# GF1021

## Portable Single Phase Energy Meter Test System

*GF1021 portable single phase energy meter test system used to test single phase energy meter error. Adopt mature signal synthetic and power amplifier technology, high precision voltage source and current source output. Widely used in the laboratory and field, and then as single phase standard source. The portable meter test equipment offers high functionality combined with an excellent menu guided operation via coloured 7' touch screen or externally via interface. It can be programmable via RS232 port by PC management software.*

## Functions

1. Measuring the distortion factor;
2. Testing AC voltmeter & Ammeter;
3. Testing single phase power meter error;
4. Vector representation of the measuring values;
5. Testing energy meter error installations in 1P2W;
6. Measuring mechanical meter and electric meter;
7. Testing power factor meter and frequency meter;
8. Measuring frequency, phase shift and power factor;
9. As high precision AC voltage source and current source;
10. Energy dosing with built-in current source and voltage source;
11. Harmonic spectrum analysis for voltage and current up to the 51th order;
12. Power and energy measurements for active, reactive and apparent power;

## Features

1. Vector display;
2. Portable design;
3. Weight light 8Kg;
4. Accuracy class 0.05;
5. 7 inch TFT touch screen;
6. 0-120A, 0-500V, 40-70Hz;
7. Test by automatic or manual;
8. Start testing and creep testing;
9. Test 2pcs meter synchronously;
10. Programmable several testing scheme;
11. Recorder 1000 sets energy meter data;
12. Overload, short circuit, open circuit protection;

## Parameters

| Electrical parameters | |
|---|---|
| Accuracy class | 0.05%, 0.1% |
| Power Supply | One Phase AC 85-265V, frequency 50/60Hz. |
| **AC Voltage Output** | |
| Range | 0-500V; 0-380V; 0-300V; |
| Adjustment range | (0-120)%RG(1) |
| Adjustment fineness | 0.01%RG, 0.1%RG, 1%RG, 10%RG as optional. |
| Stability | 0.01%/120s |
| Distortion | 0.1% (Non-capacitive load) |
| Output load | max 30VA |
| Measuring accuracy | 0.05%RG |
| **AC Current Output** | |
| Range | 0-6A; 0-12A; 0-20A; 0-60A; 0-120A; |
| Adjustment range | (0-120)%RG |
| Adjustment fineness | 0.01%RG, 0.1%RG, 1%RG, 10%RG as optional. |
| Stability | <0.01%/120s |
| Distortion | ≤0.1% (Non-capacitive load) |
| Output load | max 50VA or 100VA |
| Accuracy | 0.05%RG |
| **Power Output** | |
| Active power output stability | <0.01%RG/120s |
| Reactive power output stability | <0.02%RG/120s |
| Active power measuring accuracy | 0.05%RG |
| Reactive power measuring accuracy | 0.1%RG |
| **Phase Output** | |
| Output adjustment range | 0°-359.999° |
| Output adjustment fineness | 10, 1, 0.1, 0.01 as optional. |
| Resolution | 0.01° |
| Accuracy | 0.02° |
| **Power Factor** | |
| Adjustment range | -1 ~ 0 ~ 1 |
| Resolution | 0.0001 |
| Measurement accuracy | 0. 0005 |
| **Frequency Output** | |
| Adjustment range | 40Hz-70Hz |
| Output adjustment fineness | 5Hz, 1Hz, 0.1Hz, 0.01Hz as optional. |
| Resolution | 0.001Hz |
| Accuracy | 0.002Hz |

| Electrical parameters - continued | |
|---|---|
| **Voltage /Current/Harmonic Setting** | |
| Harmonic number | 2-51times |
| Harmonic content | 0-40% |
| Harmonic phase | 0-359.99 |
| Harmonic setting accuracy | (10%±0.1%)RD(2) |
| **Power Energy Measurement Error** | |
| Active power energy | 0.05%RG |
| Reactive power energy | 0.1%RG |
| **Power Pulse Output** | |
| Power pulse type | active pulse, reactive pulse |
| Active power pulse output | 5V, 10mA |
| **Power Pulse Input** | |
| Energy pulse type | support active and reactive pulse, the highest frequency power pulse input is 200K. |
| **Communication Port** | |
| Communication Port | RS232, USB2.0 |
| **Standard** | |
| Standard | IEC 62053-21,22, 23; IEC 60736; 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 |
| **Safety** | |
| Isolation protection | IEC 61010-1:2001 |
| Measurement Category | 300 V CAT III, 600 V CAT II |
| Degree of protection | IP65 |
| Declaration of conformity | CE & CNAS certified |
| **Mechanical parameters** | |
| Dimensions (W×D×H) (mm) | 325×275×135 |
| Weight (kg) | 8 |
| **Environmental conditions** | |
| Ambient temperature | -10°C to +50°C |
| Relative humidity | 35%-85% |

(1) RG means range, the same as below;
(2) RD means the setted harmonic content, harmonic can be a single output, also multiple output.

## Selection Guide

| NO. | Accuracy | Voltage range | Current Range | Weight |
|---|---|---|---|---|
| 102112001 | 0.1% | 0-500V | 0-120A | 12KG |
| 1021120005 | 0.05% | 0-500V | 0-120A | 12KG |
| 10216001 | 0.1% | 0-380V | 0-60A | 10KG |
| 102160005 | 0.05% | 0-380V | 0-60A | 10KG |
| 10212001 | 0.1% | 0-300V | 0-20A | 8KG |
| 102120005 | 0.05% | 0-300V | 0-20A | 8KG |
| 10211201 | 0.1% | 0-300V | 0-12A | 6.5KG |
| 102112005 | 0.05% | 0-300V | 0-12A | 6.5KG |
| 1021601 | 0.1% | 0-300V | 0-6A | 5KG |
| 10216005 | 0.05% | 0-300V | 0-6A | 5KG |