

GF102

Portable Single Phase Energy Meter Test Bench

GF102 series portable single phase energy meter test bench used to test 1pc or 3pcs single phase energy meter or AC meter at same time. Adopt mature signal synthetic and power amplifier technology, high precision voltage source and current source output from 120A/600V. Widely used in lab and field, and then as single phase standard source. It is suite for electricity meter manufacturing enterprises, scientific research institutes, metrological service institutions, electric power companies etc.

Functions

1. Multi load point setting output;
2. Measuring the distortion factor;
3. Testing meter installations in 1P2W;
4. Many plan auto test for energy meter error;
5. Vector representation of the measuring values;
6. Measuring frequency, phase shift and power factor;
7. Measuring mechanical meter and electric meter error;
8. Energy dosing with built-in current source and voltage source;
9. Harmonic spectrum analysis for voltage and current up to the 63rd order;
10. Power and energy measurements for active, reactive and apparent power;



Features

1. 3 channel voltage isolation;
2. Accuracy class 0.02/0.05/0.1;
3. Test by automatic or manual;
4. 7 inch TFT touch color screen;
5. Start testing and creep testing;
6. Test 3pcs meter synchronously;
7. 0-120A, 0-600V,40-70Hz, 0-360.000;
8. Recorder 1000 sets energy meter data;
9. Overload, short circuit, open circuit protection;
10. Reference standard and power source integrated;

Parameters

Electrical parameters

Accuracy class	0.02%, 0.05%, 0.1%
Power Supply	One Phase AC 85-265V, frequency 50/60Hz.

AC Voltage Output

Range	57.7V, 100V, 220V, 380V; max 600V
Adjustment range	(0-120)%RG ⁽¹⁾
Adjustment fineness	0.01%RG, 0.1%RG, 1%RG, 10%RG as optional.
Stability	0.01%/120s
Distortion	0.1% (Non-capacitive load)
Output load	25VA or 50VA
Measuring accuracy	0.02%RG or 0.05%RG

AC Current Output

Range	200mA, 1A, 5A, 20A, 100A; max 120A
Adjustment range	(0-120)%RG
Adjustment fineness	0.01%RG, 0.1%RG, 1%RG, 10%RG as optional.
Stability	<0.01%/120s
Distortion	≤0.1% (Non-capacitive load)
Output load	50VA or 100VA
Accuracy	0.02%RG or 0.05%RG

Power Output

Active power output stability	<0.01%RG/120s
Reactive power output stability	<0.02%RG/120s
Active power measuring accuracy	0.02%RG or 0.05%RG
Reactive power measuring accuracy	0.05%RG or 0.1%RG

Phase Output

Output adjustment range	0°-359.999°
Output adjustment fineness	10, 1, 0.1, 0.01 as optional.
Resolution	0.01°
Accuracy	0.02°

Power Factor

Adjustment range	-1 ~ 0 ~ 1
Resolution	0.0001
Measurement accuracy	0.0005

Frequency Output

Adjustment range	40Hz-70Hz
Output adjustment fineness	5Hz, 1Hz, 0.1Hz, 0.01Hz as optional.
Resolution	0.001Hz
Accuracy	0.002Hz

Electrical parameters - continued
Voltage /Current/Harmonic Setting

Harmonic number	2-63times
Harmonic content	0-40%
Harmonic phase	0-359.99
Harmonic setting accuracy	(10%±0.1%)RD ⁽²⁾

Power Energy Measurement Error

Active power energy	0.02%RG or 0.05%RG
Reactive power energy	0.05%RG or 0.1%RG

Power Pulse Output

Power pulse type	active pulse, reactive pulse
Active power pulse output	5V, 10mA

Power Pulse Input

Energy pulse type	support active and reactive pulse, the highest frequency power pulse input is 200K.
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Standard

Standard	IEC 62053-21,22, 23; IEC 60736; ANSI C12.20-2002; JJG 597-2005; JJG596-2012; JJG 1085-2013; JJF 68-2019; DL/T 826-2002; DL/T 1478-2015; DL/T 448-2016
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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

Functions

LCD	7 inch touch TFT color LCD
Communication port	RS232 or USB
Programmable	Yes
Meter position	1pc or 3pcs
PC control software	Optional

Mechanical parameters

Dimensions (W×D×H) (mm)	455x440x150
Weight (kg)	12

Environmental conditions

Ambient temperature	-10°C to +40°C
Relative humidity	35%-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.

Accessory

