

GF312B2

Three Phase Portable Standard Energy Meter Test Equipment

GF312B2 portable energy meter test equipment is high accuracy 0.02%, with all kinds of optional clamp on ct (5A,20A, 100A, 200A, 500A, 1000A, 2000A, 3000A) and smart optical sampler. It can be applied in electrical laboratory or on site to check watt-hour meter error. it will be ensured by a combination of measures such as the use of 24bit A/D converter, DSP+32 bit ARM technology, a widely measuring range 600V/120A, adapted to typical test points of most recognized national metrological institutes. It can be as high precision three phase reference energy meter, also three phase portable energy meter calibrator, test ct pt ratio, burden etc. This model GF312B2 has been used many ISO17025 laboratory for electricity power utilities.

Application

1. Power plant;
2. Energy meter R & D;
3. Electrical laboratory;
4. Watt-hour meter factory;
5. Metrological service center;
6. ISO17025 electrical laboratory;
7. Electricity meter manufacturer;
8. National Metrology and testing department;
9. Electricity power bureau & power company;
10. Electrical Department of industrial and mining enterprises;



Features

1. CT PT burden test;
2. Vector diagram function;
3. Data download by U disk;
4. With PC control software;
5. CT ratio & phase error test;
6. 7 inch TFT touch color LCD;
7. Waveform display function;
8. High accuracy up to 0.02% ;
9. DSP+32 bit ARM technology;
10. 4 quadrant metrology energy;
11. Energy accumulating function;
12. Metal body, strong and reliable ;
13. Suit for testing in the field or in the lab;
14. Measurement 2nd~63st times harmonics;
15. Verification of comprehensive metering device;
16. Check energy meter connection fault in the field;
17. 1P2W, 1P3W, 3P3W, 3P4W connection wire mode;

Parameters

Electrical parameters	
Accuracy class	0.02% , 0.05%
Power supply	40-450V, 50/60Hz±2Hz
Power consumption	13VA
Communication port	RS232, USB
Voltage measurement(U1 U2 U3 UN)	
Range	0.0000-600.0000V
Resolution	0.001V
Error	±0.02% (30V-600V) ±0.05% (0.01V-30V)
Harmonic	2 nd -63 st
Current measurement(I1 I2 I3)	
Range (direct connection)	1mA-120.0000A
Resolution	0.1mA
Error (direct connection)	±0.02% (10mA-120A) ±0.05% (0.1mA-10mA)
Harmonic	2 nd -63 st
Clamp on CT(option)(indirectly connection)	5A,20A, 100A, 200A, 500A, 1000A, 2000A, 3000A
Accuracy	0.2%
Power measure error	
Active power (direct connection)	±0.02% (0.1A-120A) ±0.05% (0.02A-0.1A)
Reactive power (direct connection)	±0.05% (0.1A-120A)
Energy measure error	
Active energy (direct connection)	±0.02% (0.01A-120A) ±0.05% (0.001A-0.01A)
Reactive energy (direct connection)	±0.05% (0.01A-120A)
Phase angle	
Range	0°-360°
Resolution	0.005°
Error	±0.015°
Frequency	
Range	40.0000-70.0000Hz
Resolution	0.0005Hz
Error	0.001Hz

Electrical parameters - continued
Power factor

Range	-1.0 ~ 0 ~ +1.0
Resolution	0.0001
Error	0.0005

Reference Meter

Measuring modes	2WA / 2WR / 2WAP
	3WA / 3WR / 3WAP / 3WRCA / 3WRCB
	4WA / 4WAb / 4WR / 4WRb / 4WAP / 4WAPb / 4WRC
Bandwidth	3000Hz
Sampling	24 bit 504 samplers/period

Pulse output

Energy constant	1-250000, programmable
Pulse ratio	1:1
Output level	5V

Pulse input

Input channel	2
Input level	5-24V
Input frequency	Max. 2MHz

Display

Color LCD	7"STN (800×480), touch
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Function

Vector diagram	Yes
Waveform	Yes
Energy accumulation	Yes
CT ratio test	Yes
CT PT programmable	Yes
CT PT burden	Optional
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

Electrical parameters - continued
Function- continued

Screen printing	Yes
Communication port	USB/RS232
Communication with PC	Yes
Upload data	Yes, U disk
External mini printer	Yes, Optional
Keyboard	Yes

Standard

Standard	IEC 62053-21,22, 23; IEC 60736; IR46; ANSI C12.20-2022; JJG 597-2005; JJG596-2012; JJG 1085-2013; JJF 68-2019; DL/T 826-2002; DL/T 1478-2015; DL/T 448-2016
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Safety

IP class according to DIN EN 60529	IP65
Declaration of conformity	CE & CNAS conform
Protection class according to DIN EN 61140	II
Isolation protection	IEC 61010-1:2001
Overvoltage category voltage measurement	CAT III 600V
Overvoltage category current	CAT III 600V

Mechanical parameters

Dimensions (W×H×D) (mm)	365×269×151
Weight (kg)	4

Environmental conditions

Ambient temperature	-25°C to +50°C
Storage temperature	-30°C to +65°C
Relative humidity	15%-95%
Temperature coefficient	≤0.0005% /°C
Influence of external fields	≤0.05 %/mT