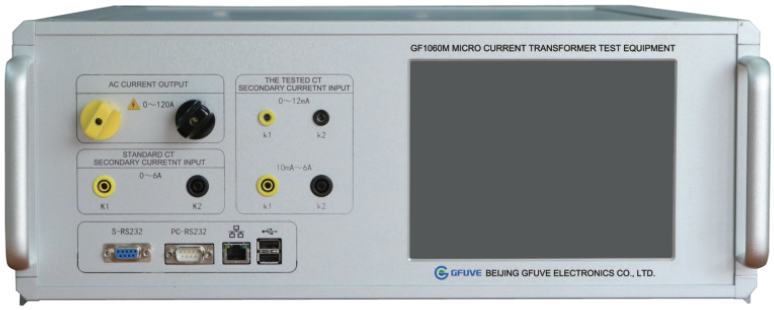
GF1060M

MINIATURE CURRENT TRANSFORMER TEST EQUIPMENT

The GF1060M miniature current transformer test equipment is developed by GFUVE GROUP, which integrates a high precision 0.05% current source output from 0 to 120A and A calibration device that integrates current transformer calibration, mainly used for automatic test equipment of miniature current transformers and electronic current transformers in digital substations or miniature current transformer factory. The built-in current source is a new generation of high-precision standard power source based on 1.2G MAC DSP, large-scale FPGA, high-speed and high-precision DA, and high fidelity power amplifier. The built-in current transformer calibrator also adopts a dual CPU architecture, with powerful functions. It greatly expands the bandwidth and improves measurement accuracy with a 24 bit AD chip and 512 times oversampling technology. GF1060M has an accuracy of 0.05 class and can calibrate current transformers below 0.2S level. It meet ISO17025 electrical Metrology Laboratory Standards.

Application

1. Electrical laboratory;
2. Metrological service center;
3. ISO17025 electrical laboratory;
4. Miniature current transformer factory;
5. Electronic current transformer factory;
6. Electricity power bureau & power company;
7. National Metrology and testing department;
8. Electrical Department of industrial and mining enterprises;



Standard

1. IEC61869-2 & IEC60044-1, IEEE C57.13
2. GB/T 20840.1-2010 Instrument transformers - part 1: General requirements
3. GB/T 20840.2-2014 Instrument transformers - part 2: Additional requirements for current transformers
4. GB/T 20840.8-2007 Transformers - Part 8: Electronic Current Transformers
5. JJG 1189.3-2022 Measurement transformers - Part 3: Power current transformers
6. JJG169-2010 Transformer Calibrator
7. JJG1021-2007 Verification Regulation for Power Transformers
8. JJG 313-2010 Verification Regulation for Current Transformers for Measurement
9. T/ZDG 018-2018 Technical Conditions for 10kV and 20kV AC Sensors in Distribution Networks

Features

1. It can output a pure sine standard current source signal with a distortion of 0.03% (typical value).
2. The frequency output can be adjusted from 40Hz to 65Hz, with an accuracy of 0.002Hz and a resolution of 0.001Hz
3. Strong carrying capacity, capable of carrying capacitive, inductive, and resistive loads at full capacity, with a load adjustment rate better than 0.01% RG.
4. It can simulate the standard current output of a traditional transformer in one measurement, with a standard current source output range of 0-120A, providing a standard current source signal for the calibration of traditional transformers.
5. Secondary current testing range 0-6A; secondary voltage signal testing range 0-10V optional.
6. The measurement accuracy is better than 0.05%.
7. Using direct measurement method for testing, fully automated testing with one click completion.
8. The testing points can be programmed and set independently, and during the testing process, they should be able to automatically capture the testing points and determine the testing results.
9. Realize the calibration of phase angle and ratio differences for traditional transformers & miniature current transformer, record test results, and facilitate calibration points error recording.
10. The report is automatically generated and the recorded error data can be saved as a Word or PDF document.
11. Adopting industrial computer design and 8-inch large screen color touch screen operation, supporting mouse and keyboard input.
12. Integrated design, small size and light weight, easy to carry for on-site inspection work.

Main functions

1. It is possible to verify the phase angle and ratio differences of traditional electromagnetic current transformers.
2. Electronic current transformers (current sensors) with small signal output can be verified for ratio and phase angle differences.
3. The composite error of miniature current transformers can be calculated.
4. The polarity of the current transformer can be tested.
5. Work as a high precision current source.
6. Check current transformer polarity.
7. It can test voltage signal output miniature current transformer.
8. Automatically generate CT accuracy test reports, which can be edited according to user templates.

Parameters

Electrical parameters		
Accuracy class		0.05%
Power supply		Single phase AC 220V± 10% or 110V±10%, frequency 50/60 Hz
AC current output		
Range		0.2A, 1A, 5A, 20A, 100A
Adjustment range		(0-120)%RG
Adjust fineness		0.01% RG
Accuracy		0.05% RG
Stability		<0.01% RG/120s
Distortion degree		<0.1% (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
Frequency output		
Adjusting range		40.000-65.000 Hz
Resolution		0.001 Hz
Accuracy		0.002Hz
Harmonic output		
Harmonic number		2-50times
Harmonic content		0-40%
current transformer measurement input		
Standard current transformer input current		
Accuracy		0.05% RD
Measurement range		0-6A
Range		0.2A, 1A, 5A
Tested current transformer input current		
Accuracy		0.05% RD
Measurement range		0-6A
Tested current transformer input voltage		
Accuracy		0.05% RD
Measurement range		0-10V
Accuracy class		0.05 (Ratio error≤0.05%, Phase error≤2')
Standard current measurement range		1%~120%In, 0.05%RD
Tested current measurement range		1%~120%In, 0.05%RD
Verification of electronic current transformers(Optional)		
Standard current measurement range		1%~120%In，0.05%RD
Tested small signal input voltage range		0～10V (333mV, 1V, 5V)
Accuracy class	Ratio error	0.05%
	Phase error	2'
Communication port		USB, RS232, 10/100M Lan
PC control software		Yes, Optional

Standards	
Reference standards	GB1207-2006, GB1208-2006, GB16847-1997 IEC60044-1, IEC60044-2,6, IEC61869, ANSI/IEEE C57.13
Safety standards	GB 4793.1-2007
EMC	EMC standard 89/336/EEC
	FCC Subpart B of Part 15 Class A
	IEC 1000-4-2/3/4/6
Mechanical parameters	
Overall dimension (L x W x H) (mm)	660 x 480 x 190
Weight (kg)	23
Environmental conditions	
Relative humidity	Relative humidity 5%-95% not condensing
Operating temperature	0°C to +50°C
Storage temperature	-30°C to +70°C