

CHK7-51 Frequency Comparator



DESCRIPTION

The CHK7-51 Frequency Comparator provides:

- measurements of relative frequency difference between a 5 MHz reference signal and a 5 or 10 MHz signal under test ;
- measurement results mathematical processing;
- main and auxiliary time scale signals forming;
- 1 and 10MHz reference frequency signal forming;
- +27 V supply voltage for the CH1-81/2/3, CH1-82/2/3 Rubidium Frequency Standards and other units.

The main applications: calibration laboratories, time and frequency standards, special purpose measuring systems including systems with IEC 625 bus.

SPECIFICATIONS

Relative RMS frequency difference measurement accuracy:

- 1 s: $< 1 \cdot 10^{-11}$
- 10; 100 s: $< 1 \cdot 10^{-12}$

Reference signal parameters:

- Frequency: 5 MHz
- Level: 0.4-1.2 V into 200 Ohm
- Harmonic component suppression: ≥ 30 dB

Measured signal parameters:

- Frequency: 5; 10 MHz
- Level: 0.7-1.3 V into 50 Ohm
- Harmonic component suppression: > 30 dB

Measured relative frequency difference, max: $1 \cdot 10^{-6}$

The Instrument provides the following statistical characteristic calculations:

- average relative input frequency difference
- frequency stability $\sigma_y(2, \tau)$
- frequency drift

Time scale signal parameters:

- Amplitude: ≥ 2.5 V into 50 Ohm
- Width: 10-20 μ s
- Rise time: ≤ 30 ns

External and delayed time scale shift measurement error : $\leq \pm 0.1 \mu$ s

Main and auxiliary time scale signal delay range with 0.1 μ s step: 0-999999,9 μ s

Time scale to external time scale synchronization accuracy: $\leq \pm 0.1 \mu$ s

GENERAL

Power: 220 \pm 22 V, 45-65 Hz; 220 \pm 11 V, 400 Hz; 22-30 V dc

Power consumption: 40 VA ac, 20 W dc

Operating temperature range: 0...50 °C

Dimensions: 459x308x129 mm

Weight: 10 kg