GF302D3

Portable three phase energy meter test bench

The GF302D3 portable three phase energy meter test bench consists of an integrated three phase 120A current source and 600V voltage source and a class 0.02 three phase electronic reference standard meter.

The energy meter test bench is particularly designed for analysis of complete metering installations and local mains conditions. The meter test bench offers high functionality combined with an excellent menu guided operation via built-in thirty keys and colored 7" touch LCD-display. It can auto & manual test all kinds of energy meter error. Using on site or in the laboratory. It can preset a variety of test schemes for testing energy meter.

Application

1. Power plant;
2. Electrical laboratory;
3. Energy meter R & D;
4. Watt-hour meter factory;
5. Metrological service center;
6. Electricity power bureau & power company;
7. National Metrology and testing department;
8. Electrical Department of industrial and mining enterprises;

Features

1. Min current output 1mA;
2. Reference meter and power source integration;
3. 4 quadrant measurement;
4. Easy verification and analysis of meter installations ;
5. Predefined multiple load points;
6. Automatic operation without need of an external PC;
7. User friendly menu guided operation ;
8. Verification of the load conditions on metering installation;
9. Verification of the energy registration;
10. Programmable many kinds of testing energy meter schemes;
11. 1P2W, 1P3W, 3P3W, 3P4W can be set;
12. Generation of harmonics in current and voltage up to the 63nd;
13. Automatic testing mechanical meter and electronic meter error;
14. Voltage, current, frequency, phase angle, power factor, harmonics can be regulated;
15. Vector diagram display and phase sequence indication on integrated colored screen;
16. Especially configured USB stick for storage of customer data and measurement results;

Parameters

Electrical parameters	
Accuracy	0.02%, 0.05%
Power Supply	Single 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	0.2% (Non-capacitive load)
Output load	each phase 25VA or 50VA
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	≤0.2% (Non-capacitive load)
Output load	50VA or 100VA or 200VA
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 or 0.02%RG
Reactive power measuring accuracy	0.1%RG
Apparent power measuring accuracy	0.05%RG or 0.02%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

Electrical parameters - continued	
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 Output	
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	0.05%RG or 0.02%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.
Communication Port	
Communication Port	RS232, USB2.0
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
Degree of protection	IP20
Declaration of conformity	CE & CNAS certified
Mechanical parameters	
Dimensions (W×D×H) (mm)	445x460x158
Weight (kg)	18
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.