

FLUKE®

Fluke 8808A Digital Multimeter Extended Specifications

Making measurements is as simple as pushing a button

The Fluke 8808A 5.5 digit multimeter has a broad range of functions, measuring volts, ohms and amps with a basic V dc accuracy of 0.01 %. It is remarkably easy to use, even by unskilled operators, because it makes the measurements you perform most often extremely easy and fast to do.

Six setup buttons on the 8808A front panel operate like a car radio's station presets. Simply set up the meter for a common measurement, then press shift followed by a setup button (S1 to S6) to save the setup. Now each time you perform that measurement, you simply press the appropriate setup key. It's that easy!

The setup buttons eliminate the need to follow complex work instruction sheets. Operators no longer need to press multiple buttons to set up a measurement function and range, test limits, or enter other parameters to make a measurement.

Eliminate production mistakes

The Fluke 8808A 5.5 digit multimeter dependably performs the most common measurements required by today's applications.



Features at a glance

- 5.5 digit resolution
- Basic V dc accuracy of 0.01 %
- Dual display
- Dedicated dc leakage current measurement
- 2x4 ohms 4-wire measurement technique
- Six dedicated buttons for fast access to instrument setups
- Hi.Lo limit compare for Pass/Fail testing
- Fluke 45 remote command emulation

Whether you are performing functional tests or making critical measurements on test points, using the limit compare mode with pass/fail indicators eliminates production mistakes, especially those where results are "on the edge."

The 8808A display has built-in enunciators that clearly show the operator whether a test passes or fails. The pass/fail indicators take the guesswork out of testing: the result is either within limits or it's out.

General Specifications

Voltage

| | |
|-------------------------|---------------------------|
| 100V Setting | 90 V to 110 V |
| 120V Setting | 108 V to 132 V |
| 220V Setting | 198 V to 242 V |
| 240V Setting | 216 V to 264 V |
| Frequency | 47 Hz to 440 Hz |
| Power Consumption | 15 VA peak (10 W average) |

Dimensions

| | |
|--------------|------------------|
| Height | 88 mm (3.46 in) |
| Width | 217 mm (8.56 in) |
| Depth | 297 mm (11.7 in) |
| Weight | 2.1 kg (4.6 lb) |

Display

Vacuum Fluorescent Display, segment

Environment

Temperature

| | |
|-----------------|---|
| Operating | 0 °C to 50 °C |
| Storage | -40 °C to 70 °C |
| Warm Up | ½ hour to full uncertainty specifications |

Relative Humidity (non-condensing)

| | |
|-----------------|------------------------|
| Operating | Uncontrolled (< 10°C) |
| | <90 % (10 °C to 28 °C) |
| | <75 % (28 °C to 40 °C) |
| | <45 % (40 °C to 50 °C) |
| Storage | -40 °C to 70 °C <95 % |

Altitude

Operating 2,000 Meters

Storage 12,000 Meters

Vibration Complies with MIL-PRF-28800F Class 3

Safety

Complies with IEC 61010-1:2001, ANSI/ISA 61010-1 (S82.02.01):2004, UL 61010-1:2004, CAN/CSA C22.2 No. 61010.1:2004, CAT I 1000V/CAT II 600 V

EMC

Designed to comply with IEC 61326-1:1997+A1:1998+A2:2000

Triggering

| | |
|-------------------------------|------------|
| Trigger Delay | 400 ms |
| External Trigger Delay | <2 ms |
| External Trigger Jitter | <1 ms |
| Trigger Input | TTL Levels |
| Trigger Output | 5 V max |

Math Functions

Min/max, relative, hold, compare and dB functions

Electrical

| | |
|------------------------|--|
| Input Protection | 1000 V all ranges |
| Overrange | 10 % on the largest ranges of all functions except continuity and diode test |

Remote Interfaces

RS-232C

Warranty

One year

Electrical Specifications

Specifications are valid for 5-1/2 digit mode and after at least a half-hour warm-up.

