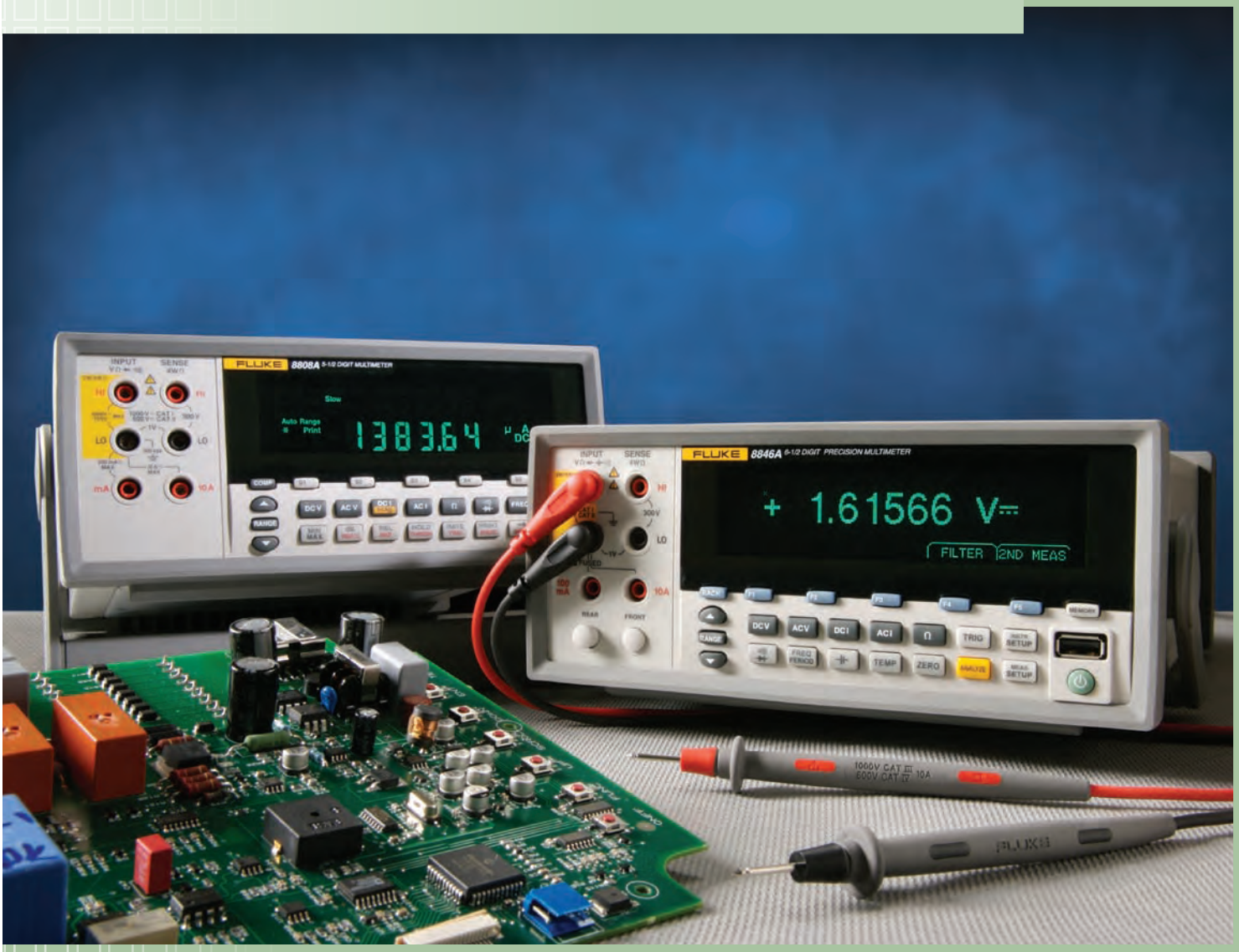
FLUKE®

Fluke Bench Multimeters



8845A/8846A 6.5 digit multimeters: Precision multimeter for bench or automated test system applications

8808A 5.5 digit multimeter: Versatile multimeter for manufacturing, development and service 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 CAT II 600 V 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 %, 100 uA to 10 A current ranges, and a wide ohms range from 10 Ohms to 1 GOhm 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—Log readings to a USB flash drive and easily transfer them over to a PC with the 8846A USB device host port—features you won't find on other multimeters.

