See more with our thermal imagers
testo 875 and testo 881

NEW

For industrial
thermography applications

testo 875 and testo 881 for industrial thermography applications

Thermal imager model 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 quickly and reliably discover anomalies and weak spots in industrial maintenance and production monitoring. Materials and components are checked completely damage-free. Problematic areas are detected before a malfunction occurs or fire risks occur. Whereas with other methods you have to stop production processes or dismantle cable or pipeline systems, with a testo thermal imager, a single glance is enough.

Industrial thermography with testo saves time, energy and money and ensures more security allround.

Thermal imager testo 875

Even the smallest temperature differences can be identified with the high temperature resolution of the new testo thermal imagers. Highly flexible and application-oriented, interchangeable lenses ensure that the right image section is always visible in the imager display. The additionally integrated digital camera considerably facilitates documentation.

Testo thermal imagers for day-to-day applications in industry. Provide security and prevent damage!

Stand Out Features:

1. **Intuitive operating menu**

Single handed operation is easy with motorized focus and 5-way joystick navigation.

It offers fast and convenient operation, and supports your setup preferences.

File creation is quick and easy on-site, or the structure can be done ahead of time on your PC

Easy operation

2. **Exchangeable lenses for more flexibility**

The choice of wide-angle or telephoto lens allows you to adapt to the differing size and distance of measurement objects. The standard 32º lens provides a large image section, while the 9º telephoto gets you in for a close look at a detailed area. The lens interchangeability is a testo exclusive in this class of imager.

Simply change the lens

3. **Soft-Case for your thermal imager**

You can carry your imager safely and securely with the over-the shoulder fitted protective carrying case. The case leaves your hands free while moving between measurement sites.

Just take it with you in the Soft-Case

4. **Professional analysis software**

The software is clearly structured and powerful and is able to provide you with extensive analysis of your data. You can even make customizable report formats quickly and easily. Multiple image and visual picture pairs can be incorporated in a single report.

The pro software is included with every imager.
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Easy and precise analysis

3

testo 875

Important features and typical applications

1. **Exceptional image quality (meets BPI/RESNET standards for performance testing)**

The testo 875 has a remarkable temperature resolution of 100mK and a large sensor (160 x 120 pixels) providing extraordinary image quality. Testo has utilized enhanced digital image processing to maximize overall image quality on the brilliant, 3.5", color display.

NETD 100 mK

2. **Automatic Hot/Cold Spot Indication**

Pinpoints and displays extreme temperature differences so that the coldest and warmest spot of a measurement object is automatically shown in the imager's display. The Auto Hot/Cold Spot Indication also helps you with analysis and documentation when evaluating the details later on a PC.
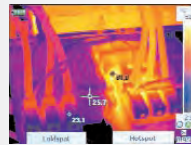
3. **Lens protection**

The lens protection cap, made of germanium, is permeable to infrared radiation and is simple to attach to the lens. It protects the high performance optics from dirt and scratches.