DC Voltage Specifications

- Maximum Input**.....1000 V on any range
- Common Mode Rejection**.....120 dB at 50 or 60 Hz ±0.1% (1 kΩ unbalance)
- Normal Mode Rejection**.....80 dB at Slow Rate
- A/D Nonlinearity**.....15 ppm of range
- Input Bias Current**.....<30 pA at 25 °C
- Settling Considerations**.....Measurement settling times are affected by source impedance, cable dielectric characteristics, and input signal changes

Input Characteristics

| Range | Full-Scale (5-1/2 Digits) | Resolution | | | Input Impedance |
|--------|---------------------------|------------|---------|---------|-----------------------|
| | | Slow | Medium | Fast | |
| 200 mV | 199.999 mV | 1 μV | 10 μV | 10 μV | >10 GΩ ^[1] |
| 2 V | 1.99999 V | 10 μV | 100 μV | 100 μV | >10 GΩ ^[1] |
| 20 V | 19.9999 V | 100 μV | 1000 μV | 1000 μV | 10 MΩ±1 % |
| 200 V | 199.999 V | 1 mV | 10 mV | 10 mV | 10 MΩ±1 % |
| 1000 V | 1000.00 V | 10 mV | 100 mV | 100 mV | 10 MΩ±1 % |

Notes:
 [1] At some dual display measurements, the input impedance of 200 mV and 2 V ranges may be changed to 10 MΩ.

| Range | Uncertainty ^[1] | | Temperature Coefficient/°C Outside 18 – 28 °C |
|--------|----------------------------|---------------|--|
| | 90 days | 1 year | |
| | 23 °C ± 5 °C | | |
| 200 mV | 0.01 + 0.003 | 0.015 + 0.004 | 0.0015 + 0.0005 |
| 2 V | 0.01 + 0.002 | 0.015 + 0.003 | 0.001 + 0.0005 |
| 20 V | 0.01 + 0.003 | 0.015 + 0.004 | 0.0020 + 0.0005 |
| 200 V | 0.01 + 0.002 | 0.015 + 0.003 | 0.0015 + 0.0005 |
| 1000 V | 0.01 + 0.002 | 0.015 + 0.003 | 0.0015 + 0.0005 |

Notes:
 [1] Uncertainty given as ± (% of reading + % of range)

AC Voltage Specifications

AC Voltage specifications are for ac sinewave signals >5 % of range. For inputs from 1 % to 5 % of range and <50 kHz, add an additional error of 0.1 % of range, and for 50 kHz to 100 kHz, add 0.13 % of range.

| | |
|--|---|
| Maximum Input | 750 V rms or 1000 V peak or 8×10^7 Volts-Hertz product |
| Measurement Method | AC-coupled true-rms. Measures the ac component of input with up to 1000 V dc bias on any range. |
| AC Filter Bandwidth | 20 Hz – 100 kHz |
| Common Mode Rejection | 60 dB at 50 Hz or 60 Hz (1 k Ω unbalance) |
| Maximum Crest Factor | 3:1 at Full Scale |
| Additional Crest Factor Errors (<100 Hz) | Crest Factor 1-2, 0.05 % of full scale Crest Factor 2-3, 0.2 % of full scale |

Only applies for non-sinusoid signals

Input Characteristics

| Range | Full-Scale (5-1/2 Digits) | Resolution | | | Input Impedance |
|--------|------------------------------|-------------|--------------|--------------|--|
| | | Slow | Medium | Fast | |
| 200 mV | 199.999 mV | 1 μ V | 10 μ V | 10 μ V | 1 M Ω \pm 2 % shunted by <100 pf |
| 2 V | 1.99999 V | 10 μ V | 100 μ V | 100 μ V | |
| 20 V | 19.9999 V | 100 μ V | 1000 μ V | 1000 μ V | |
| 200 V | 199.999 V | 1 mV | 10 mV | 10 mV | |
| 750 V | 750.00 V | 10 mV | 100 mV | 100 mV | |

