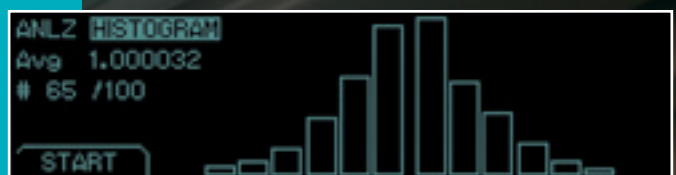
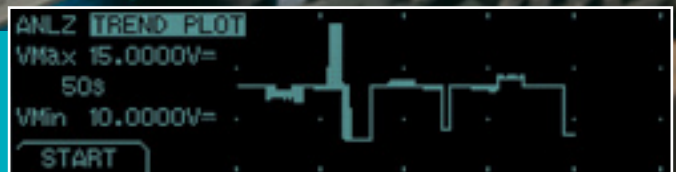
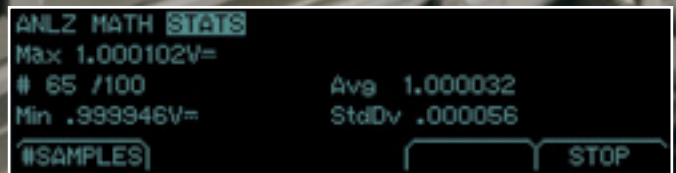


FLUKE®



Fluke 8845A/8846A Digital Multimeters

Precision and versatility
for bench or
systems applications





With 14 measurement functions, math and analysis modes, the 8845A/8846A will meet the needs of any test, research and development, or service application.

Exceed your expectations for performance and value

The Fluke 8845A and 8846A 6.5 digit precision multimeters have the precision and versatility to handle your most demanding measurements, on the bench or in a system. These meters are both high performance and feature rich, yet also remarkably easy to use.

These digital multimeters perform the functions you would expect to see in a multifunction DMM, including measuring volts, ohms, and amps. Basic V dc accuracy of up to 0.0024 %, 10 A current range, and a wide ohms range give you an unbeatable combination of measurement capability.

You can also use the 8845A and 8846A to measure temperature, capacitance, period, and frequency—the functions of a counter, capacitance meter, and thermometer are built in for unparalleled versatility. Extend the meters' utility even more with their graphical display modes, including Trendplot™ paperless recorder mode, statistics and histograms—features you won't find on other multimeters.

Of course, these meters are also durable and dependable, features you expect from any Fluke meter. This unique combination of features and performance makes the 8845A and 8846A an unbeatable value for a wide variety of applications, including manufacturing test, research and development, and service.

Features at a glance

- 6.5 digit resolution
- Basic V dc accuracy of up to 0.0024 %
- Dual display
- 100 μ A to 10 A current range, with up to 100 pA resolution
- Wide ohms ranges from 10 Ω to 1 G Ω with up to 10 $\mu\Omega$ resolution
- 2 x 4 ohms 4-wire measurement technique
- Measures frequency, capacitance, period, temperature (8846A)
- USB memory drive port (8846A)
- Fluke 45 and Agilent 34401A emulation
- Graphical display
- Trendplot™ paperless recorder mode, statistics, histogram
- CAT I 1000 V, CAT II 600 V

A perfect fit for many applications, in a system or on the bench.



Patented split terminal jacks enable 4-wire measurements with two leads

Input terminals are located on the front and back of the meter to simplify connections within a system

Clear and bright dual display shows data in graphic or numeric formats

Context sensitive soft function keys make it easy to navigate through measurements and instrument settings



USB port for flash memory devices (8846A) provides convenient data storage and transport

Single button per function for ease of use

Easy to integrate into your automated test system

The 8845A and 8846A meters can be incorporated easily into your automated test system. These meters emulate several legacy bench DMMs, allowing them to be substituted easily into existing systems. SCPI compatibility and drivers allow them to work with most available application and development languages.

Front and rear inputs let you easily make connections where it's most convenient, whether the meter is rack-mounted or used on a bench. Multiple interfaces provide compatibility to existing and new standards. Reading rates are greater than 1000 readings per second giving you the throughput you need for systems applications.

Versatile solutions for advanced test applications

These meters let you take test and troubleshooting to a new level. Set up the 8845A or 8846A to take measurements over a period of time and display them graphically on the DMM's screen, for real time trending analysis. Graphical trending analysis can highlight drift and signal fluctuations, as well as intermittent errors that can't be seen on a numerical display. Using the graphical display, the 8845A and 8846A can simultaneously display a histogram and multiple statistical values such as mean, min, max and standard deviation calculated using real time measurements. Analyzing a measured values distribution over time can highlight potential reoccurring out-of-tolerance problems.

The ability to make dual simultaneous measurements and display them in graphic or numeric format adds new tools to the test system and design engineer's toolbox of tricks for solving or validating analog circuits. Save measurement results to USB memory and transfer the data to a PC for detailed analysis. Or use the Ethernet connection to transport data over a network.

Extended current and ohms ranges and additional capabilities such as temperature and capacitance increase the variety of measurements you can make and tests you can perform with a single instrument.

Perfect for benchtop research and development

Research and development applications demand measurement performance and flexibility. The 8845A and 8846A meet these needs, with excellent performance in all measurement functions. It's easy to use and adapts easily to almost any benchtop application.

Dual display and versatile graphical capabilities

The 8845A/8846A feature a unique dual display that allows you to measure two different parameters of the same signal from one test connection. To reveal signal quality issues like drift, intermittants and stability, view data as a real time trend plot or histogram, with the unique analyze mode. You won't find graphical display capabilities like these on any other instrument in this class.



FlukeView® Software and drivers add PC power and application compatibility.

FlukeView Forms increases the power of your Fluke tool by enabling you to document, store and analyze individual readings or series of measurements, then convert them into professional-looking documents. Log live readings while connected to a PC or store, display and share readings in interactive forms, graphs and tables. Create customized, professional looking documents that can be printed or emailed. FlukeView Forms software includes easy-to-use standard forms.

Instrument programming drivers, DLL files and support information are included to get your test system up and running as quickly as possible.

FlukeView® Forms Basic

The Fluke 8845A/8846A ship with a free copy of FlukeView Basic. Transfer data points from your meter to your PC and use the two standard, non-customizable forms to display your readings in table or graphical form. For a larger array of forms or to use FlukeView® Forms Designer to customize your forms, upgrade to FlukeView® Forms version 3.0 with VVF-UG.

Fluke 45 and Agilent 34401A emulation

The 8845A/8846A emulate operation and programming commands of the Fluke 45 and Agilent 34401. Emulation shortens the learning curve and makes it easy to fit the 8845A or 8846A into existing test systems.

Fluke support completes the equation of value

Like all Fluke products, the 8845A/8846A are built to provide years of dependable service. However, if you do need calibration or repairs, you can turn to our global network of direct and representative service centers strategically located around the world. Each offers a full range of support services.