4. **Integrated digital camera**

A very handy function that links real and infrared images in the display for quicker analysis and interpretation. The real image is automatically stored with the IR image and can be recalled anytime on your PC.
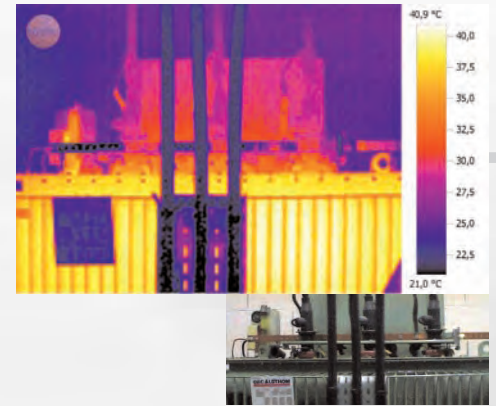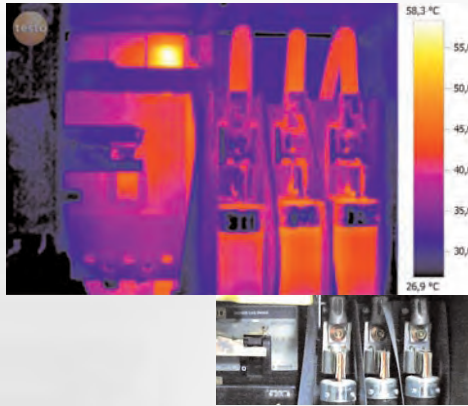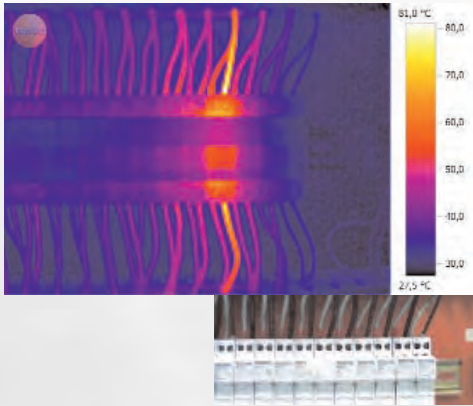
testo 875

Thermography in industry

Thermography has proven its worth as a tool for preventative maintenance of both mechanical and electrical systems and production processes. In the Research and Development sector, thermal imagers are also used in the inspection of heat distribution on circuit boards.

For regular checks in electrical maintenance

Infrared thermography can help evaluate heat status in low, middle and high-voltage systems and can provide early detection of defective components or connections. These defects usually manifest themselves with an increased generation of heat. The thermal imager visualizes this temperature increase. It can also document results and record a digital image for later reference and analysis. The professional sofware automatically allocates the real image to the infrared image.


Thermal imager testo 875

Hot/Cold Spot Indication

For support in preventive
mechanical 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. A high level of heat emissions, especially from mechanical components may indicate an elevated level of stress. This is caused, for example, by friction, faulty adjustment, component tolerances or a lack of lubricant. With its high temperature resolution of < 80 mK, the testo 881 provides an exact diagnosis. Use the isotherm function to identify critical heat status and take appropriate preventative measures.

For fast and easy
monitoring of filling levels

Level control in sealed fluid tanks has proved to be a useful tool for avoiding machine damage and therefore production losses. If, for example, the fluid in coolant tanks falls to a dangerously low level, machines may no longer be cooled correctly. They run hot and may fail. Often, an automatic level control regulates the level of coolant and issues an alarm if the level is too low. However, this automatic control can also fail. In this case, a quick look through a thermal imager is a money saving check-up.

Isotherm function
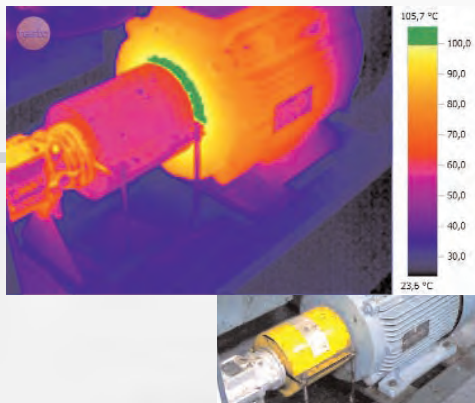
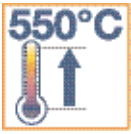Motor focus
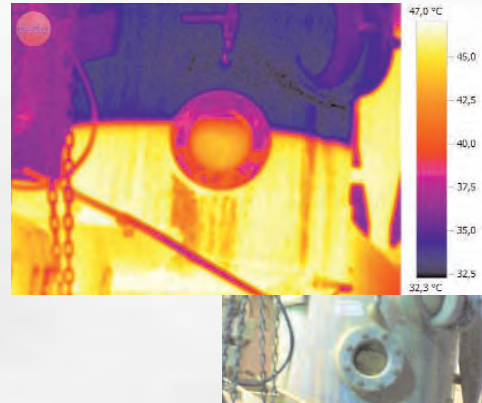
MIN / MAX

