

WisioScope® S

High-tech for professionals



WisioScope® S, the new measuring device which tests mechanical watches acoustically and optically — thanks to the latest-design WISIO microphone. Beat noises are measured acoustically and balance wheels optically. The technically-advanced WISIO microphone can simultaneously measure acoustically and optically.

- Determination of real lift angle during combined measurement
- Measurement possible even with ambient noise
- Measurement of watches with special escapements possible
- Amplitude measurement carried out irrespective of lift angle

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WisioScope® S Highlights

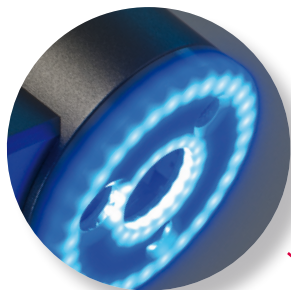
You don't know the lift angle?
You are measuring in an environment with noise interference?

WisioScope® S measures mechanical watch movements acoustically and optically. This is the first optical watch measuring device, that can be used in both production and watch servicing.

WisioScope® S does not need a computer for measuring with a laser. Compact and space-saving, this device with its WISIO microphone covers all mechanical watch testing possibilities.

You don't know the lift angle? No problem. During combined measurement, i.e. acoustic and optical, you can accurately determine the real lift angle.

With the WisioScope® S, you can also test watch movements with special escapements. If a watch movement has a very weak escapement noise, you can now measure it without any problems.

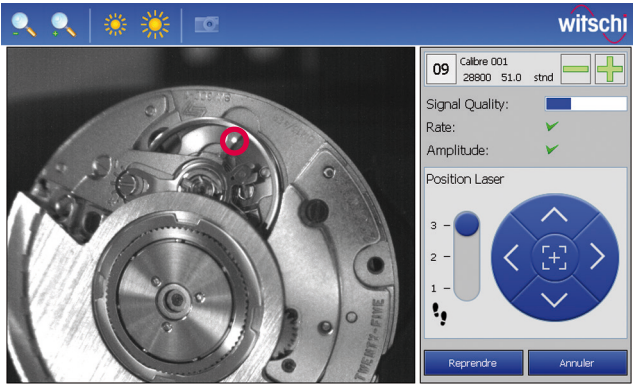


Measuring head with camera, laser and lighting

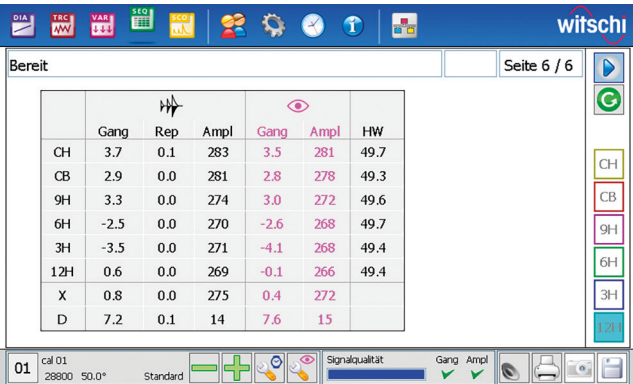


Ambient noise can no longer interfere with or interrupt your measurement. Optical measurement provides error-free testing, even under the influence of noise interference.

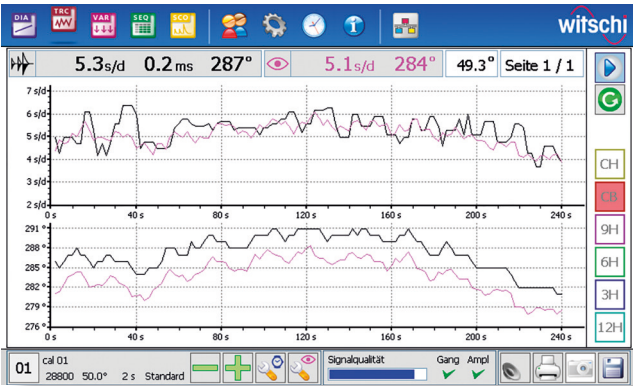
Accurate and effective amplitude measurement takes place irrespective of the lift angle.



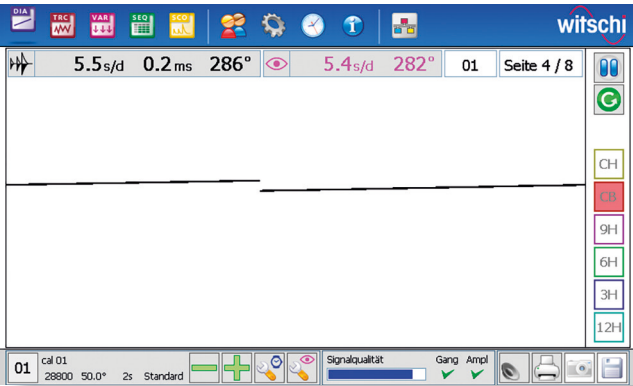
The camera integrated into the microphone allows you to position the laser easily and intuitively.



