



Frequency Comparator

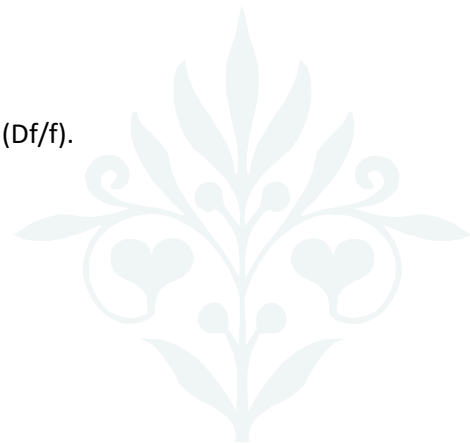
VCH-314



Frequency comparator VCH-314 is intended for precise phase and frequency measurements of three signals from frequency and time standards. Comparator contains two identical measuring channels and perform synchronic measurements of input signals phase difference. Using a correlation computing of measuring data, comparator precisely calculates frequency and phase difference between input signals and frequency instability for each signal separately.

Key Features

- ◆ Input signals: 5 MHz; 10 MHz; 100 MHz (0.8 - 1.2 V_{RMS} on 50 Ohm load);
- ◆ Maximum frequency difference: $(Df/f) = \pm 1 \times 10^{-6}$;
- ◆ Measuring time: 1×10^6 s;
- ◆ Pass band : 10 Hz, 3 Hz (digital filter);
- ◆ Additional error in dependence of (Df/f) : $< 2 \times 10^{-3} (Df/f)$.



VCH-314 Specifications

Inputs:

Waveform	Qty	Amplitude	Type	Load
5/10/100 MHz (Sine)	3 (fx-fy1) ; (fx-fy2) fx-Ref. signal	0.8 - 1.2 V _{RMS}	SMA	50 Ω

ADEV mσ(T) (K=1x10 ⁶ , B=3 Hz)		
Avg., T	Single Channel Mode var2(Fxy1), var2(Fxy2)	Dual Channel Mode var2(Fx)
1 s	≤ 8.0x10 ⁻¹⁴	≤ 2.0x10 ⁻¹⁴
10 s	≤ 2.0x10 ⁻¹⁴	≤ 5.0x10 ⁻¹⁵
100 s	≤ 3.0x10 ⁻¹⁵	≤ 1.5x10 ⁻¹⁵
1000 s	≤ 5.0x10 ⁻¹⁶	≤ 5.0x10 ⁻¹⁶
1 Day	≤ 1.0x10 ⁻¹⁶	

Passband	3Hz	10Hz
Multiplication factor, K	1x10 ⁶	1x10 ³
Max. freq. Difference	1x10 ⁻⁸	1x10 ⁻⁶

VCH-314 Software:	Calculates phase changing and frequency difference for each signals pair, two-samples Allan deviation, N-samples Allan deviation for each signals pair and for each signal separately;
	represents measurement results as tables and plots, stores
	Operating system: WinXP, Win7 (Recom.), Win10

General

Interface:	RS232C
Operating Temp.:	+10°C to +35°C
Warm-up:	4 Hours
Power Supply:	220±10% VAC; 50/60 Hz;
Consumptions:	< 30 VA
Dimension(WxHxD) :	235x140x370 mm
Weight:	~ 5 Kg



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