Perform 4-wire measurements with only two leads

Patented split terminal jacks for the 2 x 4 ohms function allow you to perform 4-wire measurements using only two leads instead of four. A special test lead accessory is available to enable you to establish the connection. You get excellent resolution and accuracy plus the convenience and ease of using a single pair of leads.



Multiple connectors give you maximum flexibility

Choose from several interfaces to connect the 8845A/8846A to a personal computer: serial, IEEE-488, and Ethernet come standard on both models. A USB device port is included on the 8846A meter for convenient data transfer to and from a PC via a portable USB storage device.

With 6.5 digit performance, legacy DMM emulation and the latest interfaces, the 8845A/8846A will easily integrate into any legacy or new test system.



Summary Specifications

	8845A	8846A
Display	VFD Dot Matrix	
Resolution	6.5 Digits	
Measurement Function	Accuracy = ± (% of reading)	
V DC	100 mV to 1000 V	
Ranges	100 mV to 1000 V	
Max. Resolution	100 nV	
Accuracy	0.0035 + 0.0005	0.0024 + 0.0005
V AC	100 mV to 1000 V	
Ranges	100 mV to 750 V	100 mV to 1000 V
Max. Resolution	100 nV	
Accuracy	0.06 + 0.03	0.06 + 0.03
Frequency	3 Hz to 300 KHz	
Resistance	Yes	
2x4 Wire	Yes	Yes
Ranges	100 Ω to 100 MΩ	10 Ω to 1 GΩ
Max. Resolution	100 μΩ	10 μΩ
Accuracy	0.010 + 0.001	0.010 + 0.001
A DC	100 μA to 10 A	
Ranges	100 μA to 10 A	100 μA to 10 A
Max. Resolution	100 pA	100 pA
Accuracy	0.050 + 0.005	0.050 + 0.005
A AC	100 μA to 10 A	
Ranges	10 mA to 10 A	100 μA to 10 A
Max. Resolution	10 μA	100 pA
Accuracy	0.10 + 0.04	0.10 + 0.04
Frequency	3 Hz to 10 kHz	3 Hz to 10 kHz
Freq/Period	3 Hz to 300 kHz	
Ranges	3 Hz to 300 kHz	3 Hz to 1 MHz
Max. Resolution	1 μHz	1 μHz
Accuracy	0.01 %	0.01 %
Continuity/ Diode Test	Yes	Yes
Capacitance	1 nF to 0.1 F	
Ranges	–	1 nF to 0.1 F
Max. Resolution	–	1 pf
Accuracy	–	1 %
Temperature	Platinum RTD	
Type	Platinum RTD	
Range	–	-200 °C to +600 °C
Max. Resolution	–	0.01 °
Accuracy	–	0.06 °
Math Functions	Zero, Min/Max/Average, Std Dev; mx+b	
dB/dBm	Yes	Yes
Advanced Functions	Yes	
Statistics/Histogram	Yes	
Trendplot	Yes	
Limit Test	Yes	
Input Output	USB memory drive port	
USB Memory	–	USB memory drive port
Real Time Clock	–	Yes
Interfaces	RS 232, IEE-488.2, Ethernet, USB (with optional adaptor)	
Programming Languages/ Modes	SCPI (IEEE-488.2), Agilent 34401A, Fluke 45	
General	3.6 kg (8.0 lbs)	
Weight	3.6 kg (8.0 lbs)	
Size (HxWxD)	88 mm x 217 mm x 297 mm (3.46 in x 8.56 in x 11.7 in)	
Safety	Designed to comply with IEC 61010-1 2000-1, ANSI/ISA-S82.01-1994, CAN/CSA-C22.2 No. 1010.1-92 CAT I 1000 V, CAT II 600 V	
Warranty	One year	

Ordering Information

Models

8845A 6.5 digit precision multimeter, 35 ppm
 8846A 6.5 digit precision multimeter, 24 ppm
 USB mem

Options and Accessories

TL71 Test Lead Set, Premium DMM
 TL910 Precision Electronic Probe Set
 884X-SHORT 4-Wire Short
 TL2X4W-PT 2x4 Wire Ohms Test Lead 2 mm Probe Tip
 884X-RTD 100 Ohm RTD Temperature Probe
 884X-512M USB Memory 512 M
 884X-1G USB Memory 1 GB
 Y8022 IEEE488 cable (2 m)
 884X-USB USB to RS232 cable adapter
 FVF-UG FlukeView Forms Software Upgrade-No Cable
 Y8846 Rack Mount Kit

Fluke supports you by supplying information about Fluke tools and how to use them. Visit the Fluke web site at www.fluke.com or www.fluke.eu for product descriptions, application notes and white papers. You will also find newsletters, online communities, downloadable manuals, and much more.

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 In Canada (800)-36-FLUKE or Fax (905) 890-6866
 From other countries +1 (425) 446-5500 or Fax +1 (425) 446-5116
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Fluke 8845A/8846A Digital Multimeters

Extended Specifications

The Fluke 8845A and 8846A 6.5 digit precision multimeters have the precision and versatility to handle your most demanding measurements, on the bench or in a system. These meters are both high performance and feature rich, yet also remarkably easy to use.



Features at a glance

- 6.5 digit resolution
- Basic V dc accuracy of up to 0.0024 % (1 yr.)
- Dual display
- 100 μ A to 10 A current range, with up to 100 pA resolution
- Wide ohms ranges from 10 Ω to 1 G Ω with up to 10 $\mu\Omega$ resolution
- 2 x 4 ohms 4-wire measurement technique
- Both models measure frequency and period
- 8846A also measures capacitance and temperature
- USB memory drive port (8846A)
- Fluke 45 and Agilent 34401A emulation
- Graphical display
- Trendplot™ paperless recorder mode, statistics, histogram
- CAT I 1000 V, CAT II 600 V

These digital multimeters perform the functions you would expect to see in a multifunction DMM, including measuring volts, ohms, and amps, with performance that exceeds expectations. Basic V dc accuracy of up to 0.0024 %, 10 A current range, and a wide ohms range from 10 Ω to 1 G Ω with up to 10 $\mu\Omega$ resolution give you an unbeatable combination of measurement capability.

You can also use the 8845A and 8846A to measure temperature, capacitance, period, and frequency—the functions of a counter, capacitance meter, and thermometer are built in for unparalleled versatility. Extend the meters' utility even more with their graphical display modes, including Trendplot™ paperless recorder mode, statistics and histograms—features you won't find on other multimeters.

Of course, these meters are also durable and dependable, features you expect from any Fluke meter. This unique combination of features and performance makes the 8845A and 8846A an unbeatable value for a wide variety of applications, including manufacturing test, research and development, and service.