Digital camera

Good

Protective lens

More reliability in
quality assurance and production monitoring

Use the 875 and 881 to provide support during the production process. They are able to quickly detect anomalies in the distribution of heat in components or suspected defects in the production equipment with one glance.
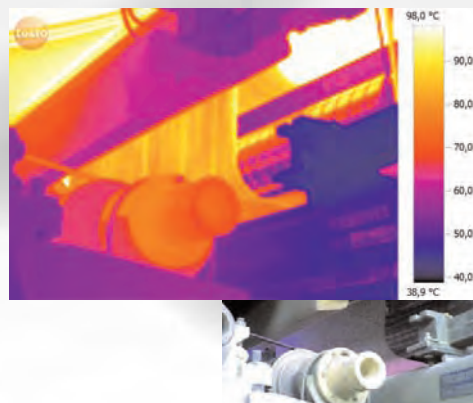
For reliable high-temperature measurement

(1022°F)

With the high temperature filter (optional) you can extend the measuring range of the 881 up to 1022°F, (550°C).

High temperatures applications are more common in industrial applications and also require measuring from a further distance from the object. testo 875 and testo 88 easily adapt to these special conditions with the interchangeable lenses and hi-temp filter options.

High temperature option

Interchangeable lenses

image quality
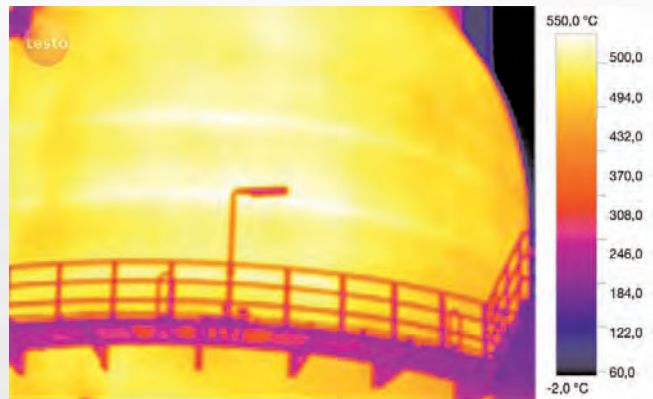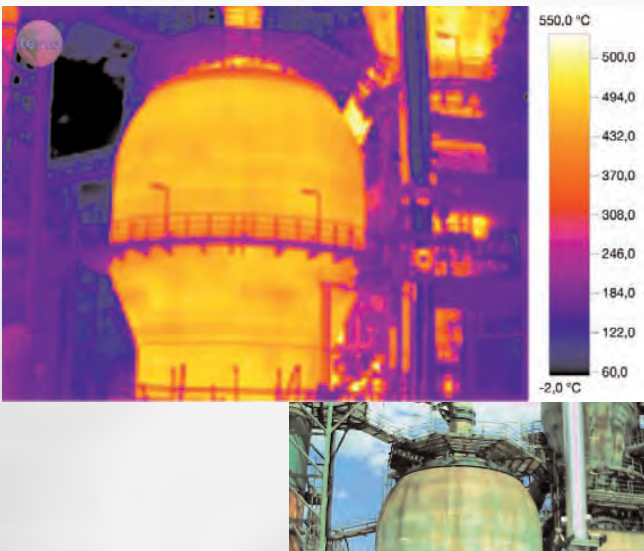
Ensuring power generation

Energy is an essential commodity to our way of life. It is the responsibility of power generators and utilities to ensure that failures are prevented from generation all the way through to distribution. Therefore, preventative maintenance of electrical and mechanical components is critical. The 875/881 save valuable time and money by detecting potential problems before they cause expensive downtimes.
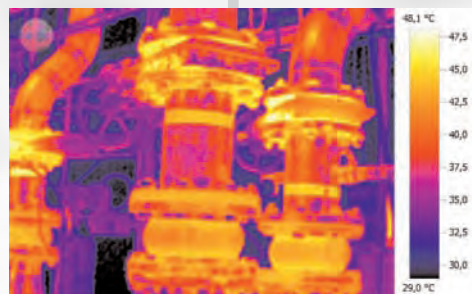
Analyzing the

superheating of circuit boards

Pinpointing super heated components on circuit boards can be difficult and even dangerous. With the testo 875 and 881 you can target specific areas that you suspect are overheated. Because our imagers come standard with a 32° lens with a minimum focus distance of 4"small details can be detected on a large image section.

