

# Frequency Calibrator VCH-313

 [vremya-ch.com/index.php/en/products-en/freq-comparators-en/vch-313-en/index.html](http://vremya-ch.com/index.php/en/products-en/freq-comparators-en/vch-313-en/index.html)



Frequency calibrator VCH-313 is intended for calibration and verification of different frequency signal sources, using precision time scale signal, transmitted by satellite navigation systems GPS/GLONASS. The instrument can provide periodical frequency correction of the calibrating frequency standard in automatic mode.

## Key applications

– Verification of metrological

parameters of precision frequency signals sources;

- time keeping metrology systems;
- scientific research measurements.

## Specifications

### Input signals serviceable for frequency calibration:

- 5 or 10 MHz, sine, 1 V into 50  $\Omega$  load;
- 2,048 MHz, pulse, (ITU-T G.703); The frequency of input signal is recognized automatically.

**Frequency calibration error** depends on input signal frequency “F” and measurement time “T” and is determined by formula  $\Delta F/F=1/FT$ . Values of calibration errors are given in the table:

**Calibration error depends from measurement time “T”**

Input frequency “F”	Calibration error depends from measurement time “T”		
	1 hour	6 hour	24 hours
2,048 MHz	$\leq 6.0 \cdot 10^{-10}$	$\leq 1.0 \cdot 10^{-10}$	$\leq 3.0 \cdot 10^{-11}$
5 MHz	$\leq 1.5 \cdot 10^{-10}$	$\leq 2.5 \cdot 10^{-11}$	$\leq 6.0 \cdot 10^{-12}$
10 MHz	$\leq 3.0 \cdot 10^{-11}$	$\leq 5.0 \cdot 10^{-12}$	$\leq 1.0 \cdot 10^{-12}$

**The best frequency calibration accuracy ( $\leq 1.0 \cdot 10^{-13}$ )** is realizing for measurement time  $T=10$  days.

**Results of calibration** in relative units are available on the display at the front panel of the instrument and remotely through interface.

**Interface:** RS-232; USB.

**Power supply:** AC(198÷242)V, (50÷60)Hz; DC(38.4÷57.6)V.

**Power consumption:**  $\leq 25$  W.

**Start up time:**  $\leq 25$  min.

**Dimensions (W×H×D):** (without antenna and a cable) — 240×140×330 mm.

**Antenna:** dimensions 185× $\varnothing$ 181 mm. Weight 0,5 kg. Antenna cable's length is 60 m.

**Weight:** 4.5 kg.

**Warranty:** 3 years.

**Live time:** 15 years.

