# GF302D1

## Three Phase Portable Energy Meter Test Equipment

The GF302D1 three phase portable energy meter test equipment consists of an integrated three phase current source (up to 500V/120A or 500V/20A) and built-in three-phase electronic reference standard of accuracy class 0.02% or 0.05%. Characteristic features of the GF302D1 are its wide measuring range, high accuracy and high tolerance to unwanted external influences. The equipment offers high functionality combined with an excellent menu guided operation via built-in keyboards and colored 7” touch LCD-display. Voltage & current harmonics output from 2 to 63 times. This model portable meter test equipment can be programmable by PC, automatic generation of energy meter error test report.

## Functions


1. Register test
2. Harmonics test
3. Repeatability of error test
4. Energy meter accuracy test
5. Measuring the distortion factor
6. User friendly menu guided operation
7. Energy dosing with built-in current source
8. Measuring mechanical meter and electric meter
9. Easy verification and analysis of meter installations
10. Measuring frequency, phase shift and power factor
11. Automatic operation without need of an external PC
12. Three phase ballance test and Three phase unballance test
13. Especially configured USB stick for storage of customer data
14. Testing all kinds of energy meter in 1P2W, 1P3W, 3P3W, 3P4W
15. Harmonic spectrum analysis for voltage and current up to the 63nd order
16. Power and energy measurements for active, reactive and apparent power
17. Vector diagram display and phase sequence indication on integrated colored screen

## Features

1. Weight light 12.8Kg
2. 7 inch TFT touch screen
3. 0-120A/0-500V/40-70Hz
4. Accuracy class 0.02 or 0.05
5. Test by automatic or manual
6. Start testing and creep testing
7. Recorder 500 sets energy meter data
8. Overload, short circuit, open circuit protection
9. Display all electrical parameters on one screen
10. Reference standard and current source integrated

## Parameters

| Electrical parameters | |
|---|---|
| Accuracy | 0.02%, 0.05%, 0.1% |
| Power Supply | One Phase AC 85-265V, frequency 50/60Hz. |
| **AC Voltage Measurement** | |
| Range(U1,U2,U3) | 0-600V; 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 | 0.3% (Non-capacitive load) |
| Output load | each phase 25VA |
| Accuracy | 0.02%RG or 0.05%RG |
| **AC Current Output** | |
| Range(I1,I2,I3) | 0-6A; 0-12A; 0-20A; 0-50A; 0-120A; |
| Adjustment range | (0-100)%RG |
| Adjustment fineness | 0.01%RG, 0.1%RG, 1%RG, 10%RG as optional. |
| Stability | <0.01%/120s |
| Distortion | ≤0.3% (Non-capacitive load) |
| Max Output load | 20VA or 50VA or 100VA; |
| Accuracy | 0.02%RG or 0.05%RG |
| **Power Measurement** | |
| Active power output stability | <0.01%RG/120s |
| Reactive power output stability | <0.02%RG/120s |
| Active power measuring accuracy | 0.02%RG or 0.05%RG |
| Reactive power measuring accuracy | 0.05%RG or 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 | 0.015° |
| **Power Factor** | |
| Adjustment range | -1 ~ 0 ~ 1 |
| Resolution | 0.0001 |
| Measurement accuracy | 0.0005 |
| **Frequency Measurement** | |
| Range | 40Hz-70Hz |
| Resolution | 0.001Hz |
| Accuracy | 0.002Hz |

| Electrical parameters - continued | |
|---|---|
| **Voltage /Current/Harmonic Measurement** | |
| Harmonic number | 2-63times |
| Harmonic content | 0-40% |
| Harmonic phase | 0-359.99 |
| Harmonic setting accuracy | (10%±0.1%)RD(2) |
| **Power Energy Measurement Error** | |
| Active power energy | 0.02%RG or 0.05%RG |
| Reactive power energy | 0.05%RG or 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. |
| Pulse input channel | 1, 3 optional |
| **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 | IP42 |
| Declaration of conformity | CE & CNAS certified |
| **Mechanical parameters** | |
| Dimensions (W×D×H) (mm) | 495x390x195 |
| Weight (kg) | 12.8, 22.8 |
| **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 |
|---|---|---|---|---|
| 302D112001 | 0.1% | 0-500V | 0-120A | 22KG |
| 302D1120005 | 0.05% | 0-500V | 0-120A | 22KG |
| 302D1120002 | 0.02% | 0-500V | 0-120A | 22KG |
| 302D15001 | 0.1% | 0-500V | 0-50A | 18KG |
| 302D150005 | 0.05% | 0-500V | 0-50A | 18KG |
| 302D150002 | 0.02% | 0-500V | 0-50A | 18KG |
| 302D12001 | 0.1% | 0-500V | 0-20A | 15.8KG |
| 302D120005 | 0.05% | 0-500V | 0-20A | 15.8KG |
| 302D120002 | 0.02% | 0-500V | 0-20A | 15.8KG |
| 302D11201 | 0.1% | 0-380V | 0-12A | 12.8KG |
| 302D112005 | 0.05% | 0-380V | 0-12A | 12.8KG |
| 302D112002 | 0.02% | 0-380V | 0-12A | 12.8KG |
| 302D1601 | 0.1% | 0-300V | 0-6A | 8KG |
| 302D16005 | 0.05% | 0-300V | 0-6A | 8KG |
| 302D16002 | 0.02% | 0-300V | 0-6A | 8KG |

## Accessories