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JJG

**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

JJG 602-2014

Replacing JJG 602-1996; JJG 64-1990; JJG 230-1980

**Low-frequency Signal Generators
(English Translation)**

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Introduction

This procedure is based on GB 12181-1990 "low-frequency signal generator General technical conditions" and GB 12180-1990 "Low-frequency generator common test methods", based on the reference JJG 230-1980 "XFD-7A type low-frequency signal generator Generator pilot test procedures ", JJG 64-1990" ultra-low frequency signal generator test procedures "related content on JJG 602-1996 revised version.

Compared with JJG 602-1996, in addition to editorial changes outside the main technical changes are as follows.

--- Frequency range from "1Hz ~ 1MHz" extend to "10mHz ~ 1MHz" (see 4.1);

--- Section of the metering performance by a single value [for example, frequency accuracy. $\pm (1\% \text{ frequency } 0.3\text{Hz})$] change Becomes the interval value (for example, frequency accuracy. $\pm 0.02\% \sim \pm 2\%$) (see 4.1);

--- Output voltage amplitude range is extended by a 5V or 10V peak to peak range. (10mV

~ 300V); effective Value range. (0 ~ 20) V (see 4.2);

--- Of test equipment using a common provision that, for example, the voltage amplitude measurement standard instrument (referred to unity as follows. standard voltmeter) may be required to meet the accuracy standard voltage meter, ultra-low frequency signal analyzer, XY remember Recorder, digital oscilloscopes and other equipment.

The alternative procedures previously issued as follows.

--- JJG 602-1996;

--- JJG 230-1980;

--- JJG 64-1990.

Low-frequency generator test procedures

1 Scope

The order applies to the frequency range of the initial verification 10mHz ~ 1MHz sine wave low frequency signal generator, Use and subsequent verification check. 1MHz sine wave frequency range above the low-frequency signal generator can be implemented by reference.

2. References

GB 12180-1990 test method for low-frequency signal generators GB 12181-1990 General technical conditions for low-frequency signal generator for dated references, only the dated edition applies to this procedure; undated reference documents Member, the latest edition (including any amendments) applies to this procedure.

3 Overview

Low-frequency signal generator is generally composed of an oscillation circuit, an amplification circuit, indicating circuit, power amplifier, attenuating circuit Composition and power supply and other components, widely used in machinery, mechanical, earthquakes, civil engineering, environmental monitoring, automotive electronics and other fields Electronic circuits, electronic equipment testing and maintenance.

4 metering performance requirements

4.1 Frequency

Frequency range. 10mHz ~ 1MHz;

The frequency of the maximum permissible error. $\pm 0.02\% \sim \pm 2\%$;

Frequency stability (frequency drift) .(0.02% ~ 0.4%)/h.

4.2 voltage amplitude Peak to peak amplitude of the voltage range. 10mV ~ 300V;

RMS amplitude of the voltage range. 0V ~ 20V;

Voltage amplitude maximum permissible error. $\pm 2\% \sim \pm 10\%$;

Voltage amplitude frequency characteristics. $\pm 0.2\% \sim \pm 6.0\%$.

4.3 rated output power 4W, 5W or instrument values given manual. Which corresponds to the rated load impedance is typically 8ohm, 50ohm, 75ohm, 150ohm, 200ohm, 600ohm, 5kohm, other reference instrument instruction manual given value.

Rated output power amplitude frequency characteristics. $\pm 0.2\% \sim \pm 6.0\%$.

4.4 Attenuation

Range. 0dB ~ 100dB;

The maximum permissible error. $\pm 0.2\text{dB} \sim \pm 3.0\text{dB}$.

4.5 voltage indicator Voltage indicator basic error. $\pm 5\%$ (full scale value) (reference frequency. 1kHz);