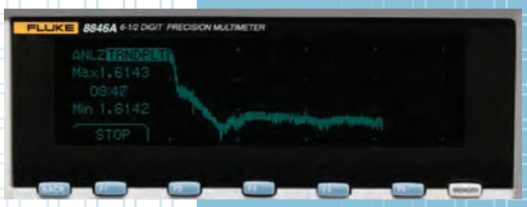
Of course, these meters are also durable and dependable, features you expect from any Fluke meter. This unique combination of features and performance makes the 8845A and 8846A an unbeatable value for a wide variety of applications, including manufacturing test, research and development, and service.

8845A/8846A features at a glance

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

Handle even the most demanding measurements with high accuracy and 6.5 digit resolution.

Use the built-in TrendPlot paperless chart recorder to graphically identify the extent of drift and intermittent events in analog circuits.



View results in Histogram mode to reveal stability or noise problems in analog circuits.

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

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. Looking at dual interrelated parameters like voltage and current simultaneously can reveal conditions that might go unnoticed otherwise, greatly simplifying test and troubleshooting.

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 analysis. 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.

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.

Fluke 45 and Agilent 34401A emulation

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

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Easy to integrate into your automated test system

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 up to 1000 readings per second, giving you the throughput you need for systems applications.

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.

Perform 4-wire measurements with only two leads

Patented split terminal jacks for the 2x4-wire ohms function allow you to perform 4-wire measurements using only two leads instead of four. Today's surface mount components make it difficult to make connections. The task becomes even more difficult when you need to use a 4-wire technique for accurate low ohms measurements. The Fluke test lead accessory combines the four wires into two test lead pairs, making it easy for you to establish connections. You get excellent resolution and accuracy, plus the convenience and ease of using a single pair of leads.

Fluke support completes the equation of value

Like all Fluke products, the 8845A/8846A and 8808A 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.

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.

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

Clear and bright dual display lets you measure two different parameters of the same signal from one test connection.

Limit compare mode compares the current reading to predefined High and Low limits. If an out of tolerance reading occurs the display clearly shows the operator whether a test passes or fails. Used in combination with the front panel setup keys makes manual test processes simple, repeatable and efficient.

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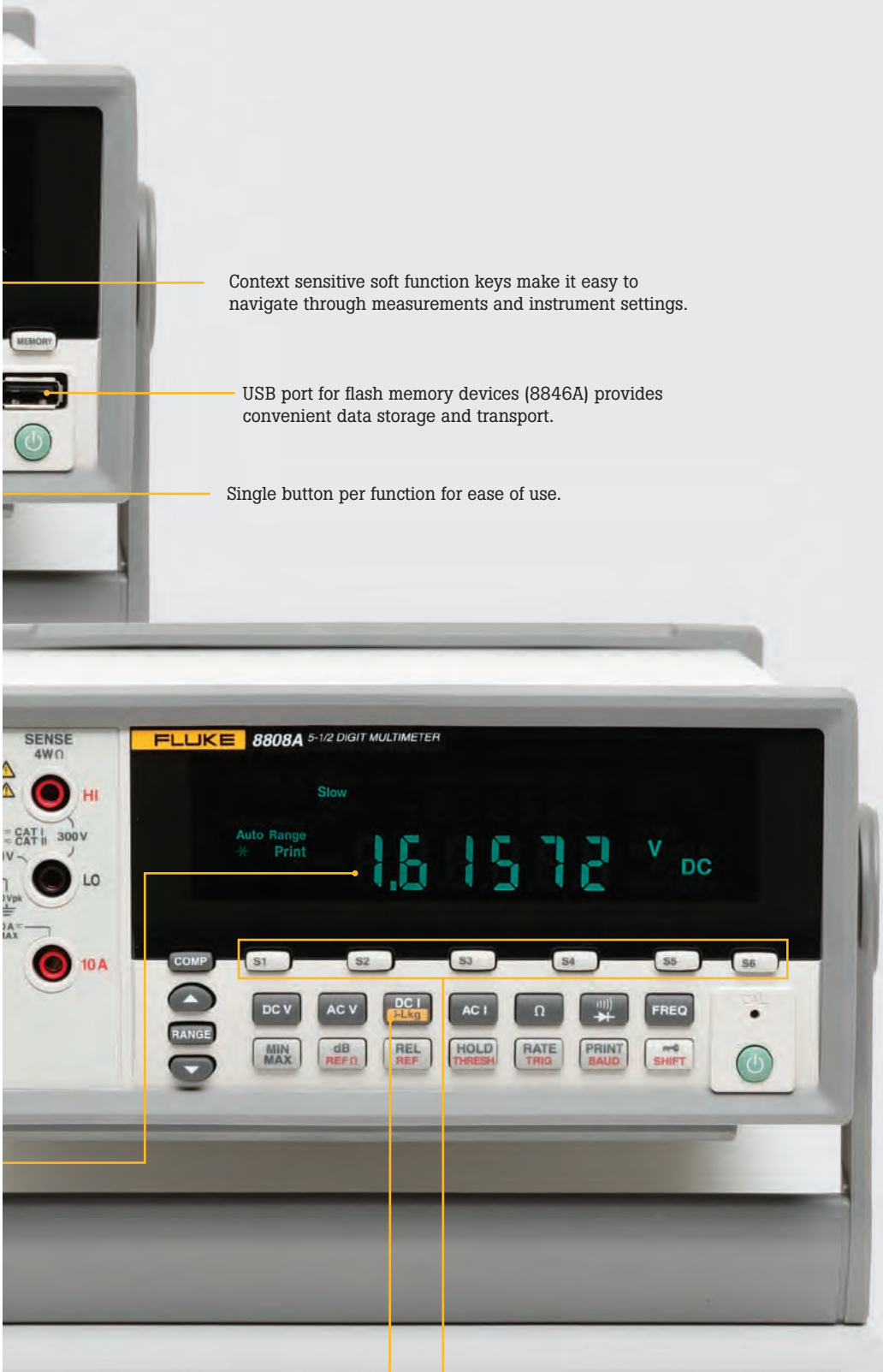
Clear and bright dual display shows data in graphic or numeric format.