Minimum focus distance of 4"

Voice recording

Thermal imager testo 881

testo 881
Important features and typical applications...

1. **Exceptional image quality (exceeds BPI/RESNET standards for performance testing).**

The testo 881 has the extraordinary temperature resolution of <80mK and a large sensor array (160 x 120 pixels) providing outstanding image quality and brilliant 3.5" display.

2. **Voice recorded notations**

Make verbal/audio notes to accompany any captured image using the 881's integrated voice recording function. The recording facilitates your report writing as you bring up the saved images in the software.

3. **Built-in digital camera with powerful illumination**

All testo 881 models include an integrated digital camera and offer optional LED lighting to illuminate your workspace for the visual photos. The imager links the captured visual and thermal images in a single file so they are readily accessible for analysis and reporting.

4. **Isotherm function / Temperature highlights**

The testo 881 features user defined optical alarm that highlights the targeted temperature on the display. This provides critical temperature differentiation of your measurement object.
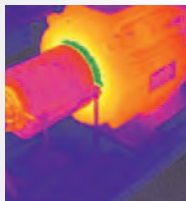
5. **MIN / MAX**

Displays the minimum and maximum values of an image section for easy comparison and analysis
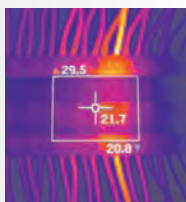
6. **Motor focus for one-hand operation**

Convenient motor focus enables you to safely operate the imager with just one hand

7. **High temperature extension (optional)**

Easily extend the temperature measuring range of the testo 881up to 1022°F (550°C) when you fit it with the optional high temperature filter.

Model 875 thermal imagers

testo 875-2i Deluxe Kit

· NETD 100 mK
· High-quality standard lens 32° x 23°
· Integrated digital camera
· Display of surface moisture distribution
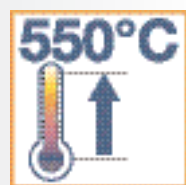· Auto Hot/Cold spot indication
· Manual focus
· Temperature range -4 tp 536°F, (-20 to +280 °C)

PLUS
· Telephoto lens 9° x 7°
· Protective lens
· Additional battery
· Charger
· Sun Shield

testo 875-2i Deluxe Kit
Order no.: 0563 8753

testo 875-1i

· NETD 100 mK
· High-quality standard lens 32° x 23°
· Auto Hot/Cold Spot Indication
· Manual focus
· Temperature range
  -4 to 536°F,
  (-20 to +280 °C)

testo 875-1i
Order no.: 0560 8754

testo 875-2i

· NETD 100 mK
· High-quality standard lens 32° x 23°
· Integrated digital camera
· Display of surface moisture distribution
· Auto Hot/Cold Spot Indication
· Manual focus
· Temperature range -4 to
  536°F, (-20 to +280 °C)
·· Telephoto lens (optional)

testo 875-2i
Order no.: 0560 8753

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

Accessories	Order no.
Aluminum tripod	
Professional, extremely light and stable aluminum tripod with quick-release legs and a 3-way tripod head	0554 8804
Protective lens	
Special germanium lens protects against dust and scratches	0554 8805
Additional battery	
Additional lithium-ion battery for extended operation	0554 8802
Two bay charger	
Desktop charger quickly charges two batteries at a time	0554 8801
Sun Shield	
Reduces glare on the display in bright conditions	0554 8806
Soft-Case	
Protective carrying case with shoulder strap	0554 8814
Retrofit telephoto lens	
(only with models, 881-3 and 875-2); please contact our customer service department	
Retrofit high-temperature measurement	
(only with testo 881-3); please contact our customer service department	
Emissivity adhesive tape	
Adhesive tape, i.e for reflective surfaces (roll, L.: 32 ft., W.: 1"), ε=0.95 heatproof up to +572 °F	0554 0051
ISO calibration certificates for testo 880	
Calibration points at 32 °F, 77 °F, 122 °F in measuring range -4 °F to 212 °F	0520 0489
Calibration points at 32 °F, 212 °F, 392 °F in measuring range 32 °F to 662 °F	0520 0490
Freely selectable calibration points in the range between -0.4 °F to 482 °F	0520 0495

