



Committing to the future

See more with the thermal imager **testo 880**

Now with:
Auto Hot/Cold Spot Recognition
and new pro software

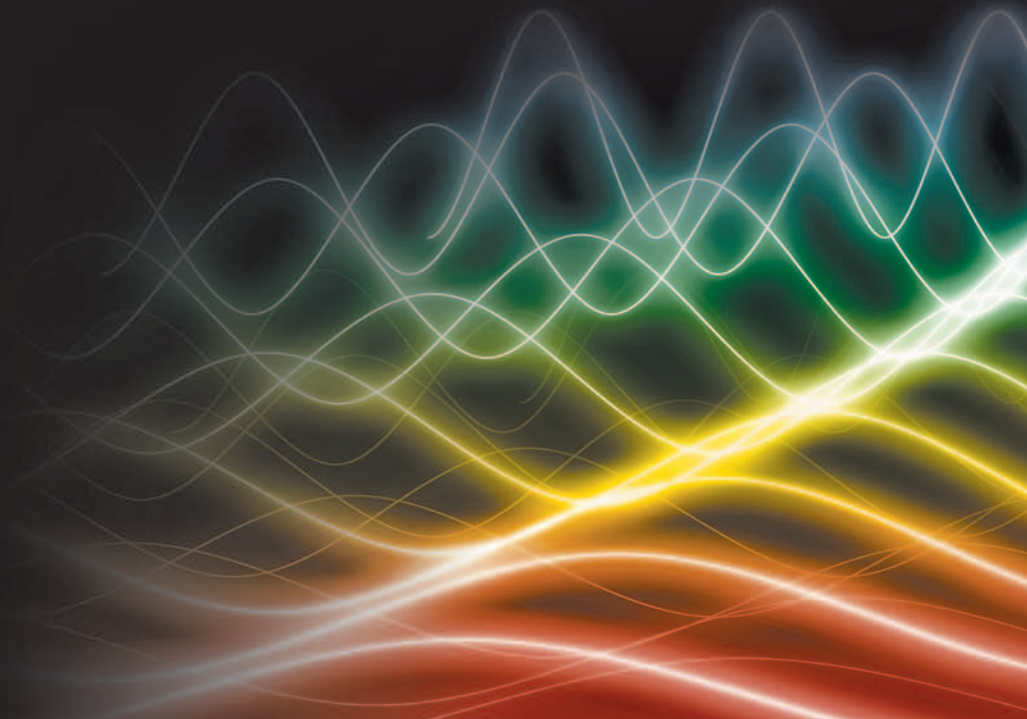


TO SEE MORE...

Infrared radiation cannot be perceived by the human eye. However, all objects whose temperature is above the absolute zero point of approximately -273 degrees centigrade, emit infrared radiation.

Thermal imagers can convert infrared radiation into electric signals, and thus present them visually. With the excellent image quality of the testo 880, even the smallest temperature differences can be seen. With it, Testo is committing to the future.

Exchangeable lenses ensure that the correct image section is always visible, highly flexibly and depending on the requirements. The additionally integrated digital camera considerably facilitates documentation.