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.



i-Lkg function adds two additional hi-impedance ranges for sensitive low current measurements

Setup keys make performing your most common measurements as simple as pressing a button. Increase quality and test times by improving test repeatability by simply saving known measurement setups to front panel accessible setup keys. All the operator has to do is select the right setup key.

FlukeView® Forms Basic

The Fluke 8845A/8846A and 8808A ship with a free copy of FlukeView Basic. 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. 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 FVF-UG.

The Fluke 8808A has six dedicated setup buttons on the front panel that function as 'pre-sets' similar to those on a car radio, making it fast and easy for production operators to quickly follow a test procedure without having to push multiple buttons. Setup buttons with pass/fail test mode provide measurement consistency that will improve quality and efficiency in manufacturing test applications. With measurement functions including volts, ohms, amps and frequency, the Fluke 8808A also provides the performance and flexibility required from a bench meter in R&D, development and service applications.

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 paramters 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. 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!

8808A 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

The 8808A can measure small leakage currents with a resolution of up to 100 nA, without loading the circuit under test.

Set up six common measurements via the front panel buttons, then simply press the appropriate key to perform each one.

The limit compare mode with pass/fail indicators can help you eliminate production mistakes.

Improve quality and efficiency in manufacturing test, R&D or service applications

Manufacturing test, R&D, development and service applications demand performance and flexibility from a bench meter. This Fluke 8808A makes measurements that stand up to any scrutiny. It delivers a wide variety of measurement functions, including volts, ohms, and amps, plus frequency—all at superior accuracy and resolution.

Measure two parameters at once

The 8808A features a unique dual display that allows you to measure two different parameters of the same signal from one test connection. Looking at dual interrelated parameters like voltage and current simultaneously can reveal conditions that might go unnoticed otherwise, greatly simplifying test and troubleshooting.

Measure sensitive leakage current

Using a typical multimeter to perform a sensitive low current measurement of less than 100 mA can load the circuit under test while the measurement is made. This makes it difficult, if not impossible, to perform tasks such as determining the leakage current on a battery-powered device while it is powered down. The Fluke 8808A is the only multimeter in its class to use a high impedance input technique to perform this type of critical leakage current measurement. In this special mode, the 8808A can measure small currents with a resolution of up to 100 nA, without loading the circuit under test.

Fluke quality is built in

Fluke is known around the world for its rugged, reliable, and accurate multimeters. With our experience, design standards and quality assurance processes, we have designed a multimeter that will stand up to any scrutiny of its specifications. In fact, a Fluke meter typically performs better than specified.

All of our efforts are designed to ensure that you can make an accurate measurement—repeatedly, and with confidence.

