

GF313V2

Onsite Portable Three Phase Electronic Meter Test Set

GF313V2 onsite portable three phase electronic meter test set 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. 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 0.1, 0.2 or 0.5, range from 3×120A/3×600V or 3×200A/3×600V, with comfort design, small size and light weight. The model GF313V2 three phase meter meter test set is suit for metrological service of electricity power utilities, industrial and mining enterprises and electric lab to field use.

Application

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



Features

- 1. Vector display;
- 2. Screenshot function;
- 3. 7 inch color TFT touch LCD;
- 4. Self adjusted clamp-on CTs;
- 5. Measurement for energy register;
- 6. Accuracy class: 0.1%, 0.2% or 0.5%;
- 7. RS232 port for PC software control;
- 8. USB and RS232 communication ports;
- 9. Measurement of clock error of energy meter;

- 10. Large capacity storage device for mass memory;
- 11. Measurement of turn ratio & phase error for CT;
- 12. Testing comprehensive error of measuring device;
- 13. Measurement of three phase energy meter errors;
- 14. Automatic temperature compensation technology;
- 15. 100A, 200A, 500A, 1000A, 2000A, 3000A clamp optional;
- 16. Measurement of single phase energy meter errors onsite;
- 17. Measurement voltage & current of harmonics of 2nd to 63rd;
- 18. Power supply (lithium battery)/85-265V AC /U1Un (40-450V);



- 19. Testing all kinds of mechanical and electronic energy meter error;
- 20. Check wiring failures and calculation of electricity compensation;
- 21. Measurement of U, I, P, Q, S, phase angle, power factor, frequency etc;
- 22. Input two pulse signal for master and slave meter synchronously calibration;
- 23. With smart optical sampler, suitable for electronic meters and mechanical energy meters;

Parameters

Electrical parameters		
Accuracy class	0.1%, 0.2%, 0.5%	
Power Supply	External power, 85-265V, 45-65Hz	
	Phase voltage supply 40-450V, 45-65Hz	
	Li-Battery supply	
Voltage measurement(U1, U2, U3, UN)		
Range	0-600V	
Error	±0.1%(30-600V); ±0.05%(30-600V)	
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(Clamp CT - I1, I2,	13)	
Range (clamp CT)	0-120A, 0-200A, 0-500A, 0-1000A, 0-2000A, 0-3000A	
Clamp on CTs Optional	100A, 200A, 500A, 1000A, 2000A, 3000A	
Error	±0.1%, ±0.2%, ±0.5%	
Harmonic	2 nd -63 rd	
Clamp diameter	18mm	
Input impedance range	0.04Ω @ 0.01 A-120A or 0.02 -200A	
Stability	0.02%/minute	
Long term stability	<100×10E-6/Year	
Power measure error		
Active power	±0.1%, ±0.2%, ±0.5%	
Reactive power	±0.2%, ±0.5%	
Stability	0.02%/minute	
Long term stability	<100×10E-6/Year	
Energy measure error		
Active energy	±0.1%, ±0.2%, ±0.5%	
Reactive energy	±0.2%, ±0.5%	
Stability	0.02%/minute	
Long term stability	<100×10E-6 /Year	



