

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