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Perform 4-wire measurements with only two leads

Patented split terminal jacks for the 2x4-wire ohms function allow you to perform 4-wire measurements using only two leads instead of four. Today's surface mount components make it difficult to make connections. The task becomes even more difficult when you need to use a 4-wire technique for accurate low ohms measurements. The Fluke test lead accessory combines the four wires into two test lead pairs, making it easy for you to establish connections. You get excellent resolution and accuracy, plus the convenience and ease of using a single pair of leads.

You can depend on 8808A measurements for critical applications in manufacturing test. But it is also a versatile tool for R&D and design engineers.

Summary Specifications

	8808A	8845A	8846A
Display	VFD multi segment display	VFD dot matrix	
Resolution	5.5 digits	6.5 digits	
Measurement function	**Accuracy, ± (% of reading + % of range)**		
V dc ranges	200 mV to 1000 V	100 mV to 1000 V	
Max. resolution	1 uV	100 nV	
Accuracy	0.015 + 0.003	0.0035 + 0.0005	0.0024 + 0.0005
V ac			
Ranges	200 mV to 750 V	100 mV to 750 V	100 mV to 1000 V
Max. resolution	1 uV	100 nV	
Accuracy	0.2 + 0.05	0.06 + 0.03	0.06 + 0.03
Frequency	20 Hz to 100 KHz	3 Hz to 300 KHz	
Resistance			
2x4 Wire	Yes	Yes	Yes
Ranges	200 Ω to 100 MΩ	100 Ω to 100 MΩ	10 Ω to 1 GΩ
Max. resolution	1 mΩ	100 µΩ	10 µΩ
Accuracy	0.02 + 0.003	0.010 + 0.001	0.010 + 0.001
A dc			
Ranges	200 µA to 10 A	100 µA to 10 A	100 µA to 10 A
Max. resolution	1 nA	100 pA	100 pA
Accuracy	0.02 + 0.005	0.050 + 0.005	0.050 + 0.005
A ac			
Ranges	20 mA to 10 A	10 mA to 10 A	100 µA to 10 A
Max. resolution	100 uA	10 µA	100 pA
Accuracy	0.3 + 0.06	0.10 + 0.04	0.10 + 0.04
Frequency	20 Hz to 2 kHz	3 Hz to 10 kHz	3 Hz to 10 kHz
Freq/Period			
Ranges	20 Hz to 1 MHz (freq only)	3 Hz to 300 kHz	3 Hz to 1 MHz
Max. Resolution	0.1 mHz	1 µHz	1 µHz
Accuracy	0.01 %	0.01 %	0.01 %
Continuity/Diode Test	Yes		
Capacitance			
Ranges	–	–	1 nF to 0.1 F
Max. Resolution	–	–	1 pf
Accuracy	–	–	1 %
Temperature			
Type	–	–	Platinum RTD
Range	–	–	-200 °C to +600 °C
Max. resolution	–	–	0.01 °
Accuracy	–	–	0.06 °
Math functions			
Types	–	Zero, Min/Max/Average, Std Dev; mx+b	
dB/dBm	Yes	Yes	
Advanced functions			
Statistics/Histogram	No	Yes	
Trendplot	No	Yes	
Limit Test	Yes	Yes	
Input output			
USB memory	–	–	USB memory drive port
Real time clock	No	No	Yes
Interfaces	RS-232, USB with optional adapter	RS 232, IEE-488.2, Ethernet, USB with optional adaptor	
Programming Languages/Modes	Simplified ASCII, Fluke 45	SCPI (IEEE-488.2), Agilent 34401A, Fluke 45	
General			
Weight	2.1 kg (4.6 lbs)	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 EN 61010-1:2001, ANSI/ISA 61010-1 (S82.02.01):2004, UL 61010-1:2004, CAN/CSA C22.2 No. 61010.1:2004	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

8808A 5.5 digit multimeter, .01 %

Options and accessories 8808A/8845A/8846A

TL910 Precision Electronic Probe Set

884X-SHORT 4-Wire Short

TL2X4W-PT II 2x4 Wire Ohms Test Lead 2 mm Probe Tip

884X-USB USB to RS232 cable adapter

FVF-UG FlukeView Forms Software Upgrade— No Cable

Y8846S Rack Mount Kit, Single

Y8846D Rack Mount Kit, Dual

8845A/8846A

884X-RTD 100 Ohm RTD Temperature Probe

884X-512M USB Memory 512 M

884X-1G USB Memory 1 GB

Y8022 IEEE488 cable (2 m)

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

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