

# Datasheet

## Thermal imager

### testo 890 – Thermography for the highest demands

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Detector size 640 x 480 pixels

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SuperResolution technology to 1280 x 960 pixels

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Thermal sensitivity  $< 40$  mK

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Flexibility thanks to rotatable handle and fold-out, rotatable display

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Exchangeable lenses

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Special measurement mode for mould-risk areas

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High temperature measurement up to 1,200 °C

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Panorama image assistant

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SiteRecognition technology

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Fully radiometric video measurement

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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 890-1

Thermal imager testo 890-1 in a robust case incl. pro software, SD card, USB cable, carrying strap, lens cleaning cloth, mains unit, and Li ion rechargeable battery



Part no. 0563 0890 V1

### testo 890-2

Thermal imager testo 890-2 in a robust case incl. pro software, SD card, USB cable, carrying strap, lens cleaning cloth, mains unit, Li ion rechargeable battery and headset

Part no. 0563 0890 V2

### testo 890-2 Set

Thermal imager testo 890-2 set in a robust case incl. pro software, SD card, USB cable, carrying strap, lens cleaning cloth, mains unit, Li ion rechargeable battery, exchangeable lens, lens protection glass, spare battery, fast charger, headset, telephoto lens, lens bag



Part no. 0563 0890 V3

## Accessories

	Code <sup>1)</sup> (Initial equipment)	Part no. (Retrofit)	
SuperResolution. Four times more measurement values for even more detailed analysis of the thermal images	S1	0554 7806	
Lens protection glass. Special Germanium protection glass for optimum protection of the lens from dust and scratching	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	<sup>2)</sup>	
Humidity measurement*	E1	<sup>2) 3)</sup>	
Telephoto lens 15° x 11°	D1	<sup>2)</sup>	
Fully radiometric video measurement incl. logger function	J1	0554 8901	
Emission adhesive tape. Adhesive tape, e.g. for bare surfaces (roll, L.: 10 m, W.: 25 mm), $\epsilon = 0.95$ , temperature resistant to +250 °C		0554 0051	
ISO calibration certificates; Calibration points at 0 °C, +25 °C, +50 °C		0520 0489	
ISO calibration certificates; Calibration points at 0 °C, +100 °C, +200 °C		0520 0490	
ISO calibration certificates; Freely selectable calibration points in the range -18 °C to +250 °C		0520 0495	

\*Wireless humidity probes only in the EU, Norway, Switzerland, USA, Canada, Colombia, Turkey, Brazil, Chile, Mexico, New Zealand, Indonesia

<sup>1)</sup> When ordering as initial equipment, you receive the accessories directly in the case. Example: testo 890-1 incl. lens protection glass and SuperResolution: Order no. 0563 0890 V1 F1S1

<sup>2)</sup> Please contact our customer service

<sup>3)</sup> Plus installation

## Technical data

	testo 890-1	testo 890-2
<b>Infrared image output</b>		
Detector type	FPA 640 x 480 pixels, a.Si	
Thermal sensitivity (NETD)	< 40 mK at +30 °C	
Field of view/min. focus distance	42° x 32° / 0.1 m (Standard lens)	42° x 32° / 0.1 m (Tele: 15° x 11° / 0.5 m)
Geometric resolution (IFOV)	1,13 mrad (Standard lens)	1,13 mrad (Tele: 0.42 mrad)
SuperResolution (pixel / IFOV) - optional	1280 x 960 pixels / 0.71 mrad (Standard lens)	1280 x 960 pixels / 0.71 mrad (Tele: 0.26 mrad)
Image refresh rate	33 Hz*	
Focus	auto / manual	
Spectral range	8 to 14 µm	
<b>Image output visual</b>		
Image size / min. focus distance	3.1 MP / 0.5 m	
<b>Image presentation</b>		
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	
Colour palettes	8 (iron, rainbow, cold-hot, blue-red, grey, inverted grey, sepia, Testo)	
<b>Measurement</b>		
Temperature range	-20 to +100°C / 0 to +350 °C (switchable)	
High temperature measurement - optional	-	+350 to +1,200 °C
Accuracy	±2 °C, ±2% of mv	
Emissivity / reflected temperature	0,01 to 1 / manual	
Transmission correction (atmosphere)	✓	
<b>Measuring functions</b>		
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 3 measurement points, Hot/Cold Spot Recognition, 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

	testo 890-1	testo 890-2
<b>Imager equipment</b>		
Digital camera	✓	
Standard lens	42° x 32°	
Exchangeable lenses - optional	-	15° x 11°
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	
Fully radiometric video measurement incl. logger function (via USB)	-	(✓)
<b>Image storage</b>		
File format single image	.bmt; export option in .bmp, .jpg, .png, .csv, .xls	
File format video (via USB)	.wmv, .mpeg-1	.wmv, .mpeg-1 / Testo format (fully radiometric video)
Storage device	SD card 2 GB (800-1.000 images)	
<b>Power supply</b>		
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	yes	
<b>Ambient conditions</b>		
Operating temperature range	-15 °C to +50 °C	
Storage temperature range	-30 to +60 °C	
Air humidity	+20 to +80% non-condensing	
Housing protection class (IEC 60529)	IP54	
Vibration (IEC 60068-2-6)	2G	
<b>Physical specifications</b>		
Weight	1.630 g	
Dimensions (L x W x H) in mm	253 x 132 x 111	
Tripod mounting	1/4" - 20UNC	
Housing	ABS	
<b>PC software</b>		
System requirements	Windows XP (Service Pack 3), Windows Vista, Windows 7 (Service Pack 1), interface USB 2.0	
<b>Standards, tests, warranty</b>		
EU Directive	2004 / 108 / EC	
Warranty	2 years	

✓ included in delivery

(✓) optional

- not available

## Overview of variants

Features	testo 890-1	testo 890-2	testo 890-2 Set
Detector	640 x 480 pixels		
Thermal sensitivity (NETD)	< 40 mK		
Temperature range	-20 to +350 °C		
Image refresh rate	33 Hz*		
SuperResolution	(✓)	(✓)	(✓)
Exchangeable telephoto lens 15° x 11°	-	(✓)	✓
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)	-	(✓)	(✓)
Voice recording using the headset****	-	✓	✓
Fully radiometric video measurement incl. logger function	-	(✓)	(✓)
Solar mode	✓	✓	✓
Lens protection glass	(✓)	(✓)	✓
Additional battery	(✓)	(✓)	✓
Fast battery charger	(✓)	(✓)	✓

- ✓ included in delivery
- (✓) optional
- not available

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\*\* excepting USA, China and Japan

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\*\*\*\* Bluetooth only in the EU, Norway, Switzerland, USA, Canada, Colombia, Turkey, Japan, Russia, Ukraine, India, Australia