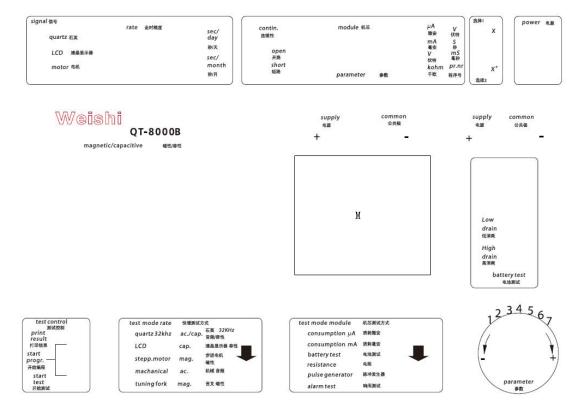
# QT-8000B

# User's Guide and Technical Reference Manual



# **QT-8000B**



Measurement of the rate accuracy, the current consumption and test of components of quartz watches. For repair service, the watchmaker needs a test instrument with a simple way to perform all electric measurements and tests on quartz watches. The instrument provides all measuring and test facilities required in a professional search for defects in quartz watches.

### Technical data

### Rate measurement

#### Test mode

- Measurement over the quartz 32khz, or over the supply current.
- Measurement over the motor pulses.
- Measurement over the LCD operation frequency.
- Measurement over the magnetical signal for tuning fork watches.
- Signal sensing acoustical (external sensor required) for mechanical watches.

## Measuring time

- Measurement over the quartz frequency:1S
- Measurement over the motor pulses or the LCD-operation frequency:2—960S
- Mechanical or tuning fork watches :4S

### Signal sensor:

- Sensors of highest sensitivity and selectivity for acoustical, magnetical and capacitive signals.
- Current of the supply
- LED display the signal intensity

## Display of the results

- 3 large LCD
- Selectable display mode in s/day or s/month
- Measuring range:±9.99s/day or±300s/month
- Resolution 0.01s/day resp. 1s/month

#### Time base

- High frequency quartz time base ,OCXO.
- Stability :max±0.01s/d between 10°Cto 30°C

### Current measurement

- Measurement mode: the average current consumption over the measuring period.
- Measuring range :100μA,resolution 10 nA

1mA ,resolution 100nA

10mA ,resolution 1mA

20mA, resolution 10mA

- Range selectable mA or μA by manual ,in the range automatically.
- Measurement time: 1~60S

### Module power supply

Supply voltage:adjustable ,0~3.5V ,resolution 0.05V

Current limited:3mA for  $\mu A$  range test ,and 50mA for mA range

LED indict for circuit shorted or opened

### Battery /voltage test

Measuring range from 0 to 5V

Load:  $1K\Omega$ ,  $100\Omega$ 

#### Resistance measurement

Measuring range:  $1K\Omega$ ,  $10K\Omega$ ,  $100K\Omega$ ,  $5M\Omega$ . Automatic commutation of the measuring range

### Pulse generator

Pulse generator for the stepper motor-coil of the watch

Wave :bipolar square wave

Pulse width:programmable 1~60mS

Frequency: 16Hz under 16ms of the pulse width but over the 16ms is 8Hz.

Voltage: 0~3.5V

#### Buzzer test

Bipolar square wave signal

Frequency:2kHz Voltage: 0~3.5V

### Special program

### Parameter setting

The multifunction rotating/push knob allows easy and quick parameter settings and display on the LCD.

#### Interface

RS232 for the connection of the mini dot matrix printer CBM-910 .Print out of the numeric results.

#### Additional Functions

Built-in mirror for the observation of the hands during measurement

#### Details

Casing: aluminum and wood

Dimensions:284×233×75mm

Weight:2Kg

# Supply power

AC230V or AC120V input and output AC 9V 1.2A adapter, consumption:  $\max 10W$ 

Standard accessories

QT-8000B: 1Set

Test tips with wire: 1 pair

Adapter :AC230V or AC120V : 1 set

Manual book 1pc

Option accessories

Printer: Dot matrix mini printer CBM910, CITIZEN, and adapter (AC230V or AC120V), cable

External sensor