| Range | Frequency | Uncertainty ^[1] | | Temperature Coefficient/ $^{\circ}$ C Outside 18 – 28 $^{\circ}$ C |
|--------|------------------|--------------------------------------|--------------------------------------|--|
| | | 90 days | 1 year | |
| | | 23 $^{\circ}$ C \pm 5 $^{\circ}$ C | 23 $^{\circ}$ C \pm 5 $^{\circ}$ C | |
| 200 mV | 20 Hz – 45Hz | 0.8 + 0.05 | 0.9 + 0.05 | 0.01 + 0.005 |
| | 45 Hz – 20 kHz | 0.15 + 0.05 | 0.2 + 0.05 | 0.01 + 0.005 |
| | 20 kHz – 50 kHz | 0.3 + 0.05 | 0.35 + 0.05 | 0.01 + 0.005 |
| | 50 kHz – 100 kHz | 0.8 + 0.05 | 0.9 + 0.05 | 0.05 + 0.01 |
| 2 V | 20 Hz – 45Hz | 0.8 + 0.05 | 0.9 + 0.05 | 0.01 + 0.005 |
| | 45 Hz – 20 kHz | 0.15 + 0.05 | 0.2 + 0.05 | 0.01 + 0.005 |
| | 20 kHz – 50 kHz | 0.3 + 0.05 | 0.35 + 0.05 | 0.01 + 0.005 |
| | 50 kHz – 100 kHz | 0.8 + 0.05 | 0.9 + 0.05 | 0.05 + 0.01 |
| 20 V | 20 Hz – 45 Hz | 0.8 + 0.05 | 0.9 + 0.05 | 0.01 + 0.005 |
| | 45 Hz – 20 kHz | 0.15 + 0.05 | 0.2 + 0.05 | 0.01 + 0.005 |
| | 20 kHz – 50 kHz | 0.3 + 0.05 | 0.35 + 0.05 | 0.01 + 0.005 |
| | 50 kHz – 100 kHz | 0.8 + 0.05 | 0.9 + 0.05 | 0.05 + 0.01 |
| 200 V | 20 Hz – 45Hz | 0.8 + 0.05 | 0.9 + 0.05 | 0.01 + 0.005 |
| | 45 Hz – 20 kHz | 0.15 + 0.05 | 0.2 + 0.05 | 0.01 + 0.005 |
| | 20 kHz – 50 kHz | 0.3 + 0.05 | 0.35 + 0.05 | 0.01 + 0.005 |
| | 50 kHz – 100 kHz | 0.8 + 0.05 | 0.9 + 0.05 | 0.05 + 0.01 |
| 750 V | 20 Hz – 45Hz | 0.8 + 0.05 | 0.9 + 0.05 | 0.01 + 0.005 |
| | 45 Hz – 20 kHz | 0.15 + 0.05 | 0.2 + 0.05 | 0.01 + 0.005 |
| | 20 kHz – 50 kHz | 0.3 + 0.05 | 0.35 + 0.05 | 0.01 + 0.005 |
| | 50 kHz – 100 kHz | 0.8 + 0.05 | 0.9 + 0.05 | 0.05 + 0.01 |

Notes:

[1] Uncertainty given as \pm (% of reading + % of range)

Resistance

Specifications are for 4-wire resistance function, or 2-wire resistance with REL. If REL is not used, add 0.2 Ω for 2-wire resistance plus lead resistance.

Measurement Method Current source referenced to L0 input

Max Lead Resistance (4-wire ohms) 10 % of range per lead for 200 Ω, 2 kΩ ranges. 1 kΩ per lead on all other ranges.

Input Protection 1000 V on all ranges

Input Characteristics

| Range | Full-Scale (5-1/2 Digits) | Resolution | | | Current Source |
|--------|---------------------------|------------|--------|--------|------------------|
| | | Slow | Medium | Fast | |
| 200 Ω | 199.999 Ω | 0.001 Ω | 0.01 Ω | 0.01 Ω | 0.8 mA |
| 2 kΩ | 1.99999 kΩ | 0.01 Ω | 0.1 Ω | 0.1 Ω | 0.8 mA |
| 20 kΩ | 19.9999 kΩ | 0.1 Ω | 1 Ω | 1 Ω | 0.08 mA |
| 200 kΩ | 199.999 kΩ | 1 Ω | 10 Ω | 10 Ω | 0.008 mA |
| 2 MΩ | 1.99999 MΩ | 10 Ω | 100 Ω | 100 Ω | 0.9 μA |
| 20 MΩ | 19.9999 MΩ | 100 Ω | 1 kΩ | 1 kΩ | 0.16 μA |
| 100 MΩ | 100.000 MΩ | 1 kΩ | 10 kΩ | 10 kΩ | 0.16 μA 10 MΩ |

| Range | Uncertainty ^[1] | | Temperature Coefficient/°C Outside 18 – 28 °C |
|--------|----------------------------|--------------|--|
| | 90 days | 1 year | |
| | 23 °C ± 5 °C | 23 °C ± 5 °C | |
| 200 Ω | 0.02 + 0.004 | 0.03 + 0.004 | 0.003 + 0.0006 |
| 2 kΩ | 0.015 + 0.002 | 0.02 + 0.003 | 0.003 + 0.0005 |
| 20 kΩ | 0.015 + 0.002 | 0.02 + 0.003 | 0.003 + 0.0005 |
| 200 kΩ | 0.015 + 0.002 | 0.02 + 0.003 | 0.003 + 0.0005 |
| 2 MΩ | 0.03 + 0.003 | 0.04 + 0.004 | 0.004 + 0.0005 |
| 20 MΩ | 0.2 + 0.003 | 0.25 + 0.003 | 0.01 + 0.0005 |
| 100 MΩ | 1.5 + 0.004 | 1.75 + 0.004 | 0.2 + 0.0005 |