General Specifications

Power

Voltage

100 V Setting.....	90 V to 110 V
120 V Setting.....	108 V to 132 V
220 V Setting.....	198 V to 242 V
240 V Setting.....	216 V to 264 V

Frequency..... 47 Hz to 440 Hz. Automatically sensed at power-on.

Power Consumption..... 28 VA peak (12 Watt average)

Dimensions

Height	88 mm (3.46 in.)
Width	217 mm (8.56 in.)
Depth.....	297 mm (11.7 in.)
Weight	3.6 kg (8.0 lbs.)
Shipping Weight	5.0 kg (11.0 lbs)

Display

Vacuum Fluorescent Display, dot matrix

Environment

Temperature

Operating.....	0 °C to 55 °C
Storage.....	-40 °C to 70 °C
Warm Up.....	1 hour to full uncertainty specifications

Relative Humidity (non-condensing)

Operating.....	0 °C to 28 °C <90 %
	28 °C to 40 °C <80 %
	40 °C to 55 °C <50 %
Storage.....	-40 °C to 70 °C <95 %

Altitude

Operating.....	2,000 Meters
Storage.....	12,000 Meters

Vibration and Shock.....Complies with Mil-T-28800F Type III, Class 5 (Sine Only)

Safety

Designed to comply with IEC 61010-1:2000-1, UL 61010-1A1, CAN/CSA-C22.2 No. 61010.1, CAT I 1000V/CAT II 600V

EMC

Designed to comply with IEC 61326-1:2000-11 (EMC) when used with shielded communications cables. This Meter has shown susceptibility to radiated frequencies greater than 1 V/m from 250 to 450 MHz in the 100 µA range.

Triggering

Samples per Trigger.....	1 to 50,000
Trigger Delay.....	0 S to 3600 S; in 10 µS increments
External Trigger Delay.....	<1 mS
External Trigger Jitter.....	<500 µS
Trigger Input	TTL Levels
Trigger Output.....	5 V maximum. (Open collector)

Memory

8845A	5,000 measurements, Internal only
8846A	5,000 measurements, Internal and up to 2 Gigabyte capacity with USB memory module (available separately. see "Accessories") through front-panel USB port

Math Functions

Zero, dBm, dB, MX+B, Trend-plot, Histogram, Statistics (min/max/average/standard deviation), and Limit Test

Electrical

Input Protection	1000 V all ranges
Overrange	20 % on all ranges except 1000 V dc, 1000 V ac (8846A), 750 V ac (8845A), Diode, and 10 A ranges

Remote Interfaces

RS-232 (RS-232 to USB cable available to connect the Meter to a PC USB port. See accessories)
IEEE 488.2
LAN

Warranty

One year

Electrical Specifications

Accuracy specifications are valid for 6½ digit mode after at least a 1-hour warm-up with Auto Zero enabled.

24-hour specifications are relative to calibration standards and assume a controlled electromagnetic environment per EN 61326-1:2000-11

DC Voltage Specifications

Maximum Input	1000 V on any range
Common Mode Rejection	140 dB at 50 or 60 Hz ± 0.1 % (1 kΩ unbalance)
Normal Mode Rejection	60 dB for NPLC of 1 or greater with dc filter off and power line frequency ±0.1 % 100 dB for NPLC of 1 or greater with dc filter on and power line frequency ±0.1 %
Measurement Method	Multi-ramp A/D
A/D Linearity	0.0002 % of measurement + 0.0001 % of range
Input Bias Current	<30 pA at 25 °C
Autozero Off Operation	Following instrument warm-up at calibration temperature ±1 °C and less than 10 minutes, add error: 0.0002 % range additional error + 5 μV.
Settling Considerations	Measurement settling times are affected by source impedance, cable dielectric characteristics, and input signal changes.

Input Characteristics

Range	Full Scale (6½ Digits)	Resolution			Input Impedance
		4½ Digits	5½ Digits	6½ Digits	
100 mV	100.0000 mV	10 μV	1 μV	100 nV	10 MΩ or >10 GΩ ^[1]
1 V	1.000000 V	100 μV	10 μV	1 μV	10 MΩ or >10 GΩ ^[1]
10 V	10.00000 V	1 mV	100 μV	10 μV	10 MΩ or >10 GΩ ^[1]
100 V	100.0000 V	10 mV	1 mV	100 μV	10 MΩ ±1%
1000 V	1,000.000 V	100 mV	10 mV	1 mV	10 MΩ ±1%

[1] Inputs beyond ±14 V are clamped through 200 kΩ typical. 10 MΩ is default input impedance.

8846A Accuracy

Accuracy is given as ± (% measurement + % of range)

Range	24 Hour (23 ± 1 °C)	90 Days (23 ± 5 °C)	1 Year (23 ± 5 °C)	Temperature Coefficient/°C Outside 18 to 28 °C
100 mV	0.0025 + 0.003	0.0025 + 0.0035	0.0037 + 0.0035	0.0005 + 0.0005
1 V	0.0018 + 0.0006	0.0018 + 0.0007	0.0025 + 0.0007	0.0005 + 0.0001
10 V	0.0013 + 0.0004	0.0018 + 0.0005	0.0024 + 0.0005	0.0005 + 0.0001
100 V	0.0018 + 0.0006	0.0027 + 0.0006	0.0038 + 0.0006	0.0005 + 0.0001
1000 V	0.0018 + 0.0006	0.0031 + 0.001	0.0041 + 0.001	0.0005 + 0.0001

8845A Accuracy

Accuracy is given as ± (% measurement + % of range)

Range	24 Hour (23 ± 1 °C)	90 Days (23 ± 5 °C)	1 Year (23 ± 5 °C)	Temperature Coefficient/°C Outside 18 to 28 °C
100 mV	0.003 + 0.003	0.004 + 0.0035	0.005 + 0.0035	0.0005 + 0.0005
1 V	0.002 + 0.0006	0.003 + 0.0007	0.004 + 0.0007	0.0005 + 0.0001
10 V	0.0015 + 0.0004	0.002 + 0.0005	0.0035 + 0.0005	0.0005 + 0.0001
100 V	0.002 + 0.0006	0.0035 + 0.0006	0.0045 + 0.0006	0.0005 + 0.0001
1000 V	0.002 + 0.0006	0.0035 + 0.0010	0.0045 + 0.0010	0.0005 + 0.0001

Additional Errors

Digits	NPLC	Additional Noise Error
6½	100	0 % of range
6½	10	0 % of range
5½	1	0.001 % of range
5½	.2	0.001 % of range + 20 µV
4½	0.02	0.01 % of range + 20 µV

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 to 100 kHz, add 0.13 % of range.

Maximum Input.....750 V rms or 1000 V peak (8845A), 1000 V rms or 1414 V peak (8846A) or 8×10^7 Volts-Hertz product (whichever is less) for any range.

