

GF333B

Three Phase Portable Multifunction Energy Reference Standard Meter

GF333B three phase reference standard meter is a high accuracy portable reference standard energy meter used to test three phase meters and single phase meters error, it designed to work both in the field and in the laboratory. The GF333B reference meter is used to measure three phase AC energy and voltage, current, power, phase angle, harmonic and other parameters in lab, and it also can be used to integrated in the energy meter test system and supply the standard energy pulse and every measurement parameters. Its stability 0.005%/min.

Features

1. Vector diagram function;
2. Waveform display function;
3. Energy accumulating function;
4. With big screen TFT color LCD;
5. ISO17025 laboratory standard;
6. High accuracy up to 0.04% or 0.05%;
7. Testing type: 3P4W, 3P3W, 1P2W, 1P3W;
8. With RS232 port, connection PC computer;
9. Fully automatic switching of all measuring ranges;
10. Harmonic analysis function, measurement 2nd-128th;
11. Internal pulse input port, testing meter's error directly;
12. Wide testing range: voltage 0V-600V, current 1mA-120A;
13. Meeting ANSI C12.1-2022 and IEC60736 & IR46 standard;
14. Testing mode: active power, reactive power, apparent power;
15. Designed this reference standard meter for meter test bench;



Application

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| 1. Power plant; | 8. Laboratories of power utilities; |
| 2. AMI design center; | 9. Electricity meter manufacturers; |
| 3. Energy meter R & D; | 10. Meter test bench integrated factory; |
| 4. Electrical laboratory; | 11. National Metrology and testing department; |
| 5. Watt-hour meter factory; | 12. Electricity power bureau & power company; |
| 6. Colleges and Universities; | 13. Electrical Department of industrial and mining enterprises; |
| 7. Metrological service center; | |

Parameters

Electrical parameters	
Accuracy	0.04%, 0.05%
Voltage supply	220V±10% or 110V±10%, 50/60Hz
Power consumption	15VA
Warming-up time	<30min
Voltage measurement(U1 U2 U3 UN)	
Range	0V-600V
Error	±0.02% (50V-600V), ±0.05% (5V-40V)
Display range	0.000000V-600.0000V
Harmonic	2 nd - 128 th
Current measurement(I1 I2 I3)	
Range	1mA-120A
Error	±0.02% (0.1A-120A), ±0.05% (1mA-0.1A)
Display range	1.000000mA-120.0000A
Harmonic	2 nd - 128 th
Power measurement	
Active power	±0.02% (0.1A-120A) ±0.05% (0.01A-0.1A) ±0.1% (0.001A-0.01A)
Reactive power	±0.05% (0.1A-120A), ±0.1% (0.001A-0.1A)
Apparent power	±0.05% (0.1A-120A), ±0.1% (0.001A-0.1A)
Energy error	
Active energy	±0.02% (0.1A-120A) ±0.05% (0.01A-0.1A) ±0.1% (0.001A-0.01A)
Reactive energy	±0.05% (0.1A-120A), ±0.1% (0.001A-0.1A)
Apparent energy	±0.05% (0.1A-120A), ±0.1% (0.001A-0.1A)
Phase measurement	
Range	0°-360°
Resolution	0.005°
Error	±0.01°
Display range	0.0000°-359.999°
Frequency measurement	
Range	40-70Hz
Display range	40.0000-70.0000
Resolution	0.0005
Accuracy	0.001Hz

Electrical parameters - continued

Power Factor measurement

Range	-1.00000 ~ 0 ~ +1.00000
Resolution	0.0001
Accuracy	0.0005

Energy pulse

High frequency output(CH)	12000Hz
Low frequency output(CL)	5000Hz
Pulse ratio	1:1
Output level	5V
Input level	5V
Input frequency	Max. 1MHz

Function

LCD Display	6 inch color touch display
Vector diagram	Yes
Waveform	Yes
Energy accumulation	Yes
Harmonic	Yes
Self-calibration	Yes
Data storage	Yes
PC software	Optional
Communication port	RS232

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

Isolation protection	IEC 61010-1:2001
Measurement Category	300 V CAT III, 600 V CAT II
Degree of protection	IP40
Declaration of conformity	CE & CNAS certified

Mechanical parameters

Dimensions (W×H×D) (mm)	480×138×486
Weight (kg)	8.5

Environmental conditions

Ambient temperature	-10°C to 45°C
Storage temperature	-20°C to 65°C
Relative humidity	10%-85%
Influence of external fields	≤0.05 %/mT
Temperature coefficient	≤0.0005 %/°C