Phase angle	Electrical parameters - continued	
Resolution 0.01°	Phase angle	
### ##################################	Range	0°-360°
Range	Resolution	0.01°
Range 40Hz-70Hz Resolution 0.0005Hz Reference Meter Weasuring modes 2WA / 2WA / 2WAP 3WA / 3WR / 3WAP / 3WRCA / 3WRCB 4WA / 4WAB / 4WR / 4WAP	Error	±0.05°
Resolution 0.0005Hz Error 0.001Hz Reference Meter Measuring modes 2WA / 2WR / 2WAP 3WA / 3WR / 3WAP / 3WRCA / 3WRCB 4WA / 4WAb / 4WR / 4WAP	Frequency	
Reference Meter Measuring modes 2WA / 2WR / 2WAP 3WA / 3WR / 3WRCA / 3WRCB 4WA / 4WAb / 4WR / 4WAP / 4WAP / 4WAP b / 4WRC Brandwidth 3000Hz Brandwidth 3110 Brandwidth Aware from Selection Selec	Range	40Hz-70Hz
Reference Meter Measuring modes 2WA / 2WR / 2WAP 3WA / 3WR / 3WRCA / 3WRCB 4WA / 4WAB / 4WR / 4WRD / 4WAP / 4WAPB / 4WRC Brandwidth 3000Hz Brandwidth 40 bit 504 samplers/ period Pulse output Pulse ratio Dutput level 50 V Pulse ratio Dutput level 50 V Pulse ratio Dutput level 3-12V Input frequency Max. 2M Hz Display Resolution B00×480 CD 7" TFT color touch Function Vector diagram Yes Brandwidth Yes Brandwidth Yes CT ratio test Yes CT ratio test Yes Cocal parameter input Yes Wiring emulation Yes Brandwidth AWA / 4WAP / 4WA	Resolution	0.0005Hz
Weasuring modes 2WA / 2WR / 2WAP 3WA / 3WR / 3WR / 3WRCB / 4WA / 4WRb / 4WRP / 4WAPb / 4WRC Brandwidth 3000Hz Brandling 16 bit 504 samplers / period Pulse output 5000 Pulse ratio 1:1 Dutput level 5V Pulse input 1:1 Input channel 2 Input frequency Max. 2M Hz Display 800×480 Resolution 800×480 CCD 7 TFT color touch Function Yes Energy Register test Yes CT PT programmable Yes Local parameter input Yes Wiring emulation Yes Wiring emulation Yes	Error	0.001Hz
3WA / 3WR / 3WRCA / 3WRCB 4WA / 4WAb / 4WR / 4WRb / 4WAP / 4WAPb / 4WRC Brandwidth 3000Hz Sampling 16 bit 504 samplers/ period Pulse output Energy constant 25000 Pulse ratio 1:1 Output level 5V Pulse input Input channel 2 anput frequency Max. 2MHz Bresolution 800×480 70° TFT color touch Function Vector diagram Waveform Yes Energy Register test Yes CT PT programmable 1900 A 786 Wiring emulation Yes	Reference Meter	
4WA / 4WR / 4WR / 4WR / 4WR / 4WR P / 4WAP / 4WR C Brandwidth 3000Hz Brandwidth 16 bit 504 samplers / period Pulse output Energy constant 25000 Pulse ratio 1:1 Coutput level 5V Pulse input Input channel 2 Input level 3-12V Input frequency Max. 2MHz Possolution 800×480 CCD 7" TFT color touch Function Vector diagram Yes Energy Register test Yes Energy Register test Yes CT PT programmable Yes Wiring emulation Yes	Measuring modes	2WA/2WR/2WAP
Brandwidth Sampling 16 bit 504 samplers/period Pulse output Energy constant 25000 Pulse ratio 21:1 Output level 5v Pulse input Input channel 2 Input level 3-12V Input frequency Max. 2M Hz Display Resolution 800×480 -CD 7" TFT color touch Function Vector diagram Ves Energy Register test Yes Energy Register test Yes CT PT programmable Local parameter input Wiring emulation Yes Wiring emulation Yes Wiring emulation Yes Function Ves		3WA/3WR/3WAP/3WRCA/3WRCB
Sampling 16 bit 504 samplers/ period Pulse output Energy constant 25000 Pulse ratio 1:1 Output level 5V Pulse input Input channel 2 Input level 3-12V Input frequency Max. 2M Hz Display Resolution 800×480 -CD 7" TFT color touch Function Vector diagram Yes Inergy Register test Yes CT ratio test Yes Local parameter input Yes Wiring emulation Yes Wiring emulation Yes Wiring emulation Function Vector diagram Yes Ves CT programmable Yes Wiring emulation Yes Wiring emulation Yes Finergy Register test Yes Wiring emulation Yes Wiring emulation Yes		4WA/4WAb/4WR/4WRb/4WAP/4WAPb/4WRC
Pulse output Energy constant 25000 Pulse ratio 1:1 Output level 5V Pulse input Input channel 2 Input level 3-12V Input frequency Max. 2M Hz Display Resolution 800×480 -C.D 7" TFT color touch Function Vector diagram Yes Energy Register test Yes CT ratio test Yes Local parameter input Yes Wiring emulation Yes Wiring emulation Yes Wiring emulation Yes Wes Self-calibration Yes	Brandwidth	3000Hz
