

GF3031

500V 120A Portable Three Phase Electrical Power Calibrator

The GF3031 programmable electrical power calibrator is a powerful and high precision 0.05% portable three phase current and voltage source. All test values are generated absolutely synthetically with a high degree of accuracy and stability. The source is available in 6A, 12A, 20A or 120A version. Voltage and current phase shift can be adjusted from 0.000° to 360.000°, stability 0.01%/min.

The GF3031 three phase portable power calibrator is a lightweight and portable current and voltage source based on newest technology and serves for solving this problem by simulating the required load conditions. Operation is performed by integrated 7" touch screen or via keyboards. It is a high precision test equipment as AMI R & D or energy meter manufacturer factory. This model three phase power calibrator can test energy meter, power meter, ammeter, voltmeter, phase angle meter, power factor meter & frequency meter etc.

Functions

1. Individual load point settings;
2. Color display with graphical interface;
3. User friendly menu guided operation;
4. Operation without need of an external PC;
5. Programmable frequency 40.000-70.000Hz;
6. Programmable phase shift control from 0-360.000°;
7. Configuration of balanced and unbalanced load points;
8. Programmable power factors from -1.00000 to 1.00000;
9. Indication of load values, vector diagram and waveform;
10. All the load testing point output continuously for any time;
11. Programmable wave form generation for voltage and current;
12. Generation of up to the 63rd harmonic in voltage and current;
13. Current, voltage and phase shift are adjustable to high accuracy individual per phase;



Features

1. Weight light 15Kg;
2. With USB or RS232;
3. Portable design IP54;
4. 7 inch TFT touch LCD;
5. Accuracy class 0.05, 0.1 or 0.2;
6. Distortion of waveform display;
7. Programmable controlled by RS232 port;
8. U & I setting 2nd-63rd harmonics output;
9. All test values are generated synthetically;
10. Phase shift 0.000°-359.999°, accuracy 0.02°;
11. Three phase voltage generation up to 500 V;
12. One screen displays all electrical parameters;
13. Overload, short circuit, open circuit protection;
14. 3P4W, 3P3W, 1P3W, 1P2W wiring mode setting;
15. Three phase current generation up to 120 A (AC) ;

Parameters

| Electrical parameters | |
|----------------------------|---|
| Accuracy class | 0.05%, 0.1%, 0.2% |
| Power supply | Single phase AC 100-265 V, frequency 50/60 Hz |
| AC Voltage output | |
| Range (U1, U2, U3 phase) | 57.7V, 100V, 220V, 380V(Max 500V); range switch |
| Adjust fineness | 0.01% RG |
| Accuracy | 0.05% RG |
| Stability | <0.01% RG/120s |
| Distortion degree | <0.3% (not capacitive load) |
| Output power | 30VA |
| 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(Max 120A); range switch |
| Adjustment range | (0-120)%RG |
| Adjust fineness | 0.01% RG |
| Accuracy | 0.05% RG |
| Stability | <0.01% RG/120s |
| Distortion degree | <0.3% (not capacitive load) |
| Output power | 20VA, 50VA, 100VA, 200VA |
| Full load regulation rate | 0.01% RG |
| Full load regulation time | Less than 1mS |
| Long-term stability | ± 60 PPM/year |
| Power output | |
| Accuracy | 0.05% RG |
| Stability | 0.01% RG/120s |
| Phase angle | |
| Adjusting range | 0°-359.99° |
| Output adjustment fineness | 10°, 1°, 0.1°, 0.01° as optional. |
| Resolution | 0.001° |
| Accuracy | 0.02° or 0.05° |
| Power factor | |
| Adjusting range | -1.00000 ~ 0 ~ +1.00000 |
| Resolution | 0.0001 |
| Accuracy | 0.0005 |

Electrical parameters - continued
Frequency

| | |
|----------------------------|--------------------------------------|
| Adjusting range | 40.000-70.000 Hz |
| Output adjustment fineness | 5Hz, 1Hz, 0.1Hz, 0.01Hz as optional. |
| Resolution | 0.001 Hz |
| Accuracy | 0.002 Hz |
| Temperature drift | ± 0.5 PPM/°C |
| Long-term stability | ± 4 PPM/year |

Voltage /Current/Harmonic Setting

| | |
|---------------------------|-----------------------------|
| Harmonic number | 2-63times |
| Harmonic content | 0-40% |
| Harmonic phase | 0-359.99 |
| Harmonic setting accuracy | (10%±0.1%)RD ⁽²⁾ |

Function

| | |
|-------------------------|--------------------------------|
| Communication Port | RS232, USB2.0 |
| Programmable controlled | Yes |
| Harmonic | Yes |
| Wiring mode | 3P4W, 3P3W, 1P3W, 1P2W |
| Key | 30pcs |
| LCD | 7 inch TFT color touch display |
| PC control software | Optional |

Standard

| | |
|----------|---|
| Standard | IEC 62053-21,22, 23; IEC 60736; ANSI C12.20-2002; JIG 597-2005; JIG596-2012; JIG 1085-2013; JJF 68-2019; DL/T 826-2002; DL/T 1478-2015; DL/T 448-2016; JIG 51-1999; DL/T 2213.1-2021; GJB J 5857-2006; JIG6-2011; JIG70-2015; |
|----------|---|

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) | 495x390x195 |
| Weight (kg) | 8, 12, 15, 20, 22 |

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 |
|-----------|----------|---------------|---------------|--------|
| 303162 | 0.2% | 0-300V | 0-6A | 8KG |
| 303161 | 0.1% | 0-500V | 0-6A | 8KG |
| 3031605 | 0.05% | 0-500V | 0-6A | 8KG |
| 3031122 | 0.2% | 0-300V | 0-12A | 12KG |
| 3031121 | 0.1% | 0-500V | 0-12A | 12KG |
| 30311205 | 0.05% | 0-500V | 0-12A | 12KG |
| 3031202 | 0.2% | 0-380V | 0-20A | 15KG |
| 3031201 | 0.1% | 0-500V | 0-20A | 15KG |
| 30312005 | 0.05% | 0-500V | 0-20A | 15KG |
| 3031502 | 0.2% | 0-380V | 0-50A | 20KG |
| 3031501 | 0.1% | 0-500V | 0-50A | 20KG |
| 30315005 | 0.05% | 0-500V | 0-50A | 20KG |
| 30311202 | 0.2% | 0-380V | 0-120A | 22KG |
| 30311201 | 0.1% | 0-500V | 0-120A | 22KG |
| 303112005 | 0.05% | 0-500V | 0-120A | 22KG |