



The TYMC multifunction timegrapher MTG-4000A PRO is a fully equipped watch tester for professional application.

The MTG-4000A PRO is equipped with a TYAPS signal processing unit which controls the signal level automatically and filters side noise. It offers a 7" high resolution color backlit LCD screen with 5 different display modes and a „PAUSE“ function to pause the measuring and a „SHIFT“ function to view the paused measuring. It measures beat rate, beat error, beat number and amplitude.

In addition the PRO version features a highly stable TCXO time base and a German/English clear text menu.

The MTG-4000A PRO also offers the programmed test mode:

The watch can be tested for a defined time in up to 6 positions (positions for measuring can be selected). After completion of the test program, the test results are displayed as a test report including beat rate, beat error and amplitude in the single positions and also the maximum difference of the beat rate and amplitude between the 6 positions.

With the optionally available printer (THERMOPRINT) the graphic and numeric results of all measurements and the result of the programmed test can be printed.

The automatic stepper motor driven microphone AUTOMIC-1 (available optionally) can be connected.

#### Functions:

- measuring of beat rate [s/d]
- measuring of beat error [ms]
- automatic beat number detection (can also be set manually)
- measurable beat numbers: 18.000, 19.800, 21.600, 25.200, 28.800 and 36.000 a/h
- acoustic watch beat simulation (can be switched off)
- measuring of amplitude [°]
- programmed 6-position test mode with test report
- stores 720 beats
- „PAUSE“ and „SHIFT“ function to stop measuring and inspect the previous stored beats
- TYAPS signal processing unit which automatically controls the signal level and filters side noise
- highly stable TCXO time base (only PRO version)
- German/English menu (only PRO version)
- thermal printer connection (THERMOPRINT available optionally)
- connection for automatic microphone (AUTOMIC-1 available optionally)

## Technical specifications:

### Measuring facilities:

beat rate, beat error, beat number, amplitude

### Signal gain control:

the signal gain is completely automatically controlled by the TYAPS signal processing unit. It also filters side noise and background noise.

### Beat numbers:

18.000, 19.800, 21.600, 25.200, 28.800 and 36.000 a/h  
automatic detection or manual setting

### Beat rate:

numeric display in s/d and diagram  
range: +/- 300 s/d  
resolution: 1 s/d  
accuracy: +/- 1s/d

### Beat error:

numeric display in s/d and diagram  
range: 0.0 ms – 4.0 ms  
resolution: 0.1 ms  
accuracy: +/- 0.1 ms

### Amplitude:

numeric display in degrees °  
range: 90° - 350°  
resolution: 1°  
accuracy: +/- 3°

lift angle adjustable from 30° to 60° / resolution: 0.1°

### 6 position programmed test mode:

selectable positions: 1-6  
measuring time per position: 10-50 s  
displayed test results:  
beat rate, beat error, amplitude of each single position,  
maximum difference of beat rate and amplitude within  
the tested positions

### Display:

COLOR backlit 7" LC display  
resolution: 480 dots x 234 dots  
dimensions: 153mm x 86mm

### Diagram display:

horizontal / 5 different color modes

### Displayable diagram length:

480 dots horizontal

„PAUSE“ and „SHIFT“ function to pause the measuring and view the previous 720 stored beats.

### Time base (PRO version):

TCXO (temperature compensated crystal oscillator)  
stability: +/- 0,1 s/d

### Case:

dimensions: 260 x 170 x 115 mm  
weight: ca. 0,8 kg (without power supply and microphone)

### Power supply:

external power supply  
90V – 240V AC 50-60Hz

### Connectivities:

Thermal direct printer THERMOPRINT (available optionally):  
Printing of graphic or numeric results of the test  
Printing the test result of the programmed test mode

Automatic microphone AUTOMIC-1 (available optionally):  
stepper motor driven automatic microphone

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### Included in delivery:

TYMC multifunction timegrapher MTG-4000A PRO, external power supply, 6-position microphone ROTOMIC-2, manual, dust cover