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:

- Slow.....3 Hz – 300 kHz
- Medium.....20 Hz – 300 kHz
- Fast.....200 Hz – 300 kHz

Common Mode Rejection.....70 dB at 50 Hz or 60 Hz ±0.1 % (1 kΩ unbalance)

Maximum Crest Factor.....5:1 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
 Crest Factor 3-4, 0.4 % of full scale
 Crest Factor 4-5, 0.5 % of full scale

Input Characteristics

Range	Full Scale (6½ Digits)	Resolution			Input Impedance
		4½ Digits	5½ Digits	6½ Digits	
100 mV	100.0000 mV	10 µV	1 µV	100 nV	1 MΩ ±2 % shunted by <100 pf
1 V	1.000000 V	100 µV	10 µV	1 µV	
10 V	10.00000 V	1 mV	100 µV	10 µV	
100 V	100.0000 V	10 mV	1 mV	100 µV	
1000 V	1,000.000 V	100 mV	10 mV	1 mV	

8846A Accuracy

Accuracy is given as ± (% measurement + % of range)

Range	Frequency	24 Hour (23 ± 1 °C)	90 Days (23 ± 5 °C)	1 Year (23 ± 5 °C)	Temperature Coefficient/°C Outside 18 to 28 °C
100 mV	3 – 5 Hz	1.0 + 0.03	1.0 + 0.04	1.0 + 0.04	0.1 + 0.004
	5 – 10 Hz	0.35 + 0.03	0.35 + 0.04	0.35 + 0.04	0.035 + 0.004
	10 Hz – 20 kHz	0.04 + 0.03	0.05 + 0.04	0.06 + 0.04	0.005 + 0.004
	20 – 50 kHz	0.1 + 0.05	0.11 + 0.05	0.12 + 0.05	0.011 + 0.005
	50 – 100 kHz	0.55 + 0.08	0.6 + 0.08	0.6 + 0.08	0.06 + 0.008
	100 – 300 kHz ⁽¹⁾	4.0 + 0.50	4.0 + 0.50	4.0 + 0.50	0.20 + 0.02
1 V	3 – 5 Hz	1.0 + 0.02	1.0 + 0.03	1.0 + 0.03	0.1 + 0.003
	5 – 10 Hz	0.35 + 0.02	0.35 + 0.03	0.35 + 0.03	0.035 + 0.003
	10 Hz – 20 kHz	0.04 + 0.02	0.05 + 0.03	0.06 + 0.03	0.005 + 0.003
	20 – 50 kHz	0.1 + 0.04	0.11 + 0.05	0.12 + 0.05	0.011 + 0.005
	50 – 100 kHz	0.55 + 0.08	0.6 + 0.08	0.6 + 0.08	0.06 + 0.008
	100 – 300 kHz ⁽¹⁾	4.0 + 0.50	4.0 + 0.50	4.0 + 0.50	0.2 + 0.02
10 V	3 – 5 Hz	1.0 + 0.02	1.0 + 0.03	1.0 + 0.03	0.1 + 0.003
	5 – 10 Hz	0.35 + 0.02	0.35 + 0.03	0.35 + 0.03	0.035 + 0.003
	10 Hz – 20 kHz	0.04 + 0.02	0.05 + 0.03	0.06 + 0.03	0.005 + 0.003
	20 – 50 kHz	0.1 + 0.04	0.11 + 0.05	0.12 + 0.05	0.011 + 0.005
	50 – 100 kHz	0.55 + 0.08	0.6 + 0.08	0.6 + 0.08	0.06 + 0.008
	100 – 300 kHz ⁽¹⁾	4.0 + 0.50	4.0 + 0.50	4.0 + 0.50	0.2 + 0.02
100 V	3 – 5 Hz	1.0 + 0.02	1.0 + 0.03	1.0 + 0.03	0.1 + 0.003
	5 – 10 Hz	0.35 + 0.02	0.35 + 0.03	0.35 + 0.03	0.035 + 0.003
	10 Hz – 20 kHz	0.04 + 0.02	0.05 + 0.03	0.06 + 0.03	0.005 + 0.003
	20 – 50 kHz	0.1 + 0.04	0.11 + 0.05	0.12 + 0.05	0.011 + 0.005
	50 – 100 kHz	0.55 + 0.08	0.6 + 0.08	0.6 + 0.08	0.06 + 0.008
	100 -- 300 kHz ⁽¹⁾	4.0 + 0.50	4.0 + 0.50	4.0 + 0.50	0.2 + 0.02

Range	Frequency	24 Hour (23 ± 1 °C)	90 Days (23 ± 5 °C)	1 Year (23 ± 5 °C)	Temperature Coefficient/°C Outside 18 to 28 °C
1000 V	3 – 5 Hz	1.0 + 0.02	1.0 + 0.03	1.0 + 0.03	0.1 + 0.003
	5 – 10 Hz	0.35 + 0.02	0.35 + 0.03	0.35 + 0.03	0.035 + 0.003
	10 Hz – 20 kHz	0.04 + 0.02	0.05 + 0.03	0.06 + 0.03	0.005 + 0.003
	20 – 50 kHz	0.1 + 0.04	0.11 + 0.05	0.12 + 0.05	0.011 + 0.005
	50 – 100 kHz ^[2]	0.55 + 0.08	0.6 + 0.08	0.6 + 0.08	0.06 + 0.008
	100 – 300 kHz ^{[1][2]}	4.0 + 0.5	4.0 + 0.50	4.0 + 0.50	0.2 + 0.02
[1] Typically 30 % reading error at 1 MHz					
[2] 1000 Volt range is limited to 8 X 10 ⁷ volt-Hertz					

8845A Accuracy

Accuracy is given as ± (% measurement + % of range)