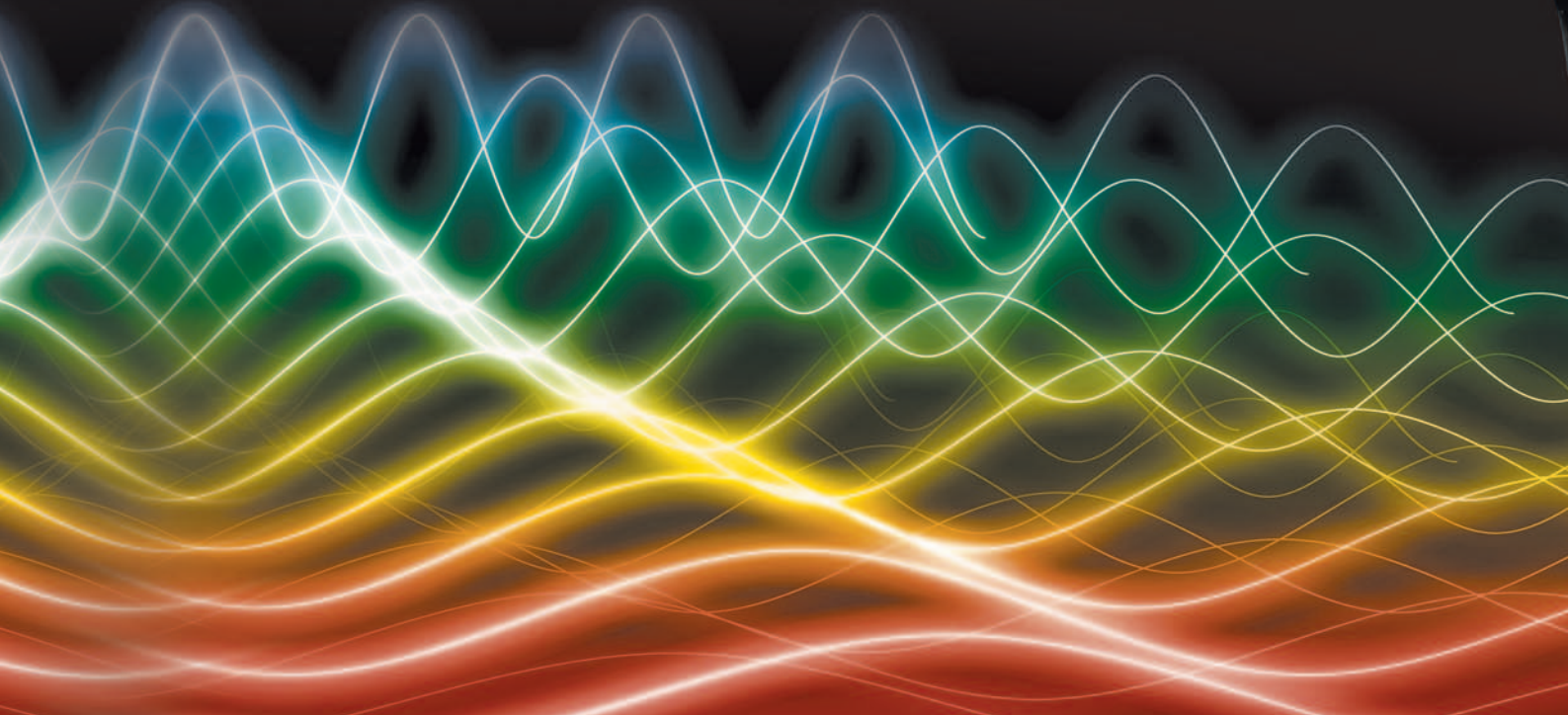


...IS TO KNOW MORE

Mobile thermal imagers scan equipment or buildings, and transform infrared radiation into visible thermal images with which a qualitative and quantitative analysis of temperature can be conducted.

The use of portable infrared measuring instruments offers great potential for assistance in many areas. Thermal imagers are of great significance in preventive service and maintenance, but also in building and production monitoring, as well as in technical diagnostics. A thermal imager detects anomalies, thus making the search for errors and the early implementation of correctional measures possible. It checks materials and components completely without any damage and exposes problem zones before a malfunction can occur. While other methods require production to be halted, or pipe systems to be dismantled, with the testo 880 a single glance is sufficient.

In many cases – whether in trade or in industrial surroundings – the use of thermography offers possibilities for improving quality, securing process and achieving new performance.



