

GF302D

Portable Three Phase kWh Meter Test Equipment

The GF302D portable meter test equipment is used for grid corporation of metrology and energy test center, management department of power supply bureau, national energy metrology of testing authorities, and also used to test all kinds of single/three phase kWh meter of industries and mining enterprises as well as electricity meter manufacturers. Meanwhile, the portable meter test equipment also can be used as one high precision standard power source, voltage source and current source, harmonic source. Portable design, used in the laboratory or on site to auto check energy meter error. It can output from 0 to 600V and 1mA to 120A, frequency from 40Hz to 70Hz, Phase shift from 0 to 360.00 degree, power factor from -1.00000 to 1.00000. Energy pulse constant imp/kWh/kVAh/kvarh or kW/kVA/kvar/imp etc.

Functions

- 1. Testing kWh meter error;
- 2. Testing watt-hour meter error;
- 3. Testing reactive energy meter error;
- 4. Testing single/three phase ammeter error;
- 5. Testing single/three phase voltmeter error;
- 6. Testing three phase electronic meter 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. Dial test (Register test)
- 2. The best stability 0.01%/2min.
- 3. Current output from 1mA to 120A, Voltage output from 0.01V to 600V, Phase angle adjust from 0°to 359.999°.
- 4. Voltage, current and phase position of each phase can be adjusted in split-phase, improving the flexibility of power source.
- 5. 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.
- 6. 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.



- 7. With RS232 port, it can be programmable.
- 8. Creep test (No-load test) and Starting current test
- 9. Frequency of each impulse input port can reach 200KHz.
- 10. Able to do multi-function test such as communication test.
- 11. Accuracy test in all four quadrants (active, reactive and apparent energy)
- 12. With PC control software, it can be automatic test and generate test report.
- 13. Able to do change test caused by voltage influence, frequency influence and harmonic influence.
- 14. Output of power source is speedy and stable, AC maximum output of each phase can reach 120A in maximum.

Parameters

Electrical parameters			
Accuracy	0.05%, 0.1%		
Power Supply	One Phase AC 85-265V, 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		



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	1000		
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		
PC control software	YES, Optional		
Standard			
Standard	IEC 62053-21,22, 23; IEC 60736; IR46; 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		



Electrical parameters - continued				
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 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;

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

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