Range	Frequency (Hz)	24 Hour (23 ± 1 °C)	90 Days (23 ± 5 °C)	1 Year (23 ± 5 °C)	Temperature Coefficient/°C Outside 18 to 28 °C
100 mV	3 – 5 Hz	1.0 + 0.03	1.0 + 0.04	1.0 + 0.04	0.10 + 0.004
	5 – 10 Hz	0.35 + 0.03	0.35 + 0.04	0.35 + 0.04	0.035 + 0.004
	10 Hz – 20 kHz	0.04 + 0.03	0.05 + 0.04	0.06 + 0.04	0.005 + 0.004
	20 – 50 kHz	0.1 + 0.05	0.11 + 0.05	0.12 + 0.05	0.011 + 0.005
	50 – 100 kHz	0.55 + 0.08	0.6 + 0.08	0.6 + 0.08	0.06 + 0.008
	100 – 300 kHz ^[1]	4.0 + 0.50	4.0 + 0.50	4.0 + 0.50	0.2 + 0.02
1 V	3 – 5 Hz	1.0 + 0.02	1.0 + 0.03	1.0 + 0.03	0.1 + 0.003
	5 – 10 Hz	0.35 + 0.02	0.35 + 0.03	0.35 + 0.03	0.035 + 0.003
	10 Hz – 20 kHz	0.04 + 0.02	0.05 + 0.03	0.06 + 0.03	0.005 + 0.003
	20 – 50 kHz	0.1 + 0.04	0.11 + 0.05	0.12 + 0.05	0.011 + 0.005
	50 – 100 kHz	0.55 + 0.08	0.6 + 0.08	0.6 + 0.08	0.06 + 0.008
	100 – 300 kHz ^[1]	4.0 + 0.50	4.0 + 0.50	4.0 + 0.50	0.2 + 0.02
10 V	3 – 5 Hz	1.0 + 0.02	1.0 + 0.03	1.0 + 0.03	0.1 + 0.003
	5 – 10 Hz	0.35 + 0.02	0.35 + 0.03	0.35 + 0.03	0.035 + 0.003
	10 Hz – 20 kHz	0.04 + 0.02	0.05 + 0.03	0.06 + 0.03	0.005 + 0.003
	20 – 50 kHz	0.1 + 0.04	0.11 + 0.05	0.12 + 0.05	0.011 + 0.005
	50 – 100 kHz	0.55 + 0.08	0.6 + 0.08	0.6 + 0.08	0.06 + 0.008
	100 – 300 kHz ^[1]	4.0 + 0.50	4.0 + 0.50	4.0 + 0.50	0.2 + 0.02
100 V	3 – 5 Hz	1.0 + 0.02	1.0 + 0.03	1.0 + 0.03	0.1 + 0.003
	5 – 10 Hz	0.35 + 0.02	0.35 + 0.03	0.35 + 0.03	0.035 + 0.003
	10 Hz – 20 kHz	0.04 + 0.02	0.05 + 0.03	0.06 + 0.03	0.005 + 0.003
	20 – 50 kHz	0.1 + 0.04	0.11 + 0.05	0.12 + 0.05	0.011 + 0.005
	50 – 100 kHz	0.55 + 0.08	0.6 + 0.08	0.6 + 0.08	0.06 + 0.008
	100 – 300 kHz ^[1]	4.0 + 0.50	4.0 + 0.50	4.0 + 0.50	0.2 + 0.02
750 V	3 – 5 Hz	1.0 + 0.02	1.0 + 0.03	1.0 + 0.03	0.1 + 0.003
	5 – 10 Hz	0.35 + 0.02	0.35 + 0.03	0.35 + 0.03	0.035 + 0.003
	10 Hz – 20 kHz	0.04 + 0.02	0.05 + 0.03	0.06 + 0.03	0.005 + 0.003
	20 – 50 kHz	0.1 + 0.04	0.11 + 0.05	0.12 + 0.05	0.011 + 0.005
	50 – 100 kHz ^[2]	0.55 + 0.08	0.6 + 0.08	0.6 + 0.08	0.06 + 0.008
	100 – 300 kHz ^{[1][2]}	4.0 + 0.5	4.0 + 0.5	4.0 + 0.5	0.2 + 0.02
[1] Typically 30 % reading error at 1 MHz					
[2] 750 Volt range is limited to 8 X 10 ⁷ volt-Hertz					

Additional Low Frequency Errors

Error is stated as % of reading.

Frequency	AC Filter		
	3HZ (slow)	20HZ (medium)	200HZ (fast)
10 – 20 Hz	0	0.25	–
20 – 40 Hz	0	0.02	–
40 – 100 Hz	0	0.01	0.55
100 – 200 Hz	0	0	0.2
200 Hz – 1 kHz	0	0	0.02
> 1 kHz	0	0	0

Resistance

Specifications are for 4-wire resistance function, 2 x 4-wire resistance, or 2-wire resistance with zero. If zero is not used, add 0.2 Ω for 2-wire resistance plus lead resistance, and add 20 mΩ for 2 x 4-wire resistance function.

Measurement Method.....Current source referenced to LO input.

Max. Lead Resistance (4-wire ohms)..... 10 % of range per lead for 100 Ω, 1 kΩ ranges. 1 kΩ per lead on all other ranges.

Input Protection..... 1000 V on all ranges.

Input Characteristics

Range	Full Scale (6½ Digits)	Resolution			Source Current
		4½ Digits	5½ Digits	6½ Digits	
10 Ω ^[1]	10.00000 Ω	1 mΩ	100 μΩ	10 μΩ	5 mA
100 Ω	100.0000 Ω	10 mΩ	1 mΩ	100 μΩ	1 mA
1 kΩ	1.000000 kΩ	100 mΩ	10 mΩ	1 mΩ	1 mA
10 kΩ	10.00000 kΩ	1 Ω	100 mΩ	10 mΩ	100 μA
100 kΩ	100.0000 kΩ	10 Ω	1 Ω	100 mΩ	10 μA
1 MΩ	1.000000 MΩ	100 Ω	10 Ω	1 Ω	10 μA
10 MΩ	10.00000 MΩ	1 kΩ	100 Ω	10 Ω	1 μA
100 MΩ	100.0000 MΩ	10 kΩ	1 kΩ	100 Ω	1 μA 10 MΩ
1.0 GΩ ^[1]	1.000000 GΩ	100 kΩ	10 kΩ	1 kΩ	1 μA 10 MΩ

[1] 8846A Only

8846A Accuracy

Accuracy is given as ± (% measurement + % of range)

Range	24 Hour (23 ± 1 °C)	90 Days (23 ± 5 °C)	1 Year (23 ± 5 °C)	Temperature Coefficient/°C Outside 18 to 28 °C
10 Ω	0.003 + 0.01	0.008 + 0.03	0.01 + 0.03	0.0006 + 0.0005
100 Ω	0.003 + 0.003	0.008 + 0.004	0.01 + 0.004	0.0006 + 0.0005
1 kΩ	0.002 + 0.0005	0.008 + 0.001	0.01 + 0.001	0.0006 + 0.0001
10 kΩ	0.002 + 0.0005	0.008 + 0.001	0.01 + 0.001	0.0006 + 0.0001
100 kΩ	0.002 + 0.0005	0.008 + 0.001	0.01 + 0.001	0.0006 + 0.0001
1 MΩ	0.002 + 0.001	0.008 + 0.001	0.01 + 0.001	0.001 + 0.0002
10 MΩ	0.015 + 0.001	0.02 + 0.001	0.04 + 0.001	0.003 + 0.0004
100 MΩ	0.3 + 0.01	0.8 + 0.01	0.8 + 0.01	0.15 + 0.0002
1 GΩ	1.0 + 0.01	1.5 + 0.01	2.0 + 0.01	0.6 + 0.0002

8845A Accuracy

Accuracy is given as ± (% measurement + % of range)