Energy constant Pulse ratio 1:1 Dutput level Pulse input Input channel Input channel Input frequency	Sampling	16 bit 504 samplers/period
Pulse ratio Dutput level Pulse input Input channel Input level Input frequency Input frequ	Pulse output	
Output level 5V Pulse input Input channel 2 Input level 3-12V Input frequency Max. 2M Hz Display Resolution 800×480 .CD 7" TFT color touch Function Vector diagram Yes Energy Register test Yes CT ratio test Yes CT PT programmable Yes Wiring emulation Yes Wiring emulation Yes Self-calibration Yes	Energy constant	25000
Pulse input Input channel Input level Input level Input frequency Input freque	Pulse ratio	1:1
Input channel 2 Input level 3-12V Input frequency Max. 2M Hz Display Resolution 800×480 CD 7" TFT color touch Function Vector diagram Yes Waveform Yes Energy Register test Yes CT ratio test Yes CTPT programmable Yes Local parameter input Yes Wiring emulation Yes Self-calibration Yes	Output level	5V
Input level 3-12V Input frequency Max. 2 M Hz Display Resolution 800×480 LCD 7" TFT color touch Function Vector diagram Yes Waveform Yes Energy Register test Yes CT ratio test Yes Local parameter input Yes Wiring emulation Yes Self-calibration Yes	Pulse input	
Input frequency Display Resolution Reso	Input channel	2
Display Resolution 800×480 CD 7" TFT color touch Function Vector diagram Yes Waveform Yes Energy Register test Yes CT ratio test Yes CT PT programmable Yes Local parameter input Yes Wiring emulation Yes Self-calibration Yes	Input level	3-12V
Resolution 800×480 CD 7" TFT color touch Function Vector diagram Yes Waveform Yes Energy Register test Yes CT ratio test Yes CT PT programmable Yes Local parameter input Yes Wiring emulation Yes Self-calibration Yes	Input frequency	Max. 2M Hz
Tenction Vector diagram Ves Waveform Yes Energy Register test CT ratio test CT PT programmable Local parameter input Wiring emulation Yes 7" TFT color touch 1" TFT color touch Yes Yes Yes 4" TFT color touch Yes Yes 4" TFT color touch Yes 4" TFT color touch Yes 4" TFT color touch Yes	Display	
Vector diagram Vector diagram Ves Waveform Yes Energy Register test Yes CT ratio test Yes CT PT programmable Ves Local parameter input Ves Wiring emulation Yes Self-calibration Yes	Resolution	800×480
Vector diagram Waveform Yes Energy Register test Yes CT ratio test Yes CT PT programmable Local parameter input Wiring emulation Yes Self-calibration Yes	LCD	7" TFT color touch
Waveform Yes Energy Register test Yes CT ratio test Yes CT PT programmable Yes Local parameter input Yes Wiring emulation Yes Self-calibration Yes	Function	
Energy Register test CT ratio test CT PT programmable Local parameter input Wiring emulation Yes Self-calibration Yes	Vector diagram	Yes
CT ratio test CT PT programmable Local parameter input Wiring emulation Self-calibration Yes Ves	Waveform	Yes
CT PT programmable Local parameter input Wiring emulation Self-calibration Yes Yes	Energy Register test	Yes
Ocal parameter input Wiring emulation Yes Self-calibration Yes	CT ratio test	Yes
Wiring emulation Yes Self-calibration Yes	CT PT programmable	Yes
Self-calibration Yes	Local parameter input	Yes
	Wiring emulation	Yes
Recorder check Yes	Self-calibration	Yes
	Recorder check	Yes



Electrical parameters - continued		
Function - continued		
Data storage	Yes	
GPS	Optional	
Data storage qty	10000	
External extend memory	Yes	
Screenshot	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	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/EN 60736	
Reference standard	IEC 62052-11	
	IEC62053-21	
	IEC62053-22 & IEC62053-23	
	IEC61010-1:2001	
Mechanical parameters		
Dimensions (W×H×D) (mm)	245×168×70	
Weight (kg)	1.8	
Portable box weight (kg)	7.8	
Environmental conditions		
Ambient temperature	-25°C to +50°C	
Storage temperature	-30°C to +65°C	
Relative humidity	30%-95%	
Power Consumstion	≤13VA	





Accessory