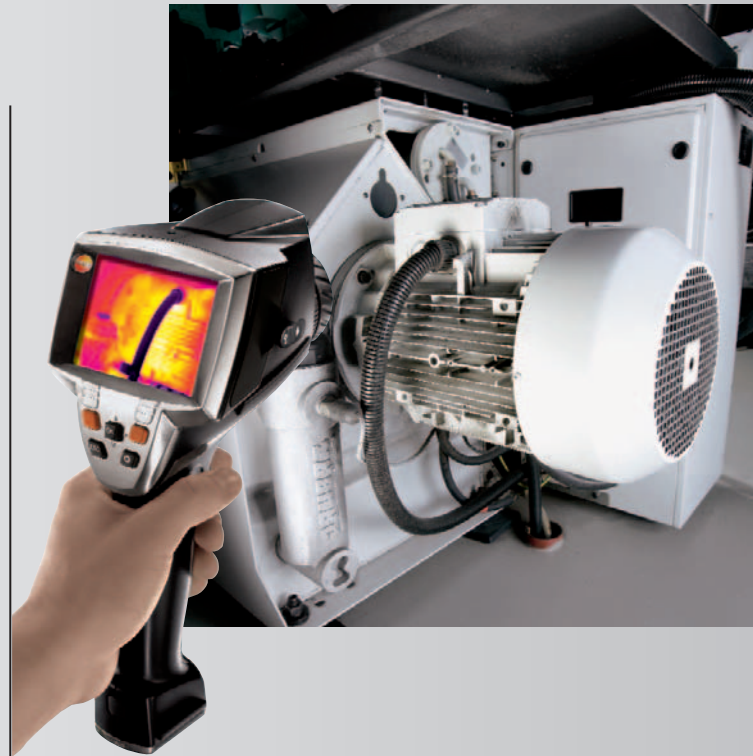
Industrial thermography

Mechanical maintenance

Infrared measurements also offer multiple possibilities for use in industrial preventive maintenance.

A reliable early recognition of developing damage to process-relevant system components is important in order to guarantee high security and reliability of the machines. Heat development, especially in mechanical components can indicate strain caused by friction, incorrect adjustment, excessive tolerances of the components or insufficient lubrication

With its high temperature resolution, the testo 880 provides an exact diagnosis. Localization of defects is safe and easy with the Auto Hot/Cold Spot Recognition. Critical warming levels can be detected immediately, and preventive steps taken.



Production monitoring and R & D

In the areas of process monitoring, quality assurance of the product, or research and development, the use of a thermal imager is, in many cases, the prerequisite for more security and precise situation analyses.

In addition to foreign bodies, anomalies in the heat distribution of components in production processes can thus also be detected quickly and without contact. When checking electrical assemblies, e.g. on circuit boards, the very short minimum focus distance of 10 cm helps to detect overheated components exactly.



Electrical maintenance

In low, medium and high voltage systems, infrared thermography allows an evaluation of the level of warming. Thermographic images enable defective components or connections to be identified early and the required preventive steps taken. This minimizes the danger of fire and helps to avoid costly production downtimes.

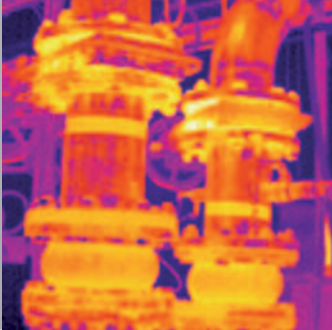
Documentation of results plays an important part in preventive maintenance. The testo 880 offers integrated measurement site management for the structuring of inspection routes. In addition to the infrared image, a real

image of the measurement site can be recorded with the integrated digital camera. The power LEDs illuminate dark areas. The allocation of the real image to the infrared image is carried out by the software.

The PC software with multi-page report creation links the image data automatically and allows fast, clear and easy documentation of the inspections.

The automatic Hot/Cold Spot Recognition allows fast and direct analysis of weak points, not only on site, but also in detailed evaluation of the measurement on a PC.

Perfect results thanks to exact and reliable inspection



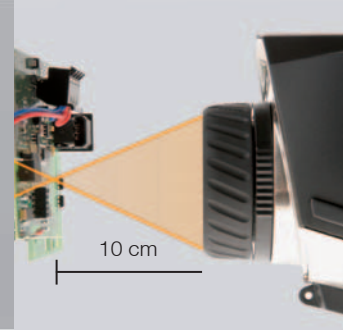
Superlative image quality ensures reliable diagnoses, even for the smallest temperature differences



Integrated digital camera with power LEDs for the optimum illumination of dark areas



Dynamic motor focus for one-hand operation



Very short minimum focus distance of approx. 10 cm for small objects

33 Hz real time image

Thermal resolution $<0.1^{\circ}\text{C}$

Large display, 320 x 240 pixels



testo 880 – leading edge technology in a new price dimension

With a thermal resolution $< 0.1\text{ }^{\circ}\text{C}$, perfectly developed electronics for the optimum utilization of the detector, the testo 880 delivers high definition images which satisfy even the most demanding user. A wide angle and a telephoto lens enable adaptation to the different sizes and distances of measurement objects. The optimum exploitation of the IR radiation is guaranteed by the high-quality germanium optics.

testo 880, with an integrated digital camera and image-in-image function, links real and IR images for fast, safe and easy documentation. An exchangeable protective glass prevents damage to the valuable optics.