Range	24 Hour (23 ± 1 °C)	90 Days (23 ± 5 °C)	1 Year (23 ± 5 °C)	Temperature Coefficient/°C Outside 18 to 28 °C
100 Ω	0.003 + 0.003	0.008 + 0.004	0.01 + 0.004	0.0006 + 0.0005
1 kΩ	0.002 + 0.0005	0.008 + 0.001	0.01 + 0.001	0.0006 + 0.0001
10 kΩ	0.002 + 0.0005	0.008 + 0.001	0.01 + 0.001	0.0006 + 0.0001
100 kΩ	0.002 + 0.0005	0.008 + 0.001	0.01 + 0.001	0.0006 + 0.0001
1 MΩ	0.002 + 0.001	0.008 + 0.001	0.01 + 0.001	0.0010 + 0.0002
10 MΩ	0.015 + 0.001	0.02 + 0.001	0.04 + 0.001	0.0030 + 0.0004
100 MΩ	0.3 + 0.01	0.8 + 0.01	0.8 + 0.01	0.1500 + 0.0002

Additional Ohms Errors

Digits	NPLC	Additional Noise Error
6½	100	0 % of range
6½	10	0 % of range
5½	1	0.001 % of range
5½	0.2	0.001 % of range ± 20 mΩ
4½	0.02	0.01 % of range ± 20 mΩ

DC Current

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

Input Characteristics

Range	Full Scale (6½ Digits)	Resolution			Shunt Resistance (Ohms)	Burden Voltage
		4½ Digits	5½ Digits	6½ Digits		
100 µA	100.0000 µA	10 nA	1 nA	100 pA	100Ω	<0.015
1 mA	1.000000 mA	100 nA	10 nA	1 nA	100Ω	<0.15
10 mA	10.00000 mA	1 µA	100 nA	10 nA	1 Ω	<0.025 V
100 mA	100.0000 mA	10 µA	1 µA	100 nA	1 Ω	<0.25 V
1 A	1.000000 A	100 µA	10 µA	1 µA	0.01 Ω	<0.05 V
3 A ^[1]	3.000000 A	1 mA	100 µA	10 µA	0.01 Ω	<0.15 V
10 A	10.00000 A	1 mA	100 µA	10 µA	0.01 Ω	<0.5 V

[1] Part of 10 A range.

Accuracy (8846A)

Accuracy is given as ± (% measurement + % of range)

Range	24 Hour (23 ± 1 °C)	90 Days (23 ± 5 °C)	1 Year (23 ± 5 °C)	Temperature Coefficient/°C Outside 18 to 28 °C
100 µA	0.01 + 0.02	0.04 + 0.025	0.05 + 0.025	0.002 + 0.003
1 mA	0.007 + 0.005	0.030 + 0.005	0.05 + 0.005	0.002 + 0.0005
10 mA	0.007 + 0.02	0.03 + 0.02	0.05 + 0.02	0.002 + 0.002
100 mA	0.01 + 0.004	0.03 + 0.005	0.05 + 0.005	0.002 + 0.0005
1 A ^[2]	0.03 + 0.02	0.04 + 0.02	0.05 + 0.02	0.005 + 0.001
3 A ^{[1][2]}	0.05 + 0.02	0.08 + 0.02	0.1 + 0.02	0.005 + 0.002
10 A ^[2]	0.1 + 0.008	0.12 + 0.008	0.15 + 0.008	0.005 + 0.0008

[1] Part of 10 A range

[2] Available at front panel connectors only

Accuracy (8845A)

Accuracy is given as ± (% measurement + % of range)

Range	24 Hour (23 ± 1 °C)	90 Days (23 ± 5 °C)	1 Year (23 ± 5 °C)	Temperature Coefficient/°C Outside 18 to 28 °C
100 µA	0.01 + 0.02	0.04 + 0.025	0.05 + 0.025	0.002 + 0.003
1 mA	0.007 + 0.005	0.030 + 0.005	0.05 + 0.005	0.002 + 0.0005
10 mA	0.007 + 0.02	0.03 + 0.02	0.05 + 0.02	0.002 + 0.002
100 mA	0.01 + 0.004	0.03 + 0.005	0.05 + 0.005	0.002 + 0.0005
1 A ^[2]	0.03 + 0.04	0.08 + 0.02	0.05 + 0.02	0.005 + 0.001
3 A ^{[1][2]}	0.05 + 0.08	0.12 + 0.02	0.1 + 0.02	0.005 + 0.002
10 A ^[2]	0.1 + 0.008	0.12 + 0.008	0.15 + 0.02	0.005 + 0.0008

[1] Part of 10 A range

[2] Available at front panel connectors only

Additional Current Errors

Digits	NPLC	Additional Noise Error
6½	100	0 % of range
6½	10	0 % of range
5½	1	0.001 % of range
5½	0.2	0.001 % of range ± 4 µA
4½	0.02	0.01 % of range ± 4 µA

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, dc-coupled to the fuse and shunt (no blocking capacitor)

AC Filter Bandwidth

Slow.....3 Hz to 10 kHz
 Medium.....20 Hz to 10 kHz
 Fast.....200 Hz to 10 kHz

Maximum Crest Factor.....5:1 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
 Crest Factor 3-4, 0.4 % of full scale
 Crest Factor 4-5, 0.5 % of full scale

Input Characteristics

Range	Full Scale (6½ Digits)	Resolution			Shunt Resistance (Ohms)	Burden Voltage
		4½ Digits	5½ Digits	6½ Digits		
100 µA ^[1]	100.0000 µA	10 nA	1 nA	100 pA	100Ω	<0.015 V
1 mA ^[1]	1.000000 mA	100 nA	10 nA	1 nA	100Ω	<0.15 V
10 mA	10.00000 mA	1 µA	100 nA	10 nA	1 Ω	<0.025 V
100 mA	100.0000 mA	10 µA	1 µA	100 nA	1 Ω	<0.25 V
1 A	1.000000 A	100 µA	10 µA	1 µA	0.01 Ω	<0.05 V
3 A ^[2]	3.00000 A	1 mA	100 µA	10 µA	0.01 Ω	<0.05 V
10 A	10.00000 A	1 mA	100 µA	10 µA	0.01 Ω	<0.5 V

[1] 8846A Only
 [2] Part of 10 A range

8846A Accuracy

Accuracy is given as ± (% measurement + % of range)

