

## GF111

### Single Phase Reference Standard Meter For Test Bench

*GF111 reference meter is a single phase reference standard with the characteristics of wide-range 600V/240A, multifunction and high-precision. It has accuracy class of 0.02. By adopting techniques of DSP, embedded system and automatic temperature balancing and other compensation, it has not only advantages of light weight, small size, high precision, high performance, powerful function, original interface, ease-to-use, but also work stability. It can measure U, I, P, Q, S, E, frequency, power factor, phase angle, harmonics etc.*

*The GF111 energy reference meter can be widely used in fields of electric energy measuring, electric energy laboratories and other relevant industry, not only in laboratories but also at the industrial field. It can as a reference standard for single phase energy meter test bench.*

### Features

1. Vector diagram function;
2. Suit for testing in the lab;
3. Waveform display function;
4. High stability, high reliability;
5. Energy accumulating function;
6. High accuracy class up to 0.02%;
7. Measuring 2nd~63rd harmonics;
8. 0-600V, 1mA-240A, 40-70.000Hz;
9. With RS232, connect PC computer;
10. Metal structure, strong and reliable ;
11. Phase angle precision less than 0.01°;
12. Multi range, automatic range switching;
13. Small size, light weight, simple operation;



### Application

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

## Parameters

Electrical parameters	
Accuracy class	0.02%, 0.04%, 0.05%
Power supply	220V±10% or 110V±10%, 50/60Hz
Power consumption	10VA
Voltage measurement	
Range	0-600.000V
Error	±0.02% (40V-600V) ±0.05% (5V-40V)
Harmonic	2 <sup>nd</sup> -63 <sup>nd</sup>
Current measurement	
Range (direct connection)	1mA-120.000A; 1mA-240.000A
Error (direct connection)	±0.02% (10mA-120A) or (10mA-240A) ±0.05% (1mA-10mA)
Harmonic	2 <sup>nd</sup> -63 <sup>nd</sup>
Power measurement error	
Active power	±0.02% (0.01A-120A) or (0.01A-240A) ±0.05% (0.001A-0.01A)
Reactive power	±0.05% (0.001A-120A) or (1mA-240A)
Energy measurement error	
Active energy	±0.02% (0.01A-120A) or (10mA-240A) ±0.05% (0.001A-0.01A)
Reactive energy	±0.05% (0.001A-120A) or (1mA-240A)
Phase angle	
Range	0°-360.000°
Resolution	0.005°
Error	±0.01° or ±0.02°
Power factor	
Range	-1.00000-0-1.00000
Resolution	0.00005
Error	0.00001
Frequency	
Range	40.0000-70.0000Hz
Resolution	0.0005
Error	±0.001

**Electrical parameters - continued**
**Pulse output**

Output channel	1
Energy constant	1-9999999
Pulse ratio	1:1
Output level	5V
Output rated frequency	60KHz, max 86.4KHz

**Pulse input**

Input channel	1
Input level	5-24V or 3-12V
Input frequency	Max. 2MHz

**Function**

LCD Display	4.3 inch 480x272 pixel touch TFT
Vector diagram	Yes
Waveform	Yes
Energy accumulation	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; GB/T
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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)	482×380×133
Weight (kg)	4.5

**Environmental conditions**

Ambient temperature	0°C to 40°C
Storage temperature	-20°C to +65°C
Relative humidity	10%-85%
Temperature coefficient	≤0.0005% /°C
Influence of external fields	≤0.05 %/mT