The easy creation of file structures reduces to a minimum the administrative effort for the planning and management of the images, measurement sites and tours.

The clearly structured and user-friendly PC software allows the comprehensive analysis and evaluation of thermograms. You can now process, analyze and document several parallel infrared images in a thermography report together with their respective real images. In order to achieve precise analysis results, it is possible to correct the thermal image according to the different emissivities of the various materials by area, right up to individual pixels.



Power LEDs

Integrated digital camera

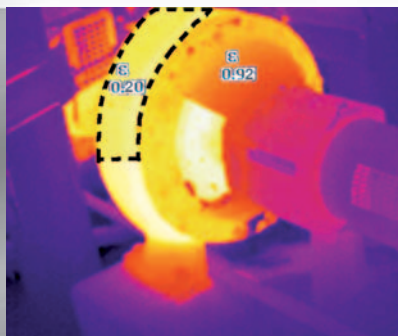
High-quality F1 lens with exchangeable IR protective glass

3

Easy analysis



Image-in-image function for easier orientation and simple documentation



Change in emissivity by area for more exact temperature analysis



Multi-page reports for complete documentation

2

Versatile and user-friendly

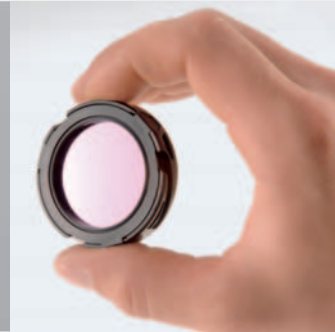


Dynamic motor focus

Real time humidity
measurement by wireless
probe



With exchangeable lens for highest
versatility under different
application conditions



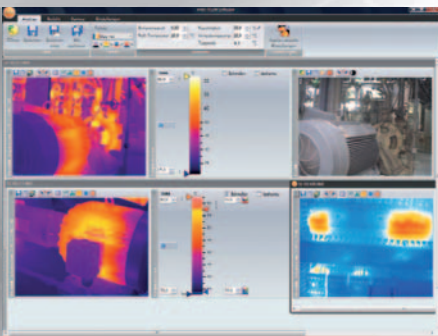
The IR protective glass protects
the lens from dust and scratches



USB connection

SD card

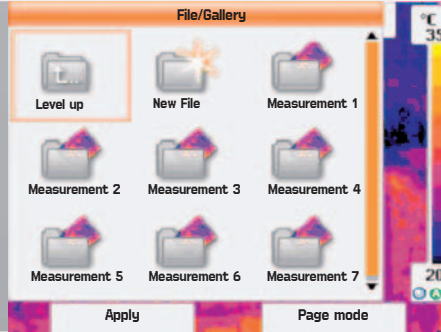
Freely programmable fast selection
buttons



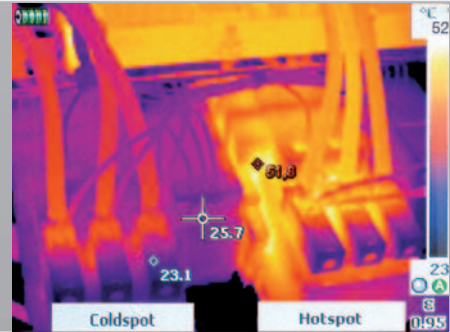
Simultaneous evaluation and comparison of
several images



Easy joystick operation for navigating through menu and image gallery



Measurement site management for creating inspection plans



Automatic Hot/Cold Spot Recognition for fast localization of errors



Intuitive menu structure



Special software for multi-page reports



An overview

testo 880-1

The starter instrument for fast fault-finding and quality assurance

- High-quality wide angle lens 32°x 24° with F1 optics
- Detector 160 x 120
- NETD <0.1°C
- Minimum focus distance 10 cm
- Data storage device SD, 1 GB for approx. 800-1000 images
- Built-in digital camera
- Image refresh rate 9 Hz
- Manual focus

testo 880-1

Part no. 0563 0880 V1

testo 880-2

The professional thermal imager with extensive analysis functions, extendable by telephoto lens