Model 881 thermal imagers

testo 881-3 Deluxe Kit

· 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 Indication
· Dynamic motor focus
· Temperature range -4 to 662°F, (-20 to +350 °C),
· 33 Hz refresh rate
· Headset for voice recording
· Isotherm display in instrument
· MIN / MAX
· High-temperature measurement (optional)

PLUS:
· Telephoto lens 9° x 7°
· Protective lens
· Additional battery
· Charger
· Soft-Case

testo 881-3 Deluxe Kit
Order no.: 0563 0881 74

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 Indication
· Dynamic motor focus
· Temperature range -4 to 662°F,(-20 to +350°C)
· 33 Hz refresh rate
· Headset for voice recording
· Isotherm display in instrument
· MIN / MAX
· High-temperature measurement (optional)

testo 881-3
Order no.: 0563 0881 73

testo 881-1

· NETD < 80 mK
· High-quality standard lens 32° x 23°
· Integrated digital camera
· Auto Hot/Cold Spot Indication
· Manual focus
· Temperature range -4 to 662°F, (-20 to +350°C)
· 33 Hz image refresh rate

testo 881-1
Order no.: 0563 0881 71

		881-1	881-3	881-3 Deluxe Kit
	Order no.:	0563 0881 71	0563 0881 73	0563 0881 74
Also included in delivery:				
Protective lens	0554 8805	⚪	🟠	🟠
Telephoto lens	on request	–	⚪	🟠
Additional battery	0554 8802	⚪	⚪	🟠
Two bay charger	0554 8801	⚪	⚪	🟠
Soft-Case with shoulder strap	0554 8814	⚪	⚪	🟠
Display sun shield	0554 8806	–	⚪	⚪

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

🟠 Standard   ⚪ Optional   – Not available

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

Which thermal imager is right for you

Feature	875-1i	875-2i	881-1		881-3	
High thermal sensitivity (NETD)	100 mK		< 80 mK			The NETD displays the smallest temperature difference that the imager is able to resolve. A low NETD assures the resolution of the smallest temperature differences. An industry standard rule of thumb to rememeber is: The smaller the NETD value, the better the measurement resolution of the camera and the better the image quality.
Temperature range	-4 to 536°F (-20 to +280 °C)		-4 to 662°F (-20 to +350 °C)			The temperature range refers to the temperature limit your imager is able to record and measure the heat radiation of object(s).
Image Refresh rate	9 Hz		33 Hz			The image refresh rate refers to how often the thermal image is refreshed per second. A high image refresh rate guarantees real time image reproduction, and provides you with reliable infrared images.
Standard lens 32° x 23°	✓	✓	✓		✓	The 32° lens allows you to scan a large area quickly, for an overview of the temperature distribution of your measurement object.
Interchangeable telephoto lens 9° x 7°		✓			✓	The interchangeable telephoto lens enables you to measure smaller details and helps you to visualize details even at greater distances.
High temperature up to 1022°F (550 °C) (optional))					✓	You can extend your measurement range with the high temperature option. Using a high temperature filter you can increase the temperature range up to 1022 °F, (550 °C).
Automatic Hot/Cold Spot Indicator	✓	✓	✓		✓	The coldest and the hottest spot of your measurement object are automatically identified in the display – critical heat status can be detected at a glance.
MIN / MAX					✓	Displays the minmum and maximum value of an object or area
Isotherm function					✓	The color alarm highlights critical areas easily on site and pinpoints temperature values in color within a user-defined range.
Surface moisture display with ambient inputs		✓			✓	Surface moisture is identified in a special scale after air temperature relative humidity and dewpoint are manually entered
Voice recording					✓	During a measurement you can add valuable information regarding a thermal image with the convenient voice recording function.
Integrated digital camera		✓	✓		✓	Automatically, displays and stores the digital image simultaneously with each inrared image.
Integrated LEDs					✓	The integrated power LEDs guarantee you optimum illumination of dark areas when recording digital images.
Motor focus					✓	The dynamic motor focus allows you to operate the thermal imager safely with just one hand.