Range	Frequency (Hz)	24 Hour (23 ± 1 °C)	90 Days (23 ± 5 °C)	1 Year (23 ± 5 °C)	Temperature Coefficient/°C Outside 18 to 28 °C
100 µA	3 – 5 Hz	1.0 + 0.04	1.0 + 0.04	1.0 + 0.04	0.1 + 0.006
	5 – 10 Hz	0.3 + 0.04	0.3 + 0.04	0.3 + 0.04	0.035 + 0.006
	10 Hz – 5 kHz	0.1 + 0.04	0.1 + 0.04	0.1 + 0.04	0.015 + 0.006
	5 – 10 kHz	0.2 + 0.25	0.2 + 0.25	0.2 + 0.25	0.03 + 0.006
1 mA	3 – 5 Hz	1.0 + 0.04	1.0 + 0.04	1.0 + 0.04	0.1 + 0.006
	5 – 10 Hz	0.3 + 0.04	0.3 + 0.04	0.3 + 0.04	0.035 + 0.006
	10 Hz – 5 kHz	0.1 + 0.04	0.1 + 0.04	0.1 + 0.04	0.015 + 0.006
	5 – 10 kHz	0.2 + 0.25	0.2 + 0.25	0.2 + 0.25	0.03 + 0.006
10 mA	3 – 5 Hz	1.0 + 0.04	1.0 + 0.04	1.0 + 0.04	0.1 + 0.006
	5 – 10 Hz	0.3 + 0.04	0.3 + 0.04	0.3 + 0.04	0.035 + 0.006
	10 Hz – 5 kHz	0.1 + 0.04	0.1 + 0.04	0.1 + 0.04	0.015 + 0.006
	5 – 10 kHz	0.2 + 0.25	0.2 + 0.25	0.2 + 0.25	0.03 + 0.006
100 mA	3 – 5 Hz	1.0 + 0.04	1.0 + 0.04	1.0 + 0.04	0.1 + 0.006
	5 – 10 Hz	0.3 + 0.04	0.3 + 0.04	0.3 + 0.04	0.035 + 0.006
	10 Hz – 5 kHz	0.1 + 0.04	0.1 + 0.04	0.1 + 0.04	0.015 + 0.006
	5 – 10 kHz	0.2 + 0.25	0.2 + 0.25	0.2 + 0.25	0.03 + 0.006
1 A ^[2]	3 – 5 Hz	1.0 + 0.04	1.0 + 0.04	1.0 + 0.04	0.1 + 0.006
	5 – 10 Hz	0.3 + 0.04	0.3 + 0.04	0.3 + 0.04	0.035 + 0.006
	10 Hz – 5 kHz	0.1 + 0.04	0.1 + 0.04	0.1 + 0.04	0.015 + 0.006
	5 – 10 kHz	0.35 + 0.7	0.35 + 0.7	0.35 + 0.7	0.03 + 0.006
3 A ^{[1][2]}	3 – 5 Hz	1.1 + 0.06	1.1 + 0.06	1.1 + 0.06	0.1 + 0.006
	5 – 10 Hz	0.35 + 0.06	0.35 + 0.06	0.35 + 0.06	0.035 + 0.006
	10 Hz – 5 kHz	0.5 + 0.7	0.15 + 0.06	0.15 + 0.06	0.015 + 0.006
	5 – 10 kHz	0.35 + 0.7	0.35 + 0.7	0.35 + 0.7	0.03 + 0.006
10 A ^[2]	3 – 5 Hz	2.0 + 0.06	2.0 + 0.06	2.0 + 0.06	0.2 + 0.006
	5 – 10 Hz	1.1 + 0.06	1.1 + 0.06	1.1 + 0.06	0.1 + 0.006
	10 Hz – 5 kHz	0.15 + 0.06	0.15 + 0.06	0.15 + 0.06	0.015 + 0.006
	5 – 10 kHz	0.35 + 0.7	0.35 + 0.7	0.35 + 0.7	0.03 + 0.006

[1] Part of 10 A range
 [2] Available only on front panel connectors

8845A Accuracy

Accuracy is given as \pm (% measurement + % of range)

Range	Frequency (Hz)	24 Hour (23 \pm 1 °C)	90 Days (23 \pm 5 °C)	1 Year (23 \pm 5 °C)	Temperature Coefficient/°C Outside 18 to 28 °C
10 mA	3 – 5 Hz	1.0 + 0.04	1.0 + 0.04	1.0 + 0.04	0.1 + 0.006
	5 – 10 Hz	0.3 + 0.04	0.3 + 0.04	0.3 + 0.04	0.035 + 0.006
	10 Hz – 5 kHz	0.1 + 0.04	0.1 + 0.04	0.1 + 0.04	0.015 + 0.006
	5 – 10 kHz	0.2 + 0.25	0.2 + 0.25	0.2 + 0.25	0.03 + 0.006
100 mA	3 – 5 Hz	1.0 + 0.04	1.0 + 0.04	1.0 + 0.04	0.1 + 0.006
	5 – 10 Hz	0.3 + 0.04	0.3 + 0.04	0.3 + 0.04	0.035 + 0.006
	10 Hz – 5 kHz	0.1 + 0.04	0.1 + 0.04	0.1 + 0.04	0.015 + 0.006
	5 – 10 kHz	0.2 + 0.25	0.2 + 0.25	0.2 + 0.25	0.03 + 0.006
1 A ^[2]	3 – 5 Hz	1.0 + 0.04	1.0 + 0.04	1.0 + 0.04	0.1 + 0.006
	5 – 10 Hz	0.3 + 0.04	0.3 + 0.04	0.3 + 0.04	0.035 + 0.006
	10 Hz – 5 kHz	0.1 + 0.04	0.1 + 0.04	0.1 + 0.04	0.015 + 0.006
	5 – 10 kHz	0.35 + 0.7	0.35 + 0.7	0.35 + 0.7	0.03 + 0.006
3 A ^{[1][2]}	3 – 5 Hz	1.1 + 0.06	1.1 + 0.06	1.1 + 0.06	0.1 + 0.006
	5 – 10 Hz	0.35 + 0.06	0.35 + 0.06	0.35 + 0.06	0.035 + 0.006
	10 Hz – 5 kHz	0.15 + 0.06	0.15 + 0.06	0.15 + 0.06	0.015 + 0.006
	5 – 10 kHz	0.35 + 0.7	0.35 + 0.7	0.35 + 0.7	0.03 + 0.006
10 A ^[2]	3 – 5 Hz	1.1 + 0.04	1.1 + 0.04	1.1 + 0.04	0.2 + 0.006
	5 – 10 Hz	0.35 + 0.04	0.35 + 0.04	0.35 + 0.04	0.1 + 0.006
	10 Hz – 5 kHz	0.15 + 0.04	0.15 + 0.04	0.15 + 0.04	0.015 + 0.006
	5 – 10 kHz	0.35 + 0.7	0.35 + 0.7	0.35 + 0.7	0.03 + 0.006

[1] Part of the 10 A range
[2] Available only at front panel connectors

Additional Low Frequency Errors

Error is stated as % of reading.

Frequency	AC Filter		
	3HZ (slow)	20HZ (medium)	200HZ (fast)
10 – 20 Hz	0	0.25	–
20 – 40 Hz	0	0.02	–
40 – 100 Hz	0	0.01	0.55
100 – 200 Hz	0	0	0.2
200 Hz – 1 kHz	0	0	0.02
> 1 kHz	0	0	0

Frequency

Gate Times.....Programmable to 1 s, 100 ms, and 10 ms.

