GF302D

Portable Three Phase kWh Meter Test Equipment

The GF302D portable meter test equipment is used for grid corporation of measurement and energy test center, management department of power supply bureau, national energy measurement of testing authorities, and also used to test each kind of single/three phase kWh meter of industries and mining enterprises as well as electric meter manufacturers. Meanwhile, the meter test equipment also can be used as one high precision standard power source, voltage source and current source. Portable design, used in the laboratory or on site to auto check energy meter error.

Functions

1. Testing kWh meter error;
2. Testing watt-hour meter error;
3. Testing reactive energy meter error;
4. Testing three phase electronic meter error;
5. Testing single/three phase ammeter error;
6. Testing single/three phase voltmeter error;
7. Testing single phase electronic meter error;
8. Testing single/three phase power meter error;
9. Testing single/three phase power factor error;
10. Testing single/three phase frequency meter error;
11. Testing single/three phase phase angle meter error;
12. Testing single phase mechanical energy meter error;
13. Testing three phase mechanical energy meter error;
14. Testing three phase mechanical energy meter error;

Features

1. Able to test basic error, shunt running, start, standard error automatically and manually in single-step of single/three phase, according to relative regulation of kWh meter.
2. Able to do change test caused by voltage influence, frequency influence and harmonic influence.
3. Output of power source is speedy and stable, AC maximum output of each phase can reach 120A in maximum.
4. Voltage, current and phase position of each phase can be adjusted in split-phase, improving the flexibility of power source.

7. Frequency of each impulse input port can reach 200KHz.
8. 7-inch TFT color display touch screen, English menu, simple and convenient operation, commonly used functions and current basic load point can be controlled in one button.
9. Current output from 1mA to 120A, Voltage output from 0.01V to 600V, Phase angle adjust from 0°to 359.999°.
10. The best stability 0.01%/2min.
11. Able to do multi-function test such as communication test.
12. With RS232 port, it can be programmable.
13. With PC control software, it can be automatic test and generate test report.

Parameters

Electrical parameters	
Accuracy	0.05%, 0.1%
Power Supply	One Phase AC 100-265V, frequency 50/60Hz.
AC Voltage Output	
Range(U1,U2,U3)	57.7V, 100V, 220V, 380V; Max 500V or 69.3V, 120V, 240V, 480V(optional); 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	0.3% (Non-capacitive load)
Output load	each phase 25VA, 50VA, 100VA
Measuring accuracy	0.05%RG or 0.02%RG
AC Current Output	
Range(I1,I2,I3)	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	≤0.3% (Non-capacitive load)
Output load	50VA or 100VA
Accuracy	0.05%RG or 0.02%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
Apparent power measuring accuracy	0.05%RG

Electrical parameters - continued	
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° or 0.05°
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
Voltage /Current/Harmonic Setting	
Harmonic number	2-51times or 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	0.05%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 180K.
Communication Port	
Communication Port	RS232
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
Safety	
Isolation protection	IEC 61010-1:2001
Measurement Category	300 V CAT III, 600 V CAT II

Electrical parameters - continued	
Safety - continued	
Degree of protection	IP20
Declaration of conformity	CE certified
Mechanical parameters	
Dimensions (W×D×H) (mm)	500x600x175
Weight (kg)	22
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.

Selection guide

NO.	Accuracy	Voltage range	Current Range	Weight
302D12001	0.1%	0-600V	0-120A	22KG
302D12005	0.05%	0-600V	0-120A	22KG
302D2401	0.1%	0-600V	0-24A	16KG
302D2405	0.05%	0-600V	0-24A	16KG
302D1201	0.1%	0-500V	0-12A	15KG
302D1205	0.05%	0-500V	0-12A	15KG
302D601	0.1%	0-380V	0-6A	12KG
302D605	0.05%	0-380V	0-6A	12KG