

Test Equipment Solutions Datasheet

Test Equipment Solutions Ltd specialise in the second user sale, rental and distribution of quality test & measurement (T&M) equipment. We stock all major equipment types such as Spectrum Analyzers, Signal Generators, Oscilloscopes, Power Meters, Network Analyzers etc from all the major suppliers such as Keysight, Tektronix, Anritsu and Rohde & Schwarz.

We are focused at the professional end of the marketplace, primarily working with customers for whom high performance, quality and service are key, whilst realising the cost savings that second user equipment offers. We fully test & refurbish equipment in our in-house, traceable Lab. Items are supplied with manuals, accessories and typically a full no-quibble 1 year warranty. Our staff have extensive backgrounds in T&M which enables us to deliver industry-leading service and support. We endeavour to be customer focused in every way right down to the detail, such as offering free delivery on sales, presenting flexible technical + commercial solutions and supplying a loan unit during warranty repair, if available.

As well as the headline benefit of cost saving, second user offers shorter lead times, higher reliability and multivendor solutions. Rental, of course, is ideal for shorter term needs and offers fast delivery, flexibility, try-before-you-buy, zero capital expenditure, lower risk and off balance sheet accounting. Both second user and rental improve the key business measure of Return On Capital Employed.

We are based in at Oakley, Bedfordshire in the UK from where we supply test equipment worldwide. Our facility incorporates Sales, Support, Admin, Logistics and our own in-house Lab.

All products supplied by Test Equipment Solutions include:

- No-quibble parts & labour warranty (we provide transport for UK mainland addresses).
- Free loan equipment during warranty repair, if available.
- Full electrical, mechanical and safety refurbishment in our 40GHz in-house Lab.
- Certificate of Conformance (calibration available on request).
- Manuals and accessories required for normal operation.
- Free insured delivery to your UK mainland address (sales).
- Support from our team of seasoned Test & Measurement engineers.
- ISO9001 quality assurance.

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FLUKE®

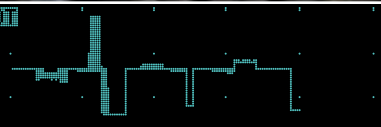


Fluke 8845A/8846A Digital Multimeters

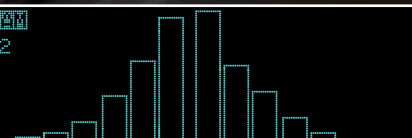
Precision and versatility
for bench or
systems applications

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