Data sheet
testo 890

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Thermal imager

testo 890 – Thermography for the highest demands

°C

%RH

- Infrared resolution 640 x 480 pixels
  testo SuperResolution technology to 1280 x 960 pixels
- Thermal sensitivity < 40 mK
- Flexibility thanks to rotatable handle and fold-out, rotatable display
- Exchangeable lenses
- Special measurement mode for mould-risk areas
- High temperature measurement up to 1,200 °C
- Panorama image assistant
- SiteRecognition technology
- Fully radiometric video measurement and image sequence capturing

The thermal imager testo 890 offers outstanding image quality for the highest thermographic demands. Thanks to the high-quality infrared measurement system with a 640 x 480-pixel detector, thermal images can be recorded in megapixel quality (1290 x 960) using the SuperResolution technology. This means that even the smallest measurement objects such as electronic components or far distant measurement objects, e.g. on industrial plants, can be safely recorded thermographically in best image quality and high resolution. Even thermal processes can be precisely analyzed over time using the fully radiometric video measurement: all measurement points of the thermal image are available, accurate to the pixel, at all times.

Ordering data

testo 890 thermal imagers	Part no.	
testo 890 thermal imager with integrated testo SuperResolution and one lens (choice between 42° standard lens, 25° lens and 15° telephoto lens) in a robust case, including pro software (free download), SD card, USB cable, carrying strap, lens-cleaning cloth, mains unit, Li-ion rechargeable battery and headset	0563 0890 X1	
Thermal imager testo 890 with integrated testo SuperResolution and super-telephoto lens in a robust case incl. pro software (free download), SD card, USB cable, carrying strap, lens-cleaning cloth, mains unit, Li ion rech. battery, headset	0563 0890 X4	

testo 890 sets with your selection of lenses

testo 890 thermal imager with integrated testo SuperResolution in a robust case, including pro software (free download), SD card, USB cable, carrying strap, lens-cleaning cloth, mains unit, Li-ion rechargeable battery, lens protection glass, spare rechargeable battery, fast charger, headset and lens case. Choice between 42° standard lens, 25° lens and/or 15° telephoto lens

	Part no.	
testo 890 set with two lenses – see above for further set components	0563 0890 X2	
testo 890 set with three lenses – see above for further set components	0563 0890 X3	
testo 890 set with SuperTele and one lens – see above for further set components	0563 0890 X5	
testo 890 set with SuperTele and two lenses – see above for further set components	0563 0890 X6	

Accessories

	Code[1] (Initial equipment)	Part no. (Retrofit)	
SuperResolution. Four times more measurement values for even more detailed analysis of the thermal images	included in delivery	0554 7806	
Lens protection glass. Special Germanium protection glass for optimum protection of the lens from dust and sctratching	F1	0554 0289	
Additional battery. Additional lithium-ion rechargeable battery for extending the operating time.	G1	0554 8852	
Fast battery charger. Desktop charging station for two rechargeable batteries for the optimization of the charging time.	H1	0554 8851	
High temperature measurement up to +1,200 °C	I1	[2]	
Humidity measurement [3]	E1	[2]	
Telephoto lens 15° x 11°	D1	[2]	
25° Lens	O1	[2]	
Super-telephoto lens 6.6° x 5°	T2	[2]	
Process analysis package: image sequence capturing in instrument and fully radiometric video measurement	V1	0554 8902	
FeverDetection	J1	–	
Emission adhesive tape. Adhesive tape, e.g. for reflective surfaces (roll, L.: 10 m, W.: 25 mm), ε = 0.95, temperature resistant to +250 °C		0554 0051	
PC software testo IRSoft for data analysis and reporting		0501 8809	
ISO calibration certificates; Calibration points at 0 °C, +25 °C, +50 °C		0520 0489 [4]	
ISO calibration certificates; Calibration points at 0 °C, +100 °C, +200 °C		0520 0490 [4]	
ISO calibration certificates; Freely selectable calibration points in the range -18 to +250 °C		0520 0495 [4]	

[1] When ordering as first equipment, you receive the accessories directly in the case. Example: testo 890 incl. lens protection glass and SuperResolution: Order no. 0563 0890 X1 F1 S1

[2] Please contact our customer service

[3] Wireless humidity probes only in the EU, Norway, Switzerland, USA, Canada, Colombia, Turkey, Brazil, Chile, Mexico, New Zealand, Indonesia.

