LEADING SWISS PRODUCTS

Chronoscope M2

WiCoTRACE

System for determining the real lift angle
The Chronoscope M2 system includes a laser scanning for open watch movements. Thanks simultaneous acoustic and optical signal recording the real lift angle is determined very accurately. The acquisition of the individually stored data eg in Chronoscope M10 or M20 allow an accurate amplitude measurement.

Available for laboratory analyzes are long-term measurements up to 300 hours as well as FTT spectral analysis for periodic rate accuracy and amplitude variations.
Watch movement identification and storage of measurement results to a central data base ensure the traceability of all test steps.

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witschi

Chronoscope M2

Technical specifications

- **Measurement possibilities**: Rate accuracy, amplitude and beat error of mechanical watches
- **Beat number**: Adjustable for all beat numbers from 3600 to 36000 b/ h
- **Lift angle**: Selectable from 10° to 90°
- **Stabilization time:** Selectable from 00:00 to 60:00 minutes
- **Measuring time:** Selectable from 00:00:02 to 300:00:00 hours
- **Test modes**
  Standard for watches with Swiss escapement
  Special 1 for watches with coaxial escapement
- **Signal gain**: Adjustable from 1 to 4.
- **Time base**: Pre-aged and thermo-compensated high frequency quartz OCXO
  Stability: ± 0.004 s/d between 10° and 50° C
  Aging for the first year: ± 0.03 s/d

Acoustic measurement capability

Function	Measuring range	Resolution	Accuracy
Rate	± 999.9 s/d	0.1 s/d	± 0.1 s/d
Rate (high resolution)	± 99.99 s/d	0.01 s/d	± 0.1 s/d
Beat error	9.9 ms	0.1 ms	± 0.1 ms
Amplitude	80° - 360°	1°	± 1.0°
Amplitude (high resolution)	80° - 360°	0.1°	± 1.0°

Optical measurement capability

Function	Measuring range	Resolution	Accuracy
Rate	± 999.9 s/d	0.1 s/d	Depending on the beat number 18000 b/h ± 2.13 s/d 21600 b/h ± 2.55 s/d 28800 b/h ± 3.40 s/d 36000 b/h ± 4.25 s/d
Rate (high resolution)	± 99.99 s/d	0.01 s/d	18000 b/h ± 2.13 s/d 21600 b/h ± 2.55 s/d 28800 b/h ± 3.40 s/d 36000 b/h ± 4.25 s/d
Amplitude	45° - 360° Bereich abhängig von: - Anzahl Unruharme - Position Lichtpunkt	1°	± 1.0°
Amplitude (high resolution)	90° - 360°	0.1°	± 1.0°
Real lift angle	0.0° - 99.9°	0.1°	± 0.2°

Dimensions - Weight

- **Dimensions**
  Overall configuration: 275 x 300 x 285 mm
- **Weight**
  Overall configuration: 6.5 kg

Connection to the mains

- Nominal value: 230 V~ (210 - 250 V~), 50/60 Hz (45 - 65 Hz)

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