GF3021 Portable Multifunction Instrument Calibrator

GF3021 Portable Multifunction Instrument Calibrator is suitable for power plant and power grid companies for the following function: measuring and testing department and instrumentation classes, national levels measuring and testing institutions, railway, petroleum, chemical industry and other large industrial and mining enterprises, scientific research units, etc. The core technology function with digital signal processor (DSP) and 16 high-speed digital converters composed of high precision work frequency communication terminal. The signal source is DSP and 16 high-speed digital-to-analog converters, it can control the sine wave and distortion wave signal source.

Features

1. All kinds of electric measurement transducer can be checked, including AC/DC voltage transducer, AC/DC current transducer, frequency transducer, phase transducer, single/ three-phase AC active power transducer, and 3-phase reactive power transducers.
2. Check all kinds of electric measurement indicating meter, including AC/DC voltmeter, AC/DC ammeter, frequency meter, phase meter, single three-phase ac active power meter, three-phase ac reactive power meter, synchronous meter, etc.
3. Test single-phase, three-phase electronic, mechanical watt-hour meter or energy meter/ kWh meter error.
4. Calibrate AC sample device, RTU, measurement device error.
5. The built-in electric measurement transducer, electric measurement instrument and meter instructions of verification procedures, can fully automatic or semi-automatic for verification, and save 1000 group check data.
6. It can be used as voltage source, current source and power source with high precision, and it is a high stability standard resource.
7. 8-inch big screen color display and English interface.
8. For the software calibration, you don’t need to open the case, it’s stable and reliable.
10. With automatic failure detection function, shows fault part, the convenience users check line.
11. With USB port, it can connect computer for data management or controlled by PC.
# Parameters

<table>
<thead>
<tr>
<th>Electrical parameters</th>
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<tbody>
<tr>
<td>Accuracy class</td>
<td>0.05%, 0.1%</td>
</tr>
<tr>
<td>Power supply</td>
<td>Single phase AC 220V±10% or 110V±10%, 50/60Hz</td>
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<tr>
<td>Communication port</td>
<td>USB, RS232, RS485, LAN</td>
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</table>

## AC Voltage output

- **Range(U1,U2,U3)**: 50V, 100V, 200V, 400V, 600V
- **Adjustment range**: (0 - 120)% RG
- **Adjustment resolution**: 0.01% RG, 0.1% RG, 1% RG, 10% RG
- **Stability**: 0.01% /1min
- **Distortion**: ≤0.2% (non-capacitive load)
- **Max. output load**: 25VA for each phase
- **Accuracy**: 0.05% RG

## AC Current output

- **Range(I1,I2,I3)**: 0.5A, 1A, 2.5A, 5A, 10A, 20A
- **Adjustment range**: (0 - 120)% RG
- **Adjustment resolution**: 0.01% RG, 0.1% RG, 1% RG, 10% RG
- **Stability**: 0.01% /1min
- **Distortion**: ≤0.2% (non-capacitive load)
- **Max. output load**: 25VA for each phase
- **Accuracy**: 0.05% RG

## AC Power output

- **Active output stability**: 0.01%RG/1min
- **Reactive output stability**: 0.02%RG/1min
- **Active accuracy**: 0.05% RG
- **Reactive accuracy**: 0.1% RG

## Frequency output

- **Adjustment range**: 45-65Hz
- **Adjustment resolution**: 1Hz, 0.1Hz, 0.01Hz and 0.001Hz
- **Resolution**: 0.001Hz
- **Accuracy**: 0.002Hz

## Power factor output

- **Adjustment range**: -1 to 0 to +1
- **Adjustment resolution**: 0.0001
- **Resolution**: 0.0005

## Phase output

- **Adjustment range**: 0°-359.999°
- **Adjustment resolution**: 1°, 0.1°, 0.01°
- **Resolution**: 0.001°
### Electrical parameters - continued

#### Phase output
- **Accuracy**: 0.05°

#### Harmonic configuration
- **Times**: 2 to 31
- **Content**: 0-40%
- **Phase**: 0°-359.999°
- **Configuration error**: (10% RD + 0.1%), RD refers to the configuration value of harmonic contents

#### DC Voltage output
- **Range**: 75mV, 75 V, 150 V, 300 V, 500V, 1000 V
- **Adjustment range**: (0-120)% RG
- **Adjustment resolution**: 0.01% RG, 0.1% RG, 1% RG, 10% RG
- **Stability**: 0.01% RG / 1 min
- **Distorting**: ≤0.2% (non-capacitive load)
- **Output load**: 25VA
- **Accuracy**: 0.05% RG
- **Ripple contents**: ≤1%

#### DC Current output
- **Range**: 0.5 A, 1A, 2.5 A, 5 A, 10A, 20 A
- **Adjustment range**: (0-120)% RG
- **Adjustment resolution**: 0.01% RG, 0.1% RG, 1% RG, 10% RG
- **Stability**: 0.01% RG / 1min
- **Distortion**: ≤0.2% (non-capacitive load)
- **Output load**: 25VA
- **Accuracy**: 0.05% RG
- **Ripple contents**: ≤1%

#### Energy Error
- **Active error**: 0.05% RG
- **Reactive error**: 0.1% RG

#### DC Input Voltage Measurement
- **Range**: 0 to ±20V
- **Measurement range**: (0-120)% RG
- **Accuracy**: 0.01% RG
- **Resolution**: 0.001% RG

#### DC Input Current Measurement
- **Range**: 0-20mA
- **Measurement range**: (0-120)% RG
- **Accuracy**: 0.01% RG
<table>
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<th>Electrical parameters - continued</th>
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<tr>
<td><strong>DC Input Current Measurement - continued</strong></td>
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<td>Resolution</td>
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<th>Mechanical parameters</th>
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<tbody>
<tr>
<td>Dimensions (W×H×D)(mm)</td>
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<td>Weight (kg)</td>
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<thead>
<tr>
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<td>Relative humidity</td>
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