Notes:
[1] Uncertainty given as ± (% of reading + % of range)

DC Current

Input Protection Tool accessible 11 A / 1000 V and 440 mA / 1000 V fuses.

Shunt Resistance 0.01 Ω for 2 A and 10 A ranges

1 Ω for 20 mA and 200 mA

Burden voltage < 5 mV for 200 μA and 2 mA range.

Input Characteristics

| Range | Full-Scale (5-1/2 Digits) | Resolution | | | Burden Voltage |
|--------|---------------------------|------------|---------|---------|----------------|
| | | Slow | Medium | Fast | |
| 200 μA | 199.999 μA | 0.001 μA | 0.01 μA | 0.01 μA | <5 mV |
| 2 mA | 1999.99 μA | 0.01 μA | 0.1 μA | 0.1 μA | <5 mV |
| 20 mA | 19.9999 mA | 0.1 μA | 1 μA | 1 μA | <0.05 V |
| 200 mA | 199.999 mA | 1 μA | 10 μA | 10 μA | <0.5 V |
| 2 A | 1.99999 A | 10 μA | 100 μA | 100 μA | <0.1 V |
| 10 A | 10.0000 A | 100 μA | 1 mA | 1 mA | <0.5 V |

| Range | Uncertainty ^[1] | | Temperature Coefficient/°C Outside 18 – 28 °C |
|--------|----------------------------|--------------|--|
| | 90 days | 1 year | |
| | 23 °C ± 5 °C | 23 °C ± 5 °C | |
| 200 µA | 0.02 + 0.005 | 0.03 + 0.005 | 0.003 + 0.001 |
| 2 mA | 0.015 + 0.005 | 0.02 + 0.005 | 0.002 + 0.001 |
| 20 mA | 0.03 + 0.02 | 0.04 + 0.02 | 0.005 + 0.001 |
| 200 mA | 0.02 + 0.005 | 0.03 + 0.008 | 0.005 + 0.001 |
| 2 A | 0.05 + 0.02 | 0.08 + 0.02 | 0.008 + 0.001 |
| 10 A | 0.18 + 0.01 | 0.2 + 0.01 | 0.008 + 0.001 |

Notes:
[1] Uncertainty given as ± (% of reading + % of range)

AC Current

The following ac current specifications are for sinusoidal signals with amplitudes greater than 5 % of range. For inputs from 1 % to 5 % of range, add an additional error of 0.1 % of range.

- Input Protection** Tool accessible 11 A / 1000 V and 440 mA / 1000 V fuses
- Measurement Method** AC-coupled True RMS
- Shunt Resistance** 0.01 Ω for 2 A and 10 A ranges
1 Ω for 20 mA and 200 mA
- AC Filter Bandwidth** 20 Hz – 100 kHz
- Maximum Crest Factor** 3:1 at Full Scale
- Additional Crest Factor Errors (<100 Hz)** Crest Factor 1-2, 0.05 % of full scale
Crest Factor 2-3, 0.2 % of full scale
Only applies to non-sinusoid signals

Input Characteristics

| Range | Full-Scale (5-1/2 Digits) | Resolution | | | Burden Voltage |
|--------|------------------------------|------------|--------|--------|----------------|
| | | Slow | Medium | Fast | |
| 20 mA | 19.9999 mA | 0.1 µA | 1 µA | 1 µA | <0.05 V |
| 200 mA | 199.999 mA | 1 µA | 10 µA | 10 µA | <0.5 V |
| 2 A | 1.99999 A | 10 µA | 100 µA | 100 µA | <0.1 V |
| 10 A | 10.0000 A | 100 µA | 1 mA | 1 mA | <0.5 V |

