	0520 0490
ISO calibration certificate, freely selectable calibration points in the range -18 to +250 °C	0520 0495

Compatible measuring instruments for more meaningful thermal images	Order no.
<p><b>testo 605i thermohygrometer</b> with smartphone operation, including batteries and calibration protocol</p> <ul style="list-style-type: none"> <li>• Measurement of air humidity and air temperature</li> <li>• Transmission of measurement values to the testo 871 thermal imager via Bluetooth, and identification of mould-risk areas using a traffic-light system</li> </ul>	0560 2605 02
<p><b>testo 770-3 clamp meter</b> including batteries and 1 set of measuring cables</p> <ul style="list-style-type: none"> <li>• Easy to operate thanks to the fully retractable pincer arm</li> <li>• Auto AC/DC and large two-line display</li> <li>• Transmission of measurement values to the testo 871 thermal imager via Bluetooth</li> </ul>	0590 7703

### testo $\epsilon$ -Assist

For precise thermal images, it is important to set the emissivity ( $\epsilon$ ) and the reflected temperature of the object being examined in the imager. Previously, this was complicated, and with regard to the reflected temperature, less than accurate. This changes with testo  $\epsilon$ -Assist: Simply attach one of the reference stickers included in delivery to the measurement object. Via the integrated digital camera, the thermal imager recognizes the sticker, determines the emissivity and reflected temperature and sets both values automatically.

### testo ScaleAssist

Since the temperature scale and colouring of thermal images can be adapted individually, it is possible that the thermal behaviour of a building, for example, can be wrongly interpreted. The testo ScaleAssist function solves this problem by adjusting the colour distribution of the scale to the interior and exterior temperature of the measurement object and the difference between them. This ensures objectively comparable and error-free thermal images.



Thermal image without ScaleAssist



Thermal image with ScaleAssist

## Technical data

Infrared image output	
Infrared resolution	240 x 180 pixels
Thermal sensitivity (NETD)	90 mK
Field of view/min. focusing distance	35° x 26° / < 0.5 m
Geometric resolution (IFOV)	2.6 mrad
testo SuperResolution (Pixel/IFOV)	480 x 360 pixels 1.6 mrad
Image refresh rate	9 Hz
Focus	Fixed focus
Spectral range	7.5 to 14 µm
Visual image output	
Image size / min. focusing distance	at least 3.1 MP / 0.5 m
Image presentation	
Image display	8.9 cm (3.5") TFT, QVGA (320 x 240 pixels)
Display options	IR image / real image
Colour palettes	iron, rainbow HC, cold-hot, grey
Data interfaces	
WLAN Connectivity	Communication with the testo Thermography App
Bluetooth <sup>1)</sup>	Measurement value transfer from thermohygrometer testo 605i, clamp meter testo 770-3 (optional)
USB 2.0 Micro B	✓
Measurement	
Measuring ranges	Measuring range 1: -30 to +100 °C Measuring range 2: 0 to +650 °C
Accuracy	±2 °C, ±2 % of measurement value (larger value applies)
Emissivity / reflected temperature compensation	0.01 to 1 / manual
testo e-Assist	Automatic recognition of emissivity and determination of reflected temperature (RTC)
Measurement functions	
Analysis functions	Mean point measurement, hot/cold-spot recognition, Delta T,
testo ScaleAssist	✓
IFOV warner	✓
Humidity mode – manual	✓
Humidity measurement with humidity measuring instrument <sup>1)</sup>	Automatic measurement value transfer of thermohygrometer testo 605i via Bluetooth (instrument must be ordered separately)
Solar mode – manual	Input of solar radiation value
Electrical mode – manual	Input of current, voltage or power
Electrical measurement with clamp meter <sup>1)</sup>	Automatic measurement value transfer of clamp meter testo 770-3 via Bluetooth (instrument must be ordered separately)

Imager equipment	
Digital camera	✓
Lens	35° x 26°
Video streaming	via USB, via wireless LAN with testo Thermography App
Storage as JPG	✓
Fullscreen mode	✓
Image storage	
File format	.bmt and .jpg; export options in .bmp, .jpg, .png, .csv, .xls
Memory	Internal memory (2.8 GB)
Power supply	
Battery type	Li-ion battery can be changed on-site
Operating time	4 hours
Charging options	In instrument/in charging station (optional)
Mains operation	✓
Ambient conditions	
Operating temperature range	-15 to +50 °C
Storage temperature range	-30 to +60 °C
Air humidity	20 to 80 %RH, not condensing
Housing protection class (IEC 60529)	IP54
Vibration (IEC 60068-2-6)	2G
Physical features	
Weight	510 g
Dimensions (LxWxH)	219 x 96 x 95 mm
Housing	PC - ABS
PC software	
System requirements	Windows 10, Windows 8, Windows 7
Standards, tests	
EU directive	EMC: 2014/30/EU RED: 2014/53/EU

<sup>1)</sup> Wireless permit in EU, EFTA, USA, Canada, Australia, Turkey

