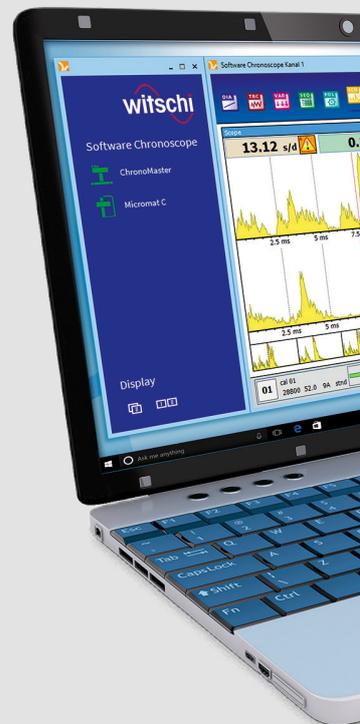# plug-in!

ChronoMaster

modular ▪
convenient ▪
functional ▪

▪ efficient
▪ ergonomic
▪ user-oriented

witschi

Plug-in! Connect the smart ChronoMaster easily with your PC or tablet. Your measurement results are displayed on the screen. The ChronoMaster offers you user-specific, individual functionalities:

• Modular software in two versions
• Simultaneous testing in combination with the Micromat C automatic microphone
• Convenient operation using 4 buttons
• Plug & Play

BECOTECHNIC

ChronoMaster

Technical data

Measurement capabilities
Measuring rate variation, amplitude and beat errors in mechanical watches with a variety of display modes.

Beat number
Automatic selection of all common beat numbers. Manual selection of less common beat numbers. Manual selection of any beat number between 3'600 to 72'000 b/h.

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

Adjustment Possibilities ChronoMaster
— **Continuous Diagram Recording**
   Selectable integration time: 4A, 2, 4, 6, 8, 10, 20, 30, 40, 50, 60, 120, 180 and 240 s
   Adjustable zoom: 1, 2, 4, 8, 16 x
— **Vario Display Mode**
   Measuring time: adjustable from 4 s to 99:59:58h

Adjustment Possibilities ChronoMaster Pro
— **Continuous Diagram Recording**
   Selectable integration time: 4A, 2, 4, 6, 8, 10, 20, 30, 40, 50, 60, 120, 180 and 240 s
   Adjustable zoom: 1, 2, 4, 8, 16 x
— **Vario Display Mode**
   Measuring time: adjustable from 4 s to 99:59:58h
— **Trace Display Mode**
   Selectable measuring time: from 4 s to 99:59:58h
   Adjustable zoom: 1, 2, 4, 8 x
— **Sequence Display Mode**
   Stabilisation time: adjustable from 2 s to 2 min
   Measuring time: adjustable from 4 s to 10 min
   Measuring cycle: adjustable from 1 to 10 test positions
— **Polar Display Mode**
   Rotation time: 24, 30, 60, 120, 180 and 240 s
   Rotation sense: clockwise / counterclockwise
   Meassuring time: adjustable from 4 s to 01:00:00 h
— **Scope Display Mode**
   Selectable time deviations: 20, 200, 400 ms
   Average beat noises

Measuring Ability
Rate accuracy:	numerical display in s/d
Resolution:	selectable 1.0, s/d, 0.1 s/d or 0.01 s/d
Measuring range:	± 999 s/d
Accuracy:	± 0.1 s/d
Amplitude:	numerical display in degrees
Resolution:	1° or 0.1°
Measuring range:	70° to 360°
Accuracy:	± 0.4°
Lift angle:	adjustable from 10° to 90°
Resolution:	0.1°
Beat error:	numerical display in milliseconds
Resolution:	0.1 ms
Measuring range:	9.9 ms
Accuracy:	± 0.1 ms

Time base
- TCXO quartz, high-frequency quartz time base
- Stability: ± 0.08s/d
- Ageing in 1st year: ± 0.03s/d

ChronoMaster details
- Compact microphone with integrated measurement electronics
- Automatic detection of 6 main positions and 5 others
- Guided sequence mode, adjustable 1 to 10 testing positions
- Secure mount, even for large watches
- Accurate positioning every 45°
- Convenient operation of «Chronoscope Service» display software, thanks to built-in control buttons

Interface:	USB port, Type A connector
Housing:	Die-cast zinc, painted black
Dimensions:	130 x 110 x 110 mm (W x H x D)
Weight:	0,8 kg

Requirements of PC
- Suitable processor (CPU) for operating system Windows 7 Windows 8.1 or Windows 10
- Minimum 4 GB RAM
- USB interface: 2.0
- Screen with a minimum resolution of 1024 x 768 pixels