- High-quality wide angle lens 32°x 24° with F1 optics
- Detector 160 x 120
- NETD <0.1°C
- Minimum focus distance 10 cm
- Data storage device SD, 1 GB for approx. 800-1000 images
- 33 Hz- version (inside EU, 9 Hz outside)
- Manual focus
- Exchangeable lenses
- Display of surface moisture distribution
- Lens protection glass

testo 880-2

Part no. 0563 0880 V2

testo 880-3

The expert's thermal imager for complete analysis and real image documentation

- High-quality wide angle lens 32°x 24° with F1 optics
- Detector 160 x 120
- NETD <0.1°C
- Minimum focus distance 10 cm
- Data storage device SD, 1 GB for approx. 800-1000 images
- Built-in digital camera with power LED's
- 33 Hz- version (inside EU, 9 Hz outside)
- Dynamic motor focus
- Exchangeable lenses
- Display of surface moisture distribution
- Lens protection glass
- Real-time display of surface moisture distribution with wireless humidity probe (optional)**

testo 880-3

Part no. 0563 0880 V3

All cameras are delivered in a robust case incl. pro software, SD card, USB cable, mains unit, Li-ion batteries and an adapter for tripod mounting.

Thermography seminars: Learn more. Know more. See more.

The Testo Academy offers thermography seminars with qualified experts. The theoretical fundamentals and principles of infrared measurement technology are the beginning. Extensive expert knowledge can then be gained in further modules, up to a certified seminar culminating in an exam. The duration of the seminars is generally one to five days. Practical exercises and examples are found in all the blocks. More information on thermography seminars can be obtained from the Testo Academy:

Testo-Akademie
Testo-Str. 1
D-79853 Lenzkirch
Tel. ++49 7653 681-337
Fax ++49 7653 681-445
E-mail: akademie@testo.de

testo 880-3 Pro-Set

The expert's thermal imager with unbeatable price advantage

Additionally to the delivery scope of testo 880-3, the set contains:

- One telephoto lens 12° x 9°,
- One additional battery,
- One fast charger,
- The sunshield.



testo 880-3 Pro-Set

Part no. 0563 0880 V4

Ordering information

| | Order code | testo 880-1 0563 0880 V1 | testo 880-2 0563 0880 V2 | testo 880-3 0563 0880 V3 | testo 880-3 Pro-Set 0563 0880 V4 |
|-----------------------------|------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------------|
| Additionally in case | | | | | |
| Lens protection glass | C1 | ● | ● | ● | ● |
| Telephoto lens | A1 | – | ● | ● | ● |
| Additional battery | D1 | ● | ● | ● | ● |
| Fast charger | E1 | ● | ● | ● | ● |
| Sunshield | F1 | ● | ● | ● | ● |
| Humidity measurement* | B1 | – | – | ● | ● |

All imagers are delivered in a robust case including SD card, USB cable, software, mains unit and adapter plate for tripod mounting.

● Standard ● Optional – Not available

| Accessories | Part no. |
|------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Aluminium tripod Professional, extremely light and stable aluminium tripod with quick release legs and 3-way tripod head | 0554 8804 |
| Lens protection glass Special protective glass made of germanium, for optimum protection against dust and scratches | 0554 8805 |
| Additional battery Additional Lithium-ion battery to prolong operating time | 0554 8802 |
| Fast charger Desktop fast charger for two batteries to optimize charging time | 0554 8801 |
| Sunshield Special sunshield for the display of the testo 880 in bright surroundings | 0554 8806 |
| Retrofit telephoto lens (for testo 880-2 and -3); please contact our customer service | |
| Emission adhesive tape Adhesive tape e.g. for reflective surfaces (roll, L.: 10 m, B.: 25 mm), E=0.95 heatproof up to +300°C | 0554 0051 |
| ISO calibration certificate 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 -18 °C to 250 °C | 0520 0495 |
| Retrofit wireless humidity measurement (for testo 880-3 only) 869.85 MHz FSK | 0554 8811 |
| (For the countries AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LT, LU, LV, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, ZA) | |
| 915 MHz FSK | 0554 8812 |
| (For the countries BR, CA, CL, CO, MX) | |



