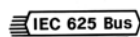


CHK7-49 Receiver-Comparator

- ◆ **Extremely high accuracy of frequency comparison:**
 $1 \cdot 10^{-12}/24 \text{ h}$
 $1 \cdot 10^{-13}/10 \text{ day}$
- ◆ **Extended frequency range of compared signals:**
(0.1 x n) MHz, where n=1, 2, 3...100
- ◆ **Automatic measurement and calculation of frequency stability metrological characteristics**
- ◆ **Frequency Standard (crystal or quantum) automatically locked to the National Frequency Standard**
- ◆ **Automatic switching to a back-up power supply at a power line failure**
- ◆ **ATE integrated**
- ◆ **Severe operating conditions**



DESCRIPTION

The CHK7-49 is designed to determine a frequency deviation and metrological characteristics of crystal or quantum frequency standards in relation to the frequency of signals transmitted by long wave radiostations and to lock a built-in high-stability crystal or an external (crystal or quantum) oscillator frequency to reference radio signals.

Application: metrology, radionavigation, geodesy, communications.

The CHK7-49 Receiver/Comparator principle of operation in frequency comparison mode is based on a measurement of a phase shift of compared frequency a standard signal in relation to a reference radio signal with subsequent calculation of frequency stability characteristics: RMS frequency variation, RMS frequency deviation, frequency drift.

A phase shift is measured by a digital phase tracking system, realized on a programmable built-in microcomputer. Measurement data are displayed on a liquid-crystal indicator and are output to a IEC 625 interface. Measurement data can be stored in the Instrument memory and displayed or sent to an interface by the operator request. In addition, phase shift data of the measured signal can be logged by a recorder.

The measured signal frequency range is significantly expanded. The Instrument can measure frequency stability of 0.1 x n MHz reference oscillators, where n=1, 2, 3...100.

In an automatic frequency locking mode, the CHK7-49 Receiver/Comparator operates as a frequency standard.

SPECIFICATIONS

Received signal frequency range:

standard model: 66.(6) kHz, 50 kHz, 40 kHz, 75 kHz
(77.5 kHz options by customer)

Sensitivity: 1 μ V

Relative accuracy of frequency comparison:

per 24 hours: $1 \cdot 10^{-12}$
per 10 days: $1 \cdot 10^{-13}$

Relative frequency accuracy of a locked built-in crystal oscillator:

not more than: $1 \cdot 10^{-10}$

GENERAL

Power: 220 \pm 22 V, 45-65 Hz

Power consumption: 75 VA

Operating temperature range: -10...50 °C

Dimensions: 160x240x512 mm

Weight: 15 kg