Clearly laid-out, simultaneous display of both acoustic and optical measurement results in several positions.



— Acoustic measurement — Optical measurement
TRACE mode enables the simultaneous display of acoustic and optical measurements - even over longer measuring periods.
In this case, the real lift angle is 49.3° and can be directly compared with the calibre specification at the theoretical lift angle of 50.0°.



The diagram shows acoustic measurement displayed graphically. The numerical results (acoustical and optical measurement) can be seen above the graph.

Technical data

Measurement capabilities

- Acoustic measuring rate variation, amplitude and beat errors in mechanical watches
- Optical measurement of rate variation and amplitude
- Display of the results using different display modes

Beat number

- Both automatic determination and manual entry possible
- Beat numbers available in case of automatic determination: 12'000, 14'400, 18'000, 19'800, 21'600, 25'200, 28'800, 32'400, 36'000, 43'200, 50'400, 57'600, 64'800, 72'000 A/h
- Manual entry: Beat numbers from 3'600 to 72'000 A/h (current or individual values)

Test mode

- Acoustic measurement, optical measurement as well as simultaneous acoustic and optical measurement
- Determination of the actual lift angle in case of combined measurement

Measuring mode

- **Stnd** Standard mode / Swiss anchor escapement
- **Spe1** Mode for watches with Co-Axial escapement
- **Spe2** Mode for watches with AP escapement
- **Rate** For rate measurement only

Gain control

- automatic
- manual for watches with background noise or unusual beat noises

Display modes

Diagram

- Continuous diagram recording of watch beat
- Numerical display of measured values
acoustic: rate variation, amplitude and beat errors
optic: rate variation and amplitude
- Adjustable zoom (magnifier): 1, 2, 4, 8, 16 x

Vario

- Long-term checking of stability and diversity of rate deviation and amplitude (max. 100 hours)
- Graphic and numerical display of minimum, median, maximum and standard values

Trace

- Long-term monitoring of the stability of rate variation and amplitude (max. 100 hours)
- Adjustable zoom (magnifier): 1, 2, 4 and 8 x

Sequence

- Measurements in a sequence of test positions
- Adjustable stabilisation period (2s to 2min.)
- Adjustable measurement period (4s to 10min.)
- Detailed display of the results for every test position on completion of the sequence

Scope

- Display of beat noise
- Adjustable timescale of 20ms, 200ms or 400ms

Time base

- TCXO quartz, high-frequency quartz time base
- Stability: $\pm 0.08\text{s/d}$
- Ageing in 1st year: $\pm 0.03\text{s/d}$

Rate variation measurement

- Measurement range: $\pm 999.9\text{s/d}$
- Resolution: 0.1s/d

Amplitude measurement

- Measurement range: 70° to 360°
- Resolution: 1°
- Lift angle: adjustable from 10° to 90°
- Resolution: 0.1°

Beat errors measurement

- Measurement range: 9.9ms
- Resolution: 0.1ms

Integration time measurement

- Manuel: 4A
- Automatic: 2, 4, 6, 8, 10, 20, 30, 40 and 60 s

Optical measurement

With laser: Laser Class 1, no protective measures necessary

Screen

- Capacitive touchscreen
- Size: 7"
- Resolution: 800 x 480 pixels
- Brightness: adjustable to 460 cd/m²

Position recognition

Automatic recognition of the 6 main positions

Loudspeaker

Integrated loudspeaker for acoustic testing of the beat noise

RS232 interface

- Printer and calibration interface; GPS receiver

USB interface

- Connection for memory stick
- Print screens can be saved as pictures on the stick
- Device configuration can be saved or read on the stick

Bluetooth interface optional with dongle

Thermal printer with Bluetooth mode

Device (housing)

- Front: Glass with integrated touchscreen
- Back: Plastic
- Dimensions: 225 x 191 x 85 mm (W x H x D)
- Angle: can be set continuously variable
- Weight: 1.8 kg without microphone and mains adapter

Mains connection

- Mains adapter: 100 ... 240 VAC, 0.5 A 50/60 Hz
- Power consumption: 9 W, Standby: 0.2 W

Accessories

Thermal printer	JB01-SLK-TE25 USB+SERIAL
Thermal paper for printer	JB01-MM60-740RS
Dongle and Bluetooth slot	Art. No. 95.1510
Witschi GPS receiver	Art. 19.91PK1 (230 V~) 19.91PK2 (120 V~)

Technical details subject to changes

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