

GF302

Portable High Precision Multi-Product Calibrator

GF302 portable multi-product calibrator is suitable for power plant and power grid companies for the following function: metrology and testing department and instrumentation classes, national levels measuring and testing institutions, railway, petroleum, chemical industry and other large industrial and mining enterprises, scientific research units, etc. The core technology function with digital signal processor (DSP) and 16 high-speed digital converters composed of high precision power frequency communication terminal. The signal power source is 32bit DSP and 16 high-speed digital-to-analog converters, it can control the sine wave and distortion wave signal source. It can be used as a concentration electrical laboratory. This calibrator can output 3×600V/3×20A AC and 1000V/20ADC, accuracy 0.05%. it can calibration of all kinds of transducers, power meter, ammeter, voltmeter, digital meter, phase angle meter, RTU & AC sampler device etc.

Application

1. Universities;
2. Power plant;
3. Research institutes;
4. Electrical testing center;
5. Transducer manufacturers;
6. Panel meter manufacturers;
7. Power meter manufacturers;
8. Digital meter manufacturers;
9. Pointer meter manufacturers;
10. Railway electrical department;
11. ISO17025 Electrical laboratory;
12. RTU & AC sampler device manufacturers;
13. Electricity power bureau & power company;
14. Power engineering commissioning company;
15. Electrical Department of industrial and mining enterprises;



Functions & Features

1. All kinds of electric measurement transducer can be tested, including AC/DC voltage transducer, AC/DC current transducer, frequency transducer, phase transducer, single/ three-phase AC active power transducer, three-phase reactive power transducers;
2. Check all kinds of electric measurement indicating meter, including AC/DC voltmeter, AC/DC ammeter, frequency meter, phase angle meter, single & three-phase ac active power meter, three-phase ac reactive power meter & synchronous meter etc;

3. Test single-phase, three-phase electronic, mechanical watt-hour meter or energy meter/ kWh meter error;
4. Testing AC sample device, RTU & measurement device error;
5. The built-in electric measurement transducer, electric measurement instrument and meter instructions of verification program, fully automatic or semi-automatic for verification, and save 10000 group test data;
6. As one voltage source, current source and power source with high precision and high stability standard resource;
7. Measurement range widely from 3×600V/3×20A AC and 1000V/20ADC;
8. 6.4 inch big screen color display and English interface;
9. For the software calibration, you don't need to open the case, it's stable and reliable;
10. Voltage output terminal with short circuit, current output terminal open protection and power amplifier overheating protection function;
11. Meet ISO17025 Electrical laboratory standard;
12. With automatic failure detection function, shows fault part, the convenience users check line;
13. With USB port, it can connect computer for data management or controlled by PC;

Parameters

Electrical parameters	
Accuracy class	0.05%
Power supply	Single phase AC 220V±10% or 110V±10%, 50/60Hz
Communication port	USB, RS232
AC Voltage output	
Range(U1,U2,U3)	50V, 100V, 200V, 400V, 600V
Adjusting range	(0-120)% RG
Adjust fineness	0.005% RG, 0.01% RG, 0.1% RG, 1% RG, 10% RG
Accuracy	0.05% RG
Stability	0.01% / 1 min
Distortion	≤0.2% (non-capacitive load)
Load capacity	25VA
Output distortion degree	≤0.3% or (linear load)
AC Current output	
Range(I1,I2,I3)	0.5A, 1A, 2.5A, 5A, 10A, 20A
Adjusting range	(0-120)% RG
Adjust fineness	0.005% RG, 0.01% RG, 0.1% RG, 1% RG, 10% RG
Accuracy	0.05% RG
Stability	0.01%/1 min
Distortion	≤0.2% (non-capacitive load)
Load capacity	25VA
Output distortion degree	≤0.3% or (linear load)

Electrical parameters - continued
AC Power output

Accuracy	0.05% RG
Stability	0.01%/1min

Frequency

Frequency range	45.000 - 65.000 Hz
Resolution	0.001 Hz
Accuracy	0.002 Hz

Power factor output

Adjusting range	-1 ~ 0 ~ 1
Adjust fineness	0.0001
Accuracy	0.0005

Phase angle

Scope	0°-359.99°
Resolution	0.01°
Accuracy	0.05°

Voltage/Current harmonic output

Times	2nd-31st
Content	0-40%
Phase	0-359.999 degree
Configuration error	(10% RD + 0.1%), RD refers to the configuration value of harmonic contents

DC Voltage output

Range	75mV, 75V, 150V, 300V, 500V, 1000V
Adjusting range	(0-120)% RG
Adjust fineness	0.005% RG, 0.01% RG, 0.1% RG, 1% RG, 10% RG
Accuracy	0.05% RG
Stability	0.01%/1min
Load capacity	25VA

DC Current output

Range	0.5A, 1A, 2.5A, 5A, 10A, 20A
Adjusting range	(0-120)% RG
Adjust fineness	0.005% RG, 0.01% RG, 0.1% RG, 1% RG, 10% RG
Accuracy	0.05% RG
Stability	0.01%/1min
Load capacity	25VA

Electrical parameters - continued

DC measurements

DC voltage measurement range	0 to ± 24 V
DC current measurement range	0 to ± 24 mA
Measurement accuracy	0.01% RG

Watt-hour meter measuring the integrated error

Active energy	0.05%
Reactive energy	0.1%

Function

LCD	6.4 inch color
Power meter test	Yes
Energy meter test	Yes
Transducer test	Yes
Digital meter test	Yes
RTU & AC sampler device test	Yes
Protection relay device test	Yes
Power factor meter	Yes
Frequency meter test	Yes
Current meter test	Yes
Voltage meter test	Yes
Data storage	Yes
PC control software	Yes, optional

Standard

Standard	JJG126-1995, JJG_597-2017, Q/GDW 1899-2013, DL/T1112-2009, DL/T630-1997, JJG124-2005; JJF1587-2016; IEC61010, IEC 61000, IEC 61326; IEC60736;
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Safety

Isolation protection	IEC 61010-1:2001
Measurement Category	300 V CAT III, 600 V CAT II
Degree of protection	IP20
Declaration of conformity	CE, CNAS certified

Mechanical parameters

Dimensions (W×H×D) (mm)	460x430x185
Weight (kg)	20

Environmental conditions

Working temperature	0°C to 40°C
Storage conditions	-30°C to 60°C
Relative humidity	≤85%

(1) RG means range, the same as below;

(2) RD means the setted harmonic content, harmonic can be a single output, also multiple output.