

# ENERGY METER CALIBRATION GF302D

## GF302D

### Portable Three Phase kWh Meter Test Equipment

The test equipment is used for grid corporation of measurement and energy test center, management department of power supply bureau, national energy measurement of testing authorities, and also used to test each kind of single/three phase kWh meter of industries and mining enterprises as well as electric meter manufacturers. Meanwhile, the calibrator also can be used as one high precision standard power source.



## Features

1. Able to test basic error, shunt running, start, standard error automatically and manually in single-step of single/three phase, according to relative regulation of kWh meter.
2. Able to do change test caused by voltage influence, frequency influence and harmonic influence.
3. Output of power source is speedy and stable, AC maximum output of each phase can reach 120A in maximum.
4. Voltage, current and phase position of each phase can be adjusted in split-phase, improving the flexibility of power source.
5. Frequency of each impulse input port can reach 40Hz.
6. 7-inch TFT color display touch screen, English menu, simple and convenient operation, commonly used functions and current basic load point can be controlled in one button.
7. Each meter position can provide one standard, dependent RS485 port, and able to do multi-function test such as communication test.
8. Impulse port of each meter position, external polarity can be set randomly, able to adapt kWh meter of impulse cascade and common-anode.

## Parameters

| Electrical parameters |  |
|-----------------------|--|
| Accuracy              | 0.05%, 0.1%  |
| Power Supply          | One Phase AC 180-265V, frequency 50/60Hz.                        |
| AC Voltage Output     |  |
| Range(U1,U2,U3)       | 57.7V, 100V, 220V, 380V<br>or 69.3V, 120V, 240V, 480V( optional) |
| Adjustment range      | (0-120)%RG <sup>(1)</sup>  |
| Adjustment fineness   | 0.01%RG, 0.1%RG, 1%RG, 10%RG as optional.                        |

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## Electrical parameters - continued

### AC Voltage Output - continued

|                    |                            |
|--------------------|----------------------------|
| Stability          | 0.01%/120s                 |
| Distortion         | 0.3% (Non-capacitive load) |
| Output load        | each phase 25VA            |
| Measuring accuracy | 0.05%RG                    |

### AC Current Output

|                     |   |
|---------------------|---|
| Range(I1,I2,I3)     | 200mA, 1A, 5A, 20A, 100A                  |
| Adjustment range    | (0-120)%RG                                |
| Adjustment fineness | 0.01%RG, 0.1%RG, 1%RG, 10%RG as optional. |
| Stability           | <0.01%/120s                               |
| Distortion          | ≤0.3% (Non-capacitive load)               |
| Output load         | 45VA                                      |
| Accuracy            | 0.05%RG                                   |

### Power Output

|                                   |               |
|-----------------------------------|---------------|
| Active power output stability     | <0.01%RG/120s |
| Reactive power output stability   | <0.02%RG/120s |
| Active power measuring accuracy   | 0.05%RG       |
| Reactive power measuring accuracy | 0.1%RG        |

### Phase Output

|                            |                               |
|----------------------------|-------------------------------|
| Output adjustment range    | 0°-359.999°                   |
| Output adjustment fineness | 10, 1, 0.1, 0.01 as optional. |
| Resolution                 | 0.01°                         |
| Accuracy                   | 0.05°                         |

### Power Factor

|                      |            |
|----------------------|------------|
| Adjustment range     | -1 ~ 0 ~ 1 |
| Resolution           | 0.0001     |
| Measurement accuracy | 0.0005     |

### Frequency Output

|                            |                                      |
|----------------------------|--------------------------------------|
| Adjustment range           | 45Hz-65Hz                            |
| Output adjustment fineness | 5Hz, 1Hz, 0.1Hz, 0.01Hz as optional. |
| Resolution                 | 0.001Hz                              |
| Accuracy                   | 0.005Hz                              |

### Voltage /Current/Harmonic Setting

|                           |                             |
|---------------------------|-----------------------------|
| Harmonic number           | 2-51times                   |
| Harmonic content          | 0-40%                       |
| Harmonic phase            | 0-359.99                    |
| Harmonic setting accuracy | (10%±0.1%)RD <sup>(2)</sup> |

(2) RD means the settled harmonic content, harmonic can be a single output, also multiple output.

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## Electrical parameters - continued

### Power Energy Measurement Error

|                       |         |
|-----------------------|---------|
| Active power energy   | 0.05%RG |
| Reactive power energy | 0.1%RG  |

### Power Pulse Output

|                           |                              |
|---------------------------|------------------------------|
| Power pulse type          | Active pulse, reactive pulse |
| Active power pulse output | 5V, 10mA                     |

### Power Pulse Input

|                   |   |
|-------------------|---|
| Energy pulse type | Support active and reactive pulse, the highest frequency power pulse input is 180K. |
|-------------------|---|

## Mechanical parameters

|                         |             |
|-------------------------|-------------|
| Dimensions (WxDxH) (mm) | 500x600x175 |
| Weight (kg)             | About 27    |

## Selection guide

| NO.       | Accuracy | Voltage range | Current Range | Weight |
|-----------|----------|---------------|---------------|--------|
| 302D12001 | 0.1%     | 0-500V        | 0-120A        | 22KG   |
| 302D12005 | 0.05%    | 0-500V        | 0-120A        | 22KG   |
| 302D2401  | 0.1%     | 0-500V        | 0-24A         | 16KG   |
| 302D2405  | 0.05%    | 0-500V        | 0-24A         | 16KG   |
| 302D1201  | 0.1%     | 0-500V        | 0-12A         | 15KG   |
| 302D1205  | 0.05%    | 0-500V        | 0-12A         | 15KG   |



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