

GF3600

Three-Phase AC-DC Instrument Test Equipment

This model GF3600 AC/DC digital meter test equipment is composed of programmable three phase AC standard power source, DC standard power source, 0.02% three phase multifunction reference standard multimeter, computer control management software. Every modular can be used independently. The technical index of meter test equipment is compliance with national industry related standards and verification regulation. It can be used at power grid company, power supply company and power plants for metrology and testing power institutions, also it can be applied at railway, petroleum, chemical industry and mining enterprises etc. This instrument test equipment can calibration of multimeter, transducer, power meter, voltmeter, ammeter ac/dc, energy meter, frequency meter, power factor meter, phase angle meter, RTU & AC sampler device etc.

Functions

1. Testing multimeter;
2. Testing frequency meter;
3. Testing synchronous meter;
4. Measuring the distortion factor;
5. Testing RTU & AC sampler device;
6. User friendly menu guided operation;
7. Energy dosing with built-in current source;
8. Automatic operation with PC control software;
9. Measuring mechanical meter and electric meter;
10. Testing all kinds of AC/DC voltmeter and ammeter;
11. Measuring frequency, phase shift and power factor;
12. Testing single & three-phase active, reactive power meter;
13. Especially configured USB stick for storage of customer data;
13. Testing all kinds of energy meter in 1P2W, 1P3W, 3P3W, 3P4W;
14. Harmonic spectrum analysis for voltage and current up to the 31st order;
15. Power and energy measurements for active, reactive and apparent power;
16. Vector diagram display and phase sequence indication on integrated colored screen
17. Testing all kinds of transducers (voltage transducer, current transducer, active & reactive power transducer, phase angle transducer, power factor transducer & frequency transducers etc) ;



Features

1. Voltage range from 3×(0-1050V), current range from 3×(0 -120A) ;
2. Modular design, multifunction AC/DC Reference standard meter, three phase AC standard power source and DC power source composition;

3. Download word file test report;
4. Automatic failure detection function;
5. Fully meet ISO17025 laboratory standards;
6. It can be set and measuring 2-31 times harmonic;
7. Programmable and save all kinds of test scheme;
8. As high precision three phase voltage source and current source;
9. With 0.02% three phase multifunction AC/DC Reference standard meter;
10. Wide measuring range, high stability, high resolution, low distortion degree;
11. Automatic data rounding, various forms of certificate format, inquires and print convenient;
12. Automatic verification for watt-hour meters and transducers, semi-automatic verification for all kinds of digital meter error;

Parameters

Electrical parameters	
Accuracy class	0.02%, 0.05%
Power supply	AC 220V $\pm$ 10% or AC 110V $\pm$ 10%, 50/60Hz
AC Voltage output and measurement	
U1, U2, U3 Range	10V, 20V, 50V, 100V, 200V, 400V, 800V
Output range	(0-120)% RG
Adjustment resolution	0.01% RG, 0.1% RG, 1% RG, 10% RG
Output stability	0.01%/min
Distortion	$\leq$ 0.2% (non-capacitive load)
Measurement accuracy	0.02%, 0.05%
Output load capability	50VA
Measurement resolution	$\leq 5 \times 10^{-5}$ RG
AC Current output and measurement	
I1, I2, I3 Range	0.1A, 0.25A, 0.5A, 1A, 2.5A, 5A, 10A, 25A, 50A, 100A
Output range	(0-120)% RG
Adjustment resolution	0.01% RG, 0.1% RG, 1% RG, 10% RG
Output stability	0.01%/min
Distortion	$\leq$ 0.2% (non-capacitive load)
Measurement accuracy	0.02%, 0.05%
Output load capability	100VA
Measurement resolution	$\leq 5 \times 10^{-5}$ RG

Electrical parameters - continued
Power output and measurement

Output stability	0.01%/1min
Active accuracy	0.02%, 0.05% RD (0.01A-100A, 30V-600V, PF $\geq 0.5L$ or PF $\geq 0.8C$)
Reactive accuracy	0.1% RD (0.01A-100A, 30V-600V, PF ≥ 0.5)
Measurement resolution	$\leq 5 \times 10^{-5}$ RG

Energy measurement

Active accuracy	0.02%, 0.05% RD (0.01A-100A, 30V-600V, PF $\geq 0.5L$ or PF $\geq 0.8C$), 0.1% RD (0.05A-100A, 30V-600V PF $\geq 0.5C$)
Reactive accuracy	0.1% RD 0.05A-100A, 30V-600V PF ≥ 0.5
Setting range of test pulse No.	1-9999999
Max. frequency of receiving pulse	2MHz

Phase output and measurement

Output range	0°-359.99°
Adjustment resolution	0.01°
Measurement accuracy	0.02°, 0.05°
Measurement resolution	0.001°

Power factor output and measurement

Output range	-1 to 0 to +1
Measurement accuracy	0.0005
Measurement resolution	0.0001

Frequency output and measurement

Output range	45-65Hz
Adjustment resolution	0.001Hz
Measurement accuracy	0.002Hz
Measurement resolution	0.001Hz

Harmonic

Times	2nd to 31st
Resolution	0.1% (compared with fundamental wave)
Contents	0-40%
Phase	0°-359.99°

Electrical parameters - continued

DC Voltage output

Range	100mV, 300mV, 1V, 3V, 10V, 30V, 100V, 300V, 600V, 1000V
Setting range	0-1000V
Regulated step value	0.002% RG
Accuracy	0.03% RD + 0.02% RG
Stability	0.01%RG/1min
Output load capability	25VA
Ripple wave and noise	0.1-100KHz
Output ≤100 V	Ripple wave ≤2mVrms
Output > 100 V	Ripple wave ≤10mVrms

DC Current output

Range	10μA, 30μA, 100μA, 300μA, 1mA, 3mA, 10mA, 30mA, 100mA, 300mA, 1 A, 3 A, 10 A, 30 A
Setting range	0-30A
Regulation resolution	≤0.02% RG
Accuracy	0.03% RD + 0.02% RG
Stability	0.01%RG/1min
Output load capability	30VA

Standard

Standard	JJG126-1995, JJG_597-2017, Q/GDW 1899-2013, DL/T1112-2009, DL/T630-1997, JJG124-2005; JJF1587-2016; IEC61010, IEC 61000, IEC 61326
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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

Dimension (L×W×H) (mm)	1800x800x750
Weight (kg)	135

Environmental conditions

Operating temperature	0°C to 40°C
Storage conditions	-30°C to 60°C
Relative humidity	≤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.