

GF312V2

Portable Three Phase Multifunction Electric Meter Calibrator

GF312V2 portable multifunction electric meter calibrator on-site is the newest product produced by our company by widely visiting users and referring to the advantages of the same kind of products home and abroad. GF312V2 is light weight and compact high precision reference meter for on-site verification and calibration of single or three phase energy meters. Test voltage and test current for the reference meter will be measured at mains on-site or can be generated and measured via external source (optional - model GF3031). The measured part of the product adopts high speed A/D transmission to send DSP to conduct digital processing, which largely improves measured degree of accuracy and stability. Central processing part adopts 32-bit ARM embedded technology to make instrument interface novel, function abundant, operation distinct and easy, and performance steady. Class of accuracy: Class 0.02, 0.05 or 0.1, range from 12A/600V or 120A/600V, with comfort design, small size. The model GF312V2 portable electric meter calibrator is suit for electric power departments, metrology and quality examining departments and electrical lab to field use.

Application

1. Power plant;
2. Electrical laboratory;
3. Energy meter factory;
4. Electricity power utilities;
5. Metrological service center;
6. Power engineering company;
7. Distribution power corporation;
8. Power engineer service company;
9. Electricity power bureau & power company;
10. National Metrology and testing department;
11. Electrical Department of industrial and mining enterprises;



Features

1. Vector diagram display;
2. Waveform oscilloscope;
3. Screen capture function;
4. 7 inch color TFT touch LCD;
5. Self adjusted clamp-on CTs;
6. Accuracy class: 0.02, 0.05, 0.1;
7. Burden measurement for CT/VT;
8. Measurement for energy register;
9. RS232 port for PC software control;
10. Measurement of energy meter errors;
11. USB and RS232 communication ports;
12. BT and android APP software optional;
13. Data generation test report by PC software;
14. Harmonic bar diagram and content display;
15. With smart scanning head and pulse cable;
16. Measurement of clock error of energy meter);

17. Measurement of turn ratio & phase error for CT;
18. Large capacity storage device for mass memory;
19. Measurement voltage & current of harmonics of 2nd to 63rd;
20. Power supply (lithium battery)/ 85-265V AC /U1Un (40-450V);
21. Check wiring failures and calculation of electricity compensation;
22. Measurement of U, I, P, Q, S, phase angle, power factor, frequency etc;
23. 5A, 10A, 20A,100A, 200A, 500A, 1000A, 2000A, 3000A, 6000A optional;
24. Input two pulse signal for master and slave meter synchronously calibration;

Parameters

Electrical parameters	
Accuracy class	0.02%, 0.05%, 0.1%
Power Supply	External power, 85-265V, 45-65Hz Phase voltage supply 40-450V, 45-65Hz Li-Battery supply
Voltage measurement	
Range	0-600V
Error	$\pm 0.05\%$ (30-600V); $\pm 0.02\%$ (30-600V)
Harmonic	2 nd -63 rd
Input impedance range	245k Ω @ 250V; 10M Ω @5V
Stability	0.01%/minute
Long term stability	<100 $\times 10E-6$ /Year
Current measurement	
Range (direct connection)	1mA-12A or 1mA-120A
Range (clamp CT)	1mA-120A
Clamp on CTs Optional	5A, 20A, 100A, 200A, 500A, 1000A, 2000A, 3000A, 6000A
Error (direct connection)	$\pm 0.05\%$ or $\pm 0.02\%$
Error (clamp CT)	$\pm 0.1\%$ (1mA-120A) $\pm 0.5\%$ (other)
Harmonic	2 nd -63 rd
Clamp diameter	12mm or 18mm
Input impedance range	0.04 Ω @ 0.05A-12A
Stability	0.01%/minute
Long term stability	<100 $\times 10E-6$ /Year

Electrical parameters - continued

Power measure error

Active power (direct connection)	$\pm 0.05\%$ or $\pm 0.02\%$
Active power (clamp CT)	$\pm 0.2\%$ (1mA-120A)
Reactive power (direct connection)	$\pm 0.1\%$ or $\pm 0.05\%$
Reactive power (clamp CT)	$\pm 0.2\%$ (1mA-120A)
Stability	0.01%/minute
Long term stability	$<100 \times 10^{-6}$ /Year

Energy measure error

Active energy (direct connection)	$\pm 0.05\%$ or $\pm 0.02\%$
Active energy (clamp CT)	$\pm 0.2\%$ (1mA-120A)
Reactive energy (direct connection)	$\pm 0.1\%$ or $\pm 0.05\%$
Reactive energy (clamp CT)	$\pm 0.2\%$ (5mA-120A)
Stability	0.01%/minute
Long term stability	$<100 \times 10^{-6}$ /Year

Phase angle

Range	0°-360°
Resolution	0.001°
Error	$\pm 0.015^\circ$

Frequency

Range	15Hz-70Hz
Resolution	0.0005Hz
Error	0.001Hz

Reference Meter

Measuring modes	2WA / 2WR / 2WAP 3WA / 3WR / 3WAP / 3WRCA / 3WRCB 4WA / 4WAb / 4WR / 4WRb / 4WAP / 4WAPb / 4WRC
Bandwidth	3000Hz
Sampling	16bit 504 samplers/period

Pulse output

Energy constant	250000
Pulse ratio	1:1
Output level	5V

Pulse input

Input channel	2
Input level	3-12V
Input frequency	Max. 100Hz

Electrical parameters - continued
Display

Resolution	800×480
LCD	7" TFT color touch

Function

Vector diagram	Yes
Waveform	Yes
Energy accumulation	Yes
CT ratio test	Yes
CT PT programmable	Yes
CT PT burden	Yes
Local parameter input	Yes
Wiring emulation	Yes
Self-calibration	Yes
Recorder check	Yes
Data storage	Yes
GPS	Yes
Data storage qty	10000
External extend memory	Yes
Screen printing	Yes
Communication port	USB/RS232/BT
Communication with PC	Yes
Upload data	Yes
External mini printer	Yes, Optional
Keyboard	Yes, 26pcs keys

Safety

IP class according to DIN EN 60529	IP42
Declaration of conformity	CE & CNAS conform
Protection class according to DIN EN 61140	II
Overvoltage category voltage measurement	CAT III 600V
Overvoltage category current	CAT III 600V

Standard

Isolation protection	IEC 61010-1:2001
Energy measurement	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
Reference standard	IEC 62052-11 IEC62053-21 IEC62053-22 & IEC62053- IEC61010-1:2001

Mechanical parameters

Dimensions (W×H×D) (mm)	245×168×70
Weight (kg)	1.8
Portable box weight (kg)	9.5

Environmental conditions

Ambient temperature	-25°C to +50°C
Storage temperature	-30°C to +65°C
Relative humidity	30%-95%
Power Consumstion	≤13VA

Accessory