



Multichannel Frequency Comparator VCH-315M



Multichannel frequency comparator VCH-315M is intended for precise phase and frequency instability measurements. It contains 8 identical measuring channels and performs synchronous high precision phase and frequency comparison of 5, 10 and 100 MHz signals, which allows using cross-correlation methods for instability estimation. Each channel includes two inputs for measured signals ("fx" and "fy"). Device control, collecting and display of measurement results are carried out by computer (not included) using RS-232, USB or LAN interfaces.

Key Applications

- ✦ Verification of metrological parameters of precision frequency signals sources;
- ✦ Time & Frequency etalons system;
- ✦ Computer control measurement system;
- ✦ Scientific measurement system.

Key Features

- ✦ Input signals: 5 MHz; 10 MHz; 100 MHz (0.8 - 1.2 V_{RMS} on 50 Ohm load);
- ✦ Maximum relative frequency difference: $(\Delta f/f) = \pm 5 \times 10^{-9}$;
- ✦ Noise Pass band : P = 3Hz;
- ✦ 8 Individual Channel reference signal input.

VCH-315M Specifications

Input :

Waveform	Qty	Amplitude	Max. Freq. Diff.	Type	Load
5/10/100 MHz (Sine)	8	$1 \pm 0.2 V_{RMS}$	$\pm 5.0 \times 10^{-9}$	SMA	50 Ω
Noise passband	3Hz				
Averaging time range, T	1s to 1 Day, 100K, 500K sec.				

Frequency instability, noise floor *			
Averaging interval, T	1 channel mode (ADEV)	2 channel mode (cross-ADEV)	Note
1 s	$\leq 6 \times 10^{-14}$	$\leq 2 \times 10^{-14}$	*Specified under ambient temperature changing rate <1 °C/hour.
10 s	$\leq 2 \times 10^{-14}$	$\leq 3 \times 10^{-15}$	
100 s	$\leq 3 \times 10^{-15}$	$\leq 1 \times 10^{-15}$	
3600 s	$\leq 3 \times 10^{-16}$	$\leq 2 \times 10^{-16}$	
1 Day	$\leq 1 \times 10^{-16}$		

Include VCH-315M Software:	receiving and automatic saving of measurement data from the comparator;
	calculation of statistical functions characterizing the frequency difference between two signals;
	Display & print of measurement results and calculated functions in charts on the screen;
	Operate under MS OS: Win7 (Recommended)

General

Interface:	RS232C , USB or LAN (Only 1 at a time)
Operating Temperature:	+10°C to +35°C
Warm-up:	4-6 Hours
Power:	220 \pm 10% VAC, (50 \pm 2) Hz;
DC Power:	22 – 30 VDC
Power consumptions:	40 VA (35W)
Dimension 3U(WxHxD) :	483x133x326 mm
Weight:	< 12 Kg



Motionets Technology Pte. Ltd.

Level 42 Suntec Tower Three, 8 Temasek Boulevard, Singapore 038988

T: +65 6866 3735 F: +65 6866 3838

E: sales@motionets.com

U: www.motionets.com