Fast charger



Sunshield



Additional battery



Lens protection glass



Aluminium tripod

Technical data

| | testo 880-1 | testo 880-2 | testo 880-3 |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-----------------------------------------------------------------------------|
| Image specifications | | | |
| Infrared | | | |
| Optical field/min. focus distance | 32° x 24° / 0,1 m (standard lens), 12° x 9° / 0,6 m (telephoto lens) | | |
| Thermal sensitivity (NETD) | <0,1 °C at 30 °C | | |
| Geometric resolution | 3,5 mrad (standard lens), 1,3 mrad (telephoto lens) | | |
| Image refresh rate | 9 Hz | 9 Hz outside, 33 Hz inside EU | |
| Focus | manual | | manual + motorized |
| Detector type | FPA 160 x 120 pixels, a.Si, temperature-stabilized | | |
| Spectral range | 8 to 14 µm | | |
| Visual | | | |
| Optical field/min. focus distance | 33,2° x 25,2° / 0,4 m | | 33,2° x 25,2° / 0,4 m |
| Image size | 640 x 480 Pixel | | 640 x 480 Pixel |
| Image refresh rate | 8 ... 15 Hz | | 8 ... 15 Hz |
| Image presentation | | | |
| Image display | 3.5" LCD with 320 x 240 Pixel | | |
| Display options | IR image only / real image only / IR and real image | IR image only | IR image only / real image only / IR and real image |
| Video output | USB 2.0 | | |
| Video stream | 9 Hz | | 25 Hz |
| Colour palettes | 8 options | | |
| Measurement | | | |
| Temperature range | -20 to +100 °C 0 to +350 °C (switchable) | | |
| Accuracy | ±2 °C, ±2% of mv | | |
| Minimum diameter measurement point | 10 mm at 1 m (standard lens), standard 4 mm at 1 m (telephoto lens) | | |
| Switch-on time | 40 s | | |
| Humidity measurement and air temperature measurement with wireless probe (optional) | | | 0 to 100 %RH / -20 to +70 °C td -20 to +70 °C (air temperature with NTC) |
| Accuracy wireless probe | ±2 %RH / ±0,5 °C (air temperature) | | |
| Measurement functions | Standard measurement (1-point), 2-point measurement, Hot/Cold Spot recognition Display of surface moisture distribution via manual input of humidity Optional humidity measurement with wireless humidity probe | | |
| Reflected temperature compensation | manual | | |
| Setting emissivity | Nine materials programmable, of which one user-defined (0.01 - 1.0) | | |
| Image storage | | | |
| File format | .bmt; export possibility to in .bmp, .jpg, .csv | | |
| Data storage device | SD card | | |
| Store capacity | 1 GB (approx. 800-1.000 images) | | |
| Optics | | | |
| Standard lens (32°) | yes | | |
| Telephoto lens (12°) | no | yes, optional | |
| Laser measurement spot marking | | | |
| Classification of laser | 635nm, Class 2 | | |
| Current supply | | | |
| Battery type | Fast charging, Li-ion battery, changeable on site | | |
| Operating time | approx 5 h at 20 °C | | |
| Charging options | in instrument/charger (optional) | | |
| Mains operation | yes | | |
| Output voltage | 5 V / 4 A | | |
| Ambient conditions | | | |
| Operating temperature range | -15 to +40 °C | | |
| Storage temperature range | -30 to +60 °C | | |
| Air humidity | 20 % to 80 %RH non-condensing | | |
| Protection class of housing | IP54 | | |
| Physical characteristics | | | |
| Weight | 900 g | | |
| Dimensions | 152 x 106 x 262 mm | | |
| Tripod mounting | yes, with adapter, included in delivery | | |
| Housing | ABS, diecast zinc | | |
| PC software | | | |
| System requirements | Windows XP (Service Pack 2), Windows Vista, interface USB 2.0 | | |
| Norms, tests, warranty | | | |
| EU guideline | 2004 / 108 / EG | | |
| Warranty | 2 years | | |