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Technical Data

	875-1i	875-2i	881-1	881-3
Infrared image output				
Detector type	FPA 160 x 120 pixels, a.Si		FPA 160 x 120 pixels, a.Si	
Thermal sensitivity (NETD)	100 mK at +30 °C(86°F)		< 80 mK at +30 °C (86°F)	
Field of view/min. focus distance	32° x 23° / 4" (standard lens), 9° x 7° / 20" (telephoto lens)		32° x 23° / 4" (standard lens) 9° x 7° / 20" (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	
Focus	manual		manual	manual and motor focus
Spectral range	8 to 14 µm		8 to 14 µm	
Visual				
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
Image presentation				
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 visual image/ IR and visual image	only IR image/ only visual image/ IR and visual image	only IR image/ only visual image/ IR and visual image
Video output	USB 2.0		USB 2.0	
Color palettes	4 options (ironbow, rainbow, blue/red, greyscale)		9 options (ironbow, rainbow, cold/hot, blue/red, grey, inverted grey, sepia, testo, ironbow HT)	
Measurement				
Temperature range	-4 to 232°F (-20 °C to +100 °C) 32 to 536°F (0 °C to +280 °C), (switchable)		-4 to 232°F (-20 °C to +100 °C/ 32 to 536°F (0 °C to +350 °C) (switchable)	
High-temperature measurement (optional)	–		–	+662 °F to +1022 °F
Accuracy	±2 °C, ±2 % of rdg, (-4 °F to +536 °F)		±2 °C, ±2 % of rdg (-4 °F to +536 °F)	
	–		–	±3 % of rdg (+662 °F to +1022 °F)
Minimum diameter measurement point	0.4" at 3 ft. (standard lens), 0.12" at 3 ft. (telephoto lens)		0.4" at 3 ft. (standard lens), 0.12" at 3 ft, (telephoto lens)	
Setting emissivity	0.01 to 1		0.01 to 1	
Reflected temperature compensation	manual		manual	
Imager equipment				
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
Voice recording	–		–	yes (with headset)
Display of surface moisture distribution	–	yes (with manual data input)	–	yes (with manual data input)
Measuring functions	Center point	Standard measurement (1-point)	Standard measurement (1-point)	
	Hot/Cold Spot Indication		Hot/Cold Spot Indication	
	–		Two-point measurement	
	–		–	Isotherms
	–		–	MIN / MAX
Image storage				
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)	
Power supply				
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	
Power Supply	In instrument/in charging station (optional)		In instrument/in charging station (optional)	
	Yes		Yes	
Ambient conditions				
Operating temperature range	5 °F to +104 °F		5 °F to +104 °F	
Storage temperature range	-22 °F to +140 °F		-22 °F to +140 °F	
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	
Physical features				
Weight	approx. 2 lbs		approx. 2 lbs	
Dimensions (L x W x H)	6" x 4.2" x 10.3"		6" x 4.2" x 10.3"	
Tripod mounting	Yes		Yes	
Housing	ABS		ABS	
PC software				
System requirements	Windows XP (Service Pack 2), Windows Vista, USB 2.0 interface		Windows XP (Service Pack 2), Windows Vista, USB 2.0 interface	
Norms, tests, warranty				
EU guideline	2004/108/EC		2004/108/EC	
Warranty	2 years		2 years	