Measurement Method.....Flexible counting technique. AC-coupled input using the ac voltage measurement function.

Settling Considerations.....When measuring frequency or period after a dc offset voltage change, errors may occur. For the most accurate measurement, wait up to 1 second for the input blocking capacitor to settle.

Measurement Considerations.....To minimize measurement errors, shield inputs from external noise when measuring low-voltage, low-frequency signals.

8846A Accuracy

Accuracy is given as \pm % measurement

Range	Frequency	24 Hour (23 \pm 1 °C)	90 Days (23 \pm 5 °C)	1 Year (23 \pm 5 °C)	Temperature Coefficient/°C Outside 18 to 28 °C
100 mV to 1000 V ^{[1][2]}	3 – 5 Hz	0.1	0.1	0.1	0.005
	5 – 10 Hz	0.05	0.05	0.05	0.005
	10 – 40 Hz	0.03	0.03	0.03	0.001
	40 Hz – 300 kHz	0.006	0.01	0.01	0.001
	300 kHz – 1 MHz	0.006	0.01	0.01	0.001

[1] Input >100 mV. For 10 – 100 mV, multiply percent measurement error by 10.
[2] Limited to 8 X 10⁷ volt-Hertz

8845A Accuracy

Accuracy is given as ± % measurement

Range	Frequency	24 Hour (23 ± 1 °C)	90 Days (23 ± 5 °C)	1 Year (23 ± 5 °C)	Temperature Compensation/°C Outside 18 to 28 °C
100 mV to 750 V ^{[1][2]}	3 – 5 Hz	0.1	0.1	0.1	0.005
	5 – 10 Hz	0.05	0.05	0.05	0.005
	10 – 40 Hz	0.03	0.03	0.03	0.001
	40 Hz – 300 kHz	0.006	0.01	0.01	0.001
[1] Input >100 mV. For 10 – 100 mV, multiply percent measurement error by 10. [2] Limited to 8 X 10 ⁷ volt-Hertz					

Gate Time vs. Resolution

Gate Time	Resolution
0.01	5½
0.1	6½
1.0	6½

Additional Low Frequency Errors

Error stated as percent of measurement for inputs >100 mV. For 10 – 100 mV, multiply percent by 10.

Frequency	Resolution		
	6½	5½	4½
3 – 5 Hz	0	0.12	0.12
5 – 10 Hz	0	0.17	0.17
10 – 40 Hz	0	0.2	0.2
40 – 100 Hz	0	0.06	0.21
100 – 300 Hz	0	0.03	0.21
300 Hz – 1 kHz	0	0.01	0.07
> 1 kHz	0	0	0.02

Capacitance (8846A Only)

Accuracy is stated as ±(% of measurement + % of range)

Range	Resolution	1 Year Accuracy ^[1] (23 ± 5 °C)	Temperature Coefficient/°C Outside 18 to 28 °C
1 nF	1 pF	2% ± 2.5 %	0.05 + 0.05
10 nF	10 pF	1% ± 0.5 %	0.05 + 0.01
100 nF	100 pF	1% ± 0.5 %	0.01 + 0.01
1 µF	1 nF	1% ± 0.5 %	0.01 + 0.01
10 µF	10 nF	1% ± 0.5 %	0.01 + 0.01
100 µF	100 nF	1% ± 0.5 %	0.01 + 0.01
1 mF	1 µF	1% ± 0.5 %	0.01 + 0.01
10 mF	10 µF	1% ± 0.5 %	0.01 + 0.01
100 mF	100 µF	4% ± 0.2 %	0.05 + 0.05
[1] Stated accuracy is attained when Zero function is used.			

Temperature (8846A only)

Test Current..... 1 mA

Accuracy is stated as ± °C and is based on a Platinum RT100 (DIN IEC 751, 385 type) RTD with less than 10 ohms lead resistance. Specifications do not include probe accuracy, which must be added.

Range	Resolution	Accuracy		Temperature Coefficient/°C Outside 18 to 28 °C
		90 Days (23 ± 5 °C)	1 Year (23 ± 5 °C)	
-200 °C	0.001 °C	0.06	0.09	0.0025
-100 °C	0.001 °C	0.05	0.08	0.002
0 °C	0.001 °C	0.04	0.06	0.002
100 °C	0.001 °C	0.05	0.08	0.002
300 °C	0.001 °C	0.1	0.12	0.002
600 °C	0.001 °C	0.12	0.14	0.002

Continuity

Continuity Threshold..... Selectable between 1 Ω and 1000 Ω

Test Current..... 1 mA

Response Time..... 300 samples/sec with audible tone

Accuracy is given as \pm (% measurements + % of range)

Range	24 Hour (23 \pm 1 $^{\circ}$ C)	90 Days (23 \pm 5 $^{\circ}$ C)	1 Year (23 \pm 5 $^{\circ}$ C)	Temperature Coefficient/ $^{\circ}$ C Outside 18 to 28 $^{\circ}$ C
1000.0 Ω	0.002 + 0.01	0.008 + 0.02	0.01 + 0.02	0.001 + 0.002

Diode Test

Test Current..... 100 μ A or 1 mA

Response Time..... 300 samples/sec with audible tone.

Accuracy is given as \pm (% measurements + % of range)

Range	24 Hour (23 \pm 1 $^{\circ}$ C)	90 Days (23 \pm 5 $^{\circ}$ C)	1 Year (23 \pm 5 $^{\circ}$ C)	Temperature Coefficient/ $^{\circ}$ C Outside 18 to 28 $^{\circ}$ C
5.0000 V	0.002 + 0.002	0.008 + 0.002	0.01 + 0.002	0.001 + 0.002
10.0000 V	0.002 + 0.001	0.008 + 0.002	0.01 + 0.002	0.001 + 0.002

Measurement Rates

Function	Digits	Setting	Integration Time 60 Hz (50 Hz)	Measurements/Second ^[1]	
				8845A	8846A
DC Volts, DC Current, and Resistance	6½	100 NPLC	1.67 (2) s	0.6 (0.5)	0.6 (0.5)
	6½	10 NPLC	167 (200) ms	6 (5)	6 (5)
	5½	10 NPLC	16.7 (20) ms	60 (50)	60 (50)
	5½	0.2 NPLC	3 ms	300	300
AC Voltage and AC Current ^[2]	6½	3 Hz		0.14	0.14
	6½	20 Hz		1	1
	6½	200 Hz ^[3]		1.6	1.6
	6½	200 Hz ^[4]		6	6
Frequency and Period	6½	1 s		1	1
	5½	100 ms		9.8	9.8
	4½	10 ms		80	80

[1] Typical measurement rates with autozero off.

[2] Maximum measurement rates for 0.01 % of ac step. When dc input varies, additional settling delay is required.

[3] For remote operation or external trigger using default settling delay

[4] Settling delay = 0



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