[4] Per lens

[5] Plus installation

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Technical data

Infrared image output	
Infrared resolution	640 x 480 pixels
Thermal sensitivity (NETD)	< 40 mK at +30 °C
Field of view/min. focus distance (Lens version)	42° x 32° / 0.1 m (Standard) 25° x 19° / 0.2 m (25° Lens) 15° x 11° / 0.5 m (Telephoto) 6.6° x 5° / 2 m (Super-telephoto)
Geometric resolution (IFOV) (Lens version)	1.13 mrad (Standard) 0.68 mrad (25° Lens) 0.42 mrad (Telephoto) 0.18 mrad (Super-telephoto)
SuperResolution (pixel / IFOV) (Lens version)	1280 x 960 pixels / 0.71 mrad (Standard) 1280 x 960 pixels / 0.43 mrad (25° Lens) 1280 x 960 pixels / 0.26 mrad (Telephoto) 1280 x 960 pixels / 0.11 mrad (Super-telephoto)
Image refresh rate	33 Hz*
Focus	auto / manual
Spectral range	7.5 to 14 µm
Image output visual	
Image size / min. focus distance	3.1 MP / 0.5 m
Image presentation	
Image display	4.3“ LCD touchscreen with 480 x 272 pixels
Digital zoom	1- to 3-fold
Display options	IR / real image
Video output	USB 2.0, Micro HDMI
Colour palettes	9 (iron, rainbow, rainbow HC, cold-hot, blue-red, grey, inverted grey, sepia, Testo)
Measurement	
Measuring range	-30 to +100 °C / 0 to +350 °C (switchable) 0 to +650 °C (switchable)
Accuracy	±2 °C, ±2 % of measurement value (larger value applies) (±3 °C of m.v. at -30 to -22 °C)
High temperature measurement - optional Accuracy	+350 to +1200 °C (not in connection with the super-telephoto lens) ±2 °C, ±2 % of m.v.
Emissivity / reflected temperature	0.01 to 1 / manual
Transmission correction (atmosphere)	✔
Measuring functions	
Display of surface moisture distribution (using manual input)	✔
Humidity measurement with radio humidity probe (automatic measurement value transfer in real time)**	(✔)
Solar mode	✔
Analysis function	up to 10 measurement points, Hot/Cold Spot Recognition, up to 5 x area measurement (min/max & average), Isotherm and alarm values

* inside the EU, outside 9 Hz
** Wireless humidity probes only in the EU, Norway, Switzerland, USA, Canada, Colombia, Turkey, Brazil, Chile, Mexico, New Zealand, Indonesia
*** excepting USA, China and Japan
**** Bluetooth only in the EU, Norway, Switzerland, USA, Canada, Colombia, Turkey, Japan, Russia, Ukraine, India, Australia

Imager equipment	
Digital camera	✔
Lens version	42° x 32° (Standard) 25° x 19° (25° Lens) 15° x 11° (Telephoto) 6.6° x 5° (Super-telephoto)
SiteRecognition (measurement site recognition with image management)	✔
Panorama image assistant	✔
Laser (laser classification 635 nm, Class 2)***	Laser marker
Voice recording	Bluetooth****/ wired headset
Video measurement (via USB)	up to 3 measurement points
Process analysis package: image sequence capturing in instrument and fully radiometric video measurement	(✔)
FeverDetection	(✔)
Interface	LabVIEW, interface description download on the Testo homepage
Image storage	
File format single image	.bmt; Exportmöglichkeit in .bmp, .jpg, .png, .csv, .xls
File format video (via USB)	.wmv, .mpeg-1 / Testo format (fully radiometric video)
Storage device	SD cart 2GB (approx. 1500 - 2000 images)
Power supply	
Battery type	Fast-charging, Li-ion battery can be changed on-site
Operating time	4.5 hours
Charging options	in instrument / in charger (optional)
Mains operation	✔
Ambient conditions	
Operating temperature range	-15 °C to +50 °C
Storage temperature range	-30 to +60 °C
Air humidity	20 to 80 % RH non-condensing
Housing protection class (IEC 60529)	IP54
Vibration (IEC 60068-2-6)	2G
Physical specifications	
Weight	1630 g
Dimensions (L x W x H)	253 x 132 x 111 mm
Tripod mounting	1/4“ - 20UNC
Housing	ABS
PC software	
System requirements	Windows 10, Windows Vista, Windows 7 (Service Pack 1), Windows 8, interface USB 2.0
Standards, tests	
EU Directive	2004 / 108 / EC

✔ included in delivery (✔) optional

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Overview of variants

Features	testo 890	testo 890 Set
Infrared resolution	640 x 480 pixels	
Thermal sensitivity (NETD)	< 40 mK	
Measuring range	-30 to +650 °C	
Image refresh rate	33 Hz*	
SuperResolution	✔	✔
25° x 19° Lens	(✔)	(✔)
Telephoto lens 15° x 11° *****	(✔)	✔
Super-telephoto lens 6.6° x 5° *****	(✔)	✔
Auto focus	✔	✔
High temperature measurement up to 1,200 °C	(✔)	(✔)
Panorama image assistant	✔	✔
SiteRecognition (measurement site recognition with image management)	✔	✔
Laser marker**	✔	✔
Display of surface moisture distribution (by manual input)	✔	✔
Humidity measurement with wireless humidity probe*** (automatic measurement value transfer in real time)	(✔)	(✔)
HDMI interface	✔	✔
FeverDetection	(✔)	(✔)
Process analysis package: image sequence capturing in instrument and fully radiometric video measurement	(✔)	(✔)
Voice recording using the headset****	✔	✔
Solar mode	✔	✔
Lens protection glass	(✔)	✔
Additional battery	(✔)	✔
Fast battery charger	(✔)	✔

✔ included in delivery
(✔) optional

* inside the EU, outside 9 Hz
** excepting USA, China and Japan
*** Wireless humidity probes only in the EU, Norway, Switzerland, USA, Canada, Colombia, Turkey, Brazil, Chile, Mexico, New Zealand, Indonesia
**** Bluetooth only in the EU, Norway, Switzerland, USA, Canada, Colombia, Turkey, Japan, Russia, Ukraine, India, Australia
***** depending on the selected set

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Subject to change without notice.