

GF312V2S

High Precision Field Portable Three Phase Reference Meter

GF312V2S portable three phase reference meter field is the newest product produced by GFUVE company by widely visiting users and referring to the advantages of the same kind of products home and abroad. The measured part of the product adopts high speed 24bit A/D transmission to send DSP to conduct digital processing, unique power compensation algorithm with patented technology, 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 or 0.05, range from 3×12A/3×600V or 3×120A/3×600V, with comfort portable IP65 structure design and light weight. The model GF312V2S portable reference meter is suit for electricity power utilities metrological departments, Industrial and mining enterprises departments and electric lab to field use.

Application

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



Features

1. CT PT burden testing;
2. Screen capture function;
3. Measurement U & I wave;
4. Testing power meter error;
5. Self adjusted clamp-on CTs;
6. 7 inch color TFT touch LCD;
7. With smart optical sampler;
8. Testing frequency meter error;
9. Testing ammeter meter error;
10. Testing voltmeter meter error;
11. Testing phase angle meter error;
12. Testing power factor meter error;
13. BT port and android APP optional;
14. RS232 port for PC software control;
15. Accuracy class: 0.02%, 0.05%, 0.1%;
16. USB and RS232 communication ports;
17. Measurement for energy register error;
18. Measurement of clock error of energy meter;

19. Measurement of turn ratio & phase error for CT;
20. Large capacity storage device for mass memory;
21. Measurement of all kinds of energy meter errors;
22. Power supply (lithium battery)/ 85-265V AC /U1Un (40-450V);
23. Check wiring failures and calculation of electricity compensation;
24. Display of vector diagram, phase sequence, waveform oscilloscoper;
25. Measurement of U, I, P, Q, S, phase angle, power factor, frequency etc;
26. Input two pulse signal for master and slave meter synchronously calibration;
27. 5A, 20A, 100A, 200A, 500A, 1000A, 2000A, 3000A, 6000A current clamp optional
28. Measurement U & I of harmonics of 2nd to 63rd, harmonics spectrum bar and trend charts;

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 optional
Voltage measurement	
Range	0-600V
Error	±0.05%; ±0.02%
Harmonic	2 nd -63 rd
Input impedance range	245kΩ@ 250V; 10MΩ @5V
Stability	0.01%/minute
Long term stability	<100×10E -6 /Year
Current measurement	
Range (direct connection)	1mA-12A or 1mA-120A
Range (clamp on CTs)	1mA-120A
Clamp on CTs Optional	5A, 20A, 100A, 200A, 500A, 1000A, 2000A, 3000A
Error (direct connection)	±0.05% or ±0.02%
Error (clamp on CTs)	±0.1% (1mA-120A) ±0.2% (other)
Harmonic	2 nd -63 rd
Clamp diameter	18mm or others
Input impedance range	0.04Ω@ 0.05A-12A
Stability	0.01%/minute
Long term stability	<100×10E -6 /Year

Electrical parameters - continued
Power measure error

Active power (direct connection)	$\pm 0.05\%$ or $\pm 0.02\%$
Active power (clamp on CTs)	$\pm 0.1\%$ (1mA-120A)
Reactive power (direct connection)	$\pm 0.1\%$ or $\pm 0.05\%$
Reactive power (clamp on CTs)	$\pm 0.2\%$ (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 on CTs)	$\pm 0.1\%$ (1mA-120A)
Reactive energy (direct connection)	$\pm 0.1\%$ or $\pm 0.05\%$
Reactive energy (clamp on CTs)	$\pm 0.2\%$ (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	16 bit 504 samplers/ period

Pulse output

Energy constant	250000
Pulse ratio	1:1
Output level	5V
Pulse output constant programmable	1-250000 when f=60KHz

Pulse input

Input channel	3
Input level	3-12V
Input frequency	Max.

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 test	Yes
Local parameter input	Yes
Wiring emulation	Yes
Self-calibration	Yes
Recorder check	Yes
Data storage	Yes
GPS	Yes, Optional
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
External keyboard	Yes, 26pcs keys

Safety

IP class according to DIN EN 60529	IP65
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 & IEC62053-23 IEC61010-1:2001

Mechanical parameters

Dimensions (W×H×D) (mm)	365×269×151
Weight (kg)	4.5

Environmental conditions

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

Accessory