# GF303D

## PORTABLE THREE PHASE AC VOLTAGE AND CURRENT SOURCE

The GF303D electrical power calibrator can also be used to type test 0.1% to 2% energy meters. Choose the GF303D electrical power calibrator when you need the highest accuracy available for calibrating secondary standard meters, energy revenue meters and type test applications. The model GF303D three phase power source is electric AC voltage, current and power calibrator for calibration of power meters, power transducers, current meter, voltage meter and generally all kinds of power measuring devices. AC voltage, current, power functions have calibrated phase shift in frequency range from 40 Hz to 70Hz with resolution as good as 0.001 Hz. It have three channel voltage and three phase current independent output, any programmable setting, low phase shift, high stability 0.01%/1min, as standard three phase voltage source, three phase current source and three phase power source , is a high precision portable calibration tool in electrical laboratory.

## Application

1. Universities;
2. Energy meter R & D;
3. Electrical testing center;
4. AMI Research institutes;
5. Transducer manufacturers;
6. Panel meter manufacturers;
7. Power meter manufacturers;
8. Digital meter manufacturers;
9. Pointer meter manufacturers;
10. Railway electrical department;
11. ISO17025 Electrical laboratory;
12. Measurement and control device factory;
13. Electricity power bureau & power company;
14. Manufacturer of reactive power compensation device;
15. Power engineering commissioning company;
16. Electrical Department of industrial and mining enterprises;


## Features

1. Range switching automatically;
2. Programmable by professional users;
3. With RS232 interface, PC Software optional;
4. Apply the 32 bit MPU + DSP + CPLD, powerful flexible;
5. Display of vector diagram, Symbols according to IEC387;
6. Software calibration, simple operation, stable and reliable;
7. Three channel voltage and three channel current output;
8. As a high-power current source, voltage source and power source;
9. High-power power source, high stability, waveform distortion degree is small;
10. Big touch screen, 7-inch TFT color LCD display, English menu, operating simply;
11. Hardware PID, fast response, the change of load will not cause output volatility;
12. Voltage & current output range widely from 0-120A/0-600V/40-70HZ/0-360.000°;
13. Setting up and take the load regulation of voltage, current, phase angle, frequency and power factor etc;
14. Over-current, over-voltage, over-heat, shorts-and-opens, overload protection, failure detection automatically;
15. Setting 2-63 times harmonics of amplitude and phase, and it can be added to the base wave in every harmonic output;
16. Strong with load ability, capacitive load & resistance of composite type load or load and load regulation is higher than 0.01%;
17. Industrial frequency waves as high as 5000points/cycle, signal output without filter, precise output waveform, the harmonic output precision, harmonic distortion degree is small;

## Parameters

| Electrical parameters | |
|---|---|
| Accuracy class | 0.02%, 0.05%, 0.1% |
| Power supply | Single phase AC 85-265 V, frequency 50/60 Hz |
| **AC Voltage output** | |
| Range (U1, U2, U3 phase) | 57.7V/100V/220V/380V; range switch automatically(Max |
| Adjust fineness | 0.01% RG |
| Accuracy | 0.02% RG, 0.05% RG |
| Stability | <0.01% RG/120s |
| Distortion degree | <0.3% (not capacitive load) |

| Electrical parameters - continued | |
|---|---|
| Output power | 25VA or 50VA |
| Full load regulation rate | 0.01% RG |
| Full load regulation time | Less than 1mS |
| Long-term stability | ±60 PPM/year |
| **AC Current output** | |
| Range (I1, I2, I3 phase) | 0.2A, 1A, 5A, 20A, 100A; range switch automatically |
| Adjustment range | (0-120)%RG |
| Adjust fineness | 0.01% RG |
| Accuracy | 0.02% RG, 0.05% RG |
| Stability | <0.01% RG/120s |
| Distortion degree | <0.3% (not capacitive load) |
| Output power | 50VA or 100VA |
| Full load regulation rate | 0.01% RG |
| Full load regulation time | Less than 1mS |
| Long-term stability | ±60 PPM/year |
| **Power output** | |
| Accuracy | 0.02% RG, 0.05% RG |
| Stability | 0.01% RG/120s |
| **Phase angle** | |
| Adjusting range | 0.000°-359.999° |
| Output adjustment fineness | 10, 1, 0.1, 0.01 as optional. |
| Resolution | 0.001° |
| Accuracy | 0.02° or 0.05° |
| **Power factor** | |
| Adjusting range | -1 ~ 0 ~ +1 |
| Resolution | 0.0001 |
| Accuracy | 0.0005 |
| **Frequency** | |
| Adjusting range | 40.000-70.000 Hz |
| Output adjustment fineness | 5Hz, 1Hz, 0.1Hz, 0.01Hz as optional. |
| Resolution | 0.001 Hz |
| Accuracy | 0.002Hz |
| Temperature drift | ±0.5 PPM/°C |
| Long-term stability | ±4 PPM/year |
| **Harmonic accuracy** | |
| Harmonic number | 2-63times |
| Harmonic content | 0-40% |
| Harmonic phase | 0°-359.99° |
| Harmonic phase accuracy | <0.01° |
| Harmonic set accuracy | 0.1% (relative to the base wave ratings) |

| Electrical parameters - continued | |
|---|---|
| **Functions** | |
| Communication Port | RS232 |
| Programmable controlled | Yes |
| Key | 29pcs |
| LCD | 7 inch TFT color touch display |
| PC control software | Optional |
| **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 | IP20 |
| Declaration of conformity | CE & CNAS certified |
| **Mechanical parameters** | |
| Dimensions (W×D×H) (mm) | 500x600x175 |
| Weight (kg) | 12, 15, 18, 20, 25 |
| **Environmental conditions** | |
| Working temperature | 0°C to 50°C |
| Storage condition | -30°C to -60°C |
| Relative humidity | ≤85% |

## Selection guide

| NO. | Accuracy | Voltage range | Current Range | Weight |
|---|---|---|---|---|
| 303D1201 | 0.1% | 0-500V | 0-120A | 25KG |
| 303D12005 | 0.05% | 0-500V | 0-120A | 25KG |
| 303D501 | 0.1% | 0-500V | 0-50A | 20KG |
| 303D5005 | 0.05% | 0-500V | 0-50A | 20KG |
| 303D241 | 0.1% | 0-500V | 0-24A | 18KG |
| 303D2405 | 0.05% | 0-500V | 0-24A | 18KG |
| 303D121 | 0.1% | 0-380V | 0-12A | 15KG |
| 303D1205 | 0.05% | 0-380V | 0-12A | 15KG |
| 303D61 | 0.1% | 0-380V | 0-6A | 12KG |
| 303D605 | 0.05% | 0-380V | 0-6A | 12KG |