

## GF106

### CT TEST EQUIPMENT WITH KNEE POINT

GF106 CT test set (CT Analyzer) is a current transformer test equipment specially designed for current transformer characteristic test and with additional PT test functions for reference test. GF106 CT test equipment is mainly used for field testing, it can finish the measurements (M) and protection (P) class CT, PT and TYP class CT. GF106 CT test equipment can also guessed CT ratio test equipment because of the additional functions including ratio and angle differential tests (the measurement points in the IEC60044 & IEC61869 standard), FS and inductance, steady-state parameters, peak error and transient parameters, etc. Adopt 5.6 inch LCD, self-equipped mini type printer supporting field printing; supporting to use USB flash disk to download data, with simple and convenient operation.

### Application

1. Power plant;
2. Electrical laboratory;
3. Metrological service center;
4. Power engineering commissioning company;
5. Electricity power bureau & power company;
6. National Metrology and testing department;
7. Current transformer and voltage transformer factory;
8. Electrical Department of industrial and mining enterprises;



### Features

1. In-built PT test functions;
2. CT ratio error test accuracy 0.05%;
3. Test CT according to IEC60044-1/6, IEC61869-2, ANSI C57.13;
4. Steady and transient state characteristic tests of various types of CT/PT;
5. With it thermal printer, printing test results on site;
6. Parameters such as knee point current and voltage;
7. Parameters such as 10% error curve, 5% error curve;
8. The device can store 3000 groups of test data;

9. The use of advanced power technology, the test knee point reaches up to 45kV;
10. No external other auxiliary equipment, stand-alone to complete all test items;
11. CT easy to test, all the tests are using the same wire connection except burden test;
12. The testing data can be transferred to PC by USB disk and produce test report;
13. Portability: weight <8kg;

## Functions

| I. Current Transformer (CT)                             | II. Voltage Transformer (PT)                   |
|---|--|
| 1. Magnetization curve                                  | 1. Excitation characteristic test              |
| 2. Transformation ratio test                            | 2. Transformation ratio test                   |
| 3. Polarity   | 3. Polarity                                    |
| 4. 5% and 10% error curve                               | 4. Ratio error, phase error                    |
| 5. Current Injecting(Optional)                          | 5. Degauss                                     |
| 6. Degauss  | 6. Calculation of knee point value             |
| 7. Ratio error, phase error                             | 7. Actual secondary load (PT connected burden) |
| 8. Automatic calculation of excitation knee point value | 8. Resistance test                             |
| 9. Actual secondary load (Current loop burden) test     |  |
| 10. Resistance test                                     |  |
| 11. Secondary winding time constant (Ts)                |  |
| 12. Remanence coefficient (Kr)                          |  |
| 13. Transient dimensioning factor (Ktd)                 |  |
| 14. Peak instantaneous error (Er)                       |  |
| 15. Magnetizing inductance (LU)                         |  |

## Parameters

| Electrical parameters                       |          |                                     |
|---|----------|-------------------------------------|
| Accuracy                                    |          | 0.05%, 0.1%                         |
| Power supply                                |          | AC 220V±10% or AC 110V±10%, 50/60Hz |
| Excitation output voltage                   |          | 0-220Vrms                           |
| Excitation output current                   |          | 0-5Arms (20A peak-value)            |
| Automatic frequency variation range         |          | 0.1-60Hz                            |
| Equivalent excitation voltage               |          | ≤5000V                              |
| Accuracy                                    |          | ≤0.1%                               |
| Secondary winding DC resistance measurement | Range    | 0.1-300Ω                            |
|   | Accuracy | ≤0.1%                               |

**Electrical parameters - continued**

|                                   |   |              |
|-----------------------------------|---|--------------|
| Secondary actual load measurement | Range                                       | 0.1VA-1000VA |
|                                   | Accuracy                                    | ≤0.1%        |
| CT/PT phase error measurement     | Accuracy                                    | ±3min        |
|                                   | Resolution                                  | 0.01min      |
| CT ratio error measurement        | Range                                       | 1-30000      |
|                                   | Accuracy                                    | ≤0.05%       |
| PT ratio error measurement        | Range                                       | 1-10000      |
|                                   | Accuracy                                    | ≤0.05%       |
| LCD display                       | 5.6' inch backlight LCD                     |              |
| Cable Length                      | Primary 5m; Secondary 5m; others customized |              |
| Communication port                | USB   |              |
| PC control software               | Yes, Optional                               |              |
| Printer                           | Yes, Thermal printer                        |              |

**Standards**

|                     |  |
|---------------------|--|
| Reference standards | GB1207-2006, GB1208-2006, GB16847-1997<br>IEC60044-1, IEC60044-6, IEC61869-1,2,3, 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) | 410 x 250 x 300 |
| Weight (kg)                        | ≤8              |

**Environmental conditions**

|                       |                     |
|-----------------------|---------------------|
| Operating Temperature | -10°C to 50°C       |
| Storage Temperature   | -40°C to 70°C       |
| Relative humidity     | ≤95%, on-condensing |
| Altitude              | ≤2000m              |

## Main Features

**The test items mainly include**

| Steady                    | Transient                            |
|---------------------------|--------------------------------------|
| Excitation characteristic | Secondary winding time constant (Ts) |
| Transformation ratio      | Remanence coefficient (Kr)           |
| Polarity                  | Transient dimensioning factor (Ktd)  |

**The test items mainly include - continued**

| Steady                  | Transient                     |
|-------------------------|-------------------------------|
| Ratio error             | Peak instantaneous error (Er) |
| Phase error             | Magnetizing inductance (LU)   |
| 5% and 10% error curves | Other parameters              |
| Resistance              |                               |
| Secondary load          |                               |

## Accessories