| Range | Frequency | Uncertainty ^[1] | | Temperature Coefficient/°C Outside 18 – 28 °C |
|--------|---------------|----------------------------|--------------|--|
| | | 90 days | 1 year | |
| | | 23 °C ± 5 °C | 23 °C ± 5 °C | |
| 20 mA | 20 Hz - 45Hz | 1 + 0.05 | 1.25 + 0.06 | 0.015 + 0.005 |
| | 45 Hz - 2 kHz | 0.25 + 0.05 | 0.3 + 0.06 | 0.015 + 0.005 |
| 200 mA | 20 Hz - 45Hz | 0.8 + 0.05 | 1 + 0.06 | 0.015 + 0.005 |
| | 45 Hz - 2 kHz | 0.25 + 0.05 | 0.3 + 0.06 | 0.015 + 0.005 |
| 2 A | 20 Hz - 45Hz | 1 + 0.05 | 1.25 + 0.06 | 0.015 + 0.005 |
| | 45 Hz - 2 kHz | 0.25 + 0.05 | 0.3 + 0.06 | 0.015 + 0.005 |
| 10 A | 20 Hz - 45Hz | 1 + 0.1 | 1.25 + 0.12 | 0.015 + 0.005 |
| | 45 Hz - 2 kHz | 0.35 + 0.1 | 0.5 + 0.12 | 0.015 + 0.005 |

Notes:
[1] Uncertainty given as ± (% of reading + % of range)

Frequency

Gate Time 131 ms
Measurement Method AC-coupled input using the ac voltage measurement function.
Settling Considerations When measuring frequency after a dc offset voltage change, errors may occur. For the most accurate measurement, wait up to 1 second to allow input blocking RC time constant to settle.
Measurement Considerations To minimize measurement errors, shield inputs from external noise when measuring low voltage, low frequency signals.

| Range | Frequency | Uncertainty | | Temperature Coefficient/°C Outside 18 – 28 °C |
|--|------------------|--------------|--------------|--|
| | | 90 days | 1 year | |
| | | 23 °C ± 5 °C | 23 °C ± 5 °C | |
| 100 mV to 750 V ^[1,2] | 20 Hz – 2 kHz | 0.01 + 0.002 | 0.01 + 0.003 | 0.002 + 0.001 |
| | 2 kHz – 20 kHz | 0.01 + 0.002 | 0.01 + 0.003 | 0.002 + 0.001 |
| | 20 kHz – 200 kHz | 0.01 + 0.002 | 0.01 + 0.003 | 0.002 + 0.001 |
| | 200 kHz – 1 MHz | 0.01 + 0.004 | 0.01 + 0.006 | 0.002 + 0.002 |
| Notes: [1] Input > 100 mV [2] Limited to 8* 10 ⁷ V Hz | | | | |

Continuity

Continuity Threshold 20 Ω
Test Currents 1 mA
Response Time 100 samples/sec with audible tone
Rate Fast
Maximum Reading 199.99 Ω
Resolution 0.01 Ω

Diode Test

Response Time 100 samples/sec with audible tone
Rate Fast
Maximum Reading 1.9999 V
Resolution 0.1 mV

Ordering information

| Models | Description |
|-------------------|----------------------|
| 8808A 120V | 5.5 Digit Multimeter |
| 8808A 220V | 5.5 Digit Multimeter |
| 8808A 100V | 5.5 Digit Multimeter |
| 8808A 240V | 5.5 Digit Multimeter |

8808A/SU includes

8808A package plus, FlukeView Forms basic software, USB to RS-232 interface adapter cable.

| | |
|----------------------|--|
| 8808A/SU 120V | 5.5 Digit Multimeter, SW USB Cable Kit |
| 8808A/SU 220V | 5.5 Digit Multimeter, SW USB Cable Kit |
| 8808A/SU 100V | 5.5 Digit Multimeter, SW USB Cable Kit |
| 8808A/SU 240V | 5.5 Digit Multimeter, SW USB Cable Kit |

8808A includes

Meter, TL71 test leads, line cord, spare line fuse, statement of cal practices, WEEE information sheet, Warranty statement, Getting Started guide (English, French, German, Spanish, Italian, Simplified Chinese, Japanese), CD Rom with user manual (English).

Fluke. *Keeping your world up and running.*®

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- Поставка сложных, дефицитных, либо снятых с производства позиций;
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- Экспресс доставка в любую точку России;
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- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
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JONHON

«JONHON» (основан в 1970 г.)

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