

GF1021

Portable Single Phase Energy Meter Test System

GF1021 portable single phase energy meter test system used to test single phase energy meter error. Adopt mature signal synthetic and power amplifier technology, high precision voltage source and current source output. Widely used in the laboratory and field, and then as single phase standard source. The portable meter test equipment offers high functionality combined with an excellent menu guided operation via coloured 7' touch screen or externally via interface. It can be programmable via RS232 port by PC management software.

Functions

1. Measuring the distortion factor;
2. Testing AC voltmeter & Ammeter;
3. Testing single phase power meter error;
4. Vector representation of the measuring values;
5. Testing energy meter error installations in 1P2W;
6. Measuring mechanical meter and electric meter;
7. Testing power factor meter and frequency meter;
8. Measuring frequency, phase shift and power factor;
9. As high precision AC voltage source and current source;
10. Energy dosing with built-in current source and voltage source;
11. Harmonic spectrum analysis for voltage and current up to the 51th order;
12. Power and energy measurements for active, reactive and apparent power;



Features

1. Vector display;
2. Portable design;
3. Weight light 8Kg;
4. Accuracy class 0.05;
5. 7 inch TFT touch screen;
6. 0-120A, 0-500V, 40-70Hz;
7. Test by automatic or manual;
8. Start testing and creep testing;
9. Test 2pcs meter synchronously;
10. Programmable several testing scheme;
11. Recorder 1000 sets energy meter data;
12. Overload, short circuit, open circuit protection;

Parameters

Electrical parameters	
Accuracy class	0.05%, 0.1%
Power Supply	One Phase AC 85-265V, frequency 50/60Hz.
AC Voltage Output	
Range	0-500V; 0-380V; 0-300V;
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	max 30VA
Measuring accuracy	0.05%RG
AC Current Output	
Range	0-6A; 0-12A; 0-20A; 0-60A; 0-120A;
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	max 50VA or 100VA
Accuracy	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	0.05%RG
Reactive power measuring accuracy	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	2-51times
Harmonic content	0-40%
Harmonic phase	0-359.99
Harmonic setting accuracy	(10%±0.1%)RD ⁽²⁾

Power Energy Measurement Error

Active power energy	0.05%RG
Reactive power energy	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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Communication Port

Communication Port	RS232, USB2.0
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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	IP65
Declaration of conformity	CE & CNAS certified

Mechanical parameters

Dimensions (W×D×H) (mm)	325×275×135
Weight (kg)	8

Environmental conditions

Ambient temperature	-10°C to +50°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.

Selection Guide

NO.	Accuracy	Voltage range	Current Range	Weight
102112001	0.1%	0-500V	0-120A	12KG
1021120005	0.05%	0-500V	0-120A	12KG
10216001	0.1%	0-380V	0-60A	10KG
102160005	0.05%	0-380V	0-60A	10KG
10212001	0.1%	0-300V	0-20A	8KG
102120005	0.05%	0-300V	0-20A	8KG
10211201	0.1%	0-300V	0-12A	6.5KG
102112005	0.05%	0-300V	0-12A	6.5KG
1021601	0.1%	0-300V	0-6A	5KG
10216005	0.05%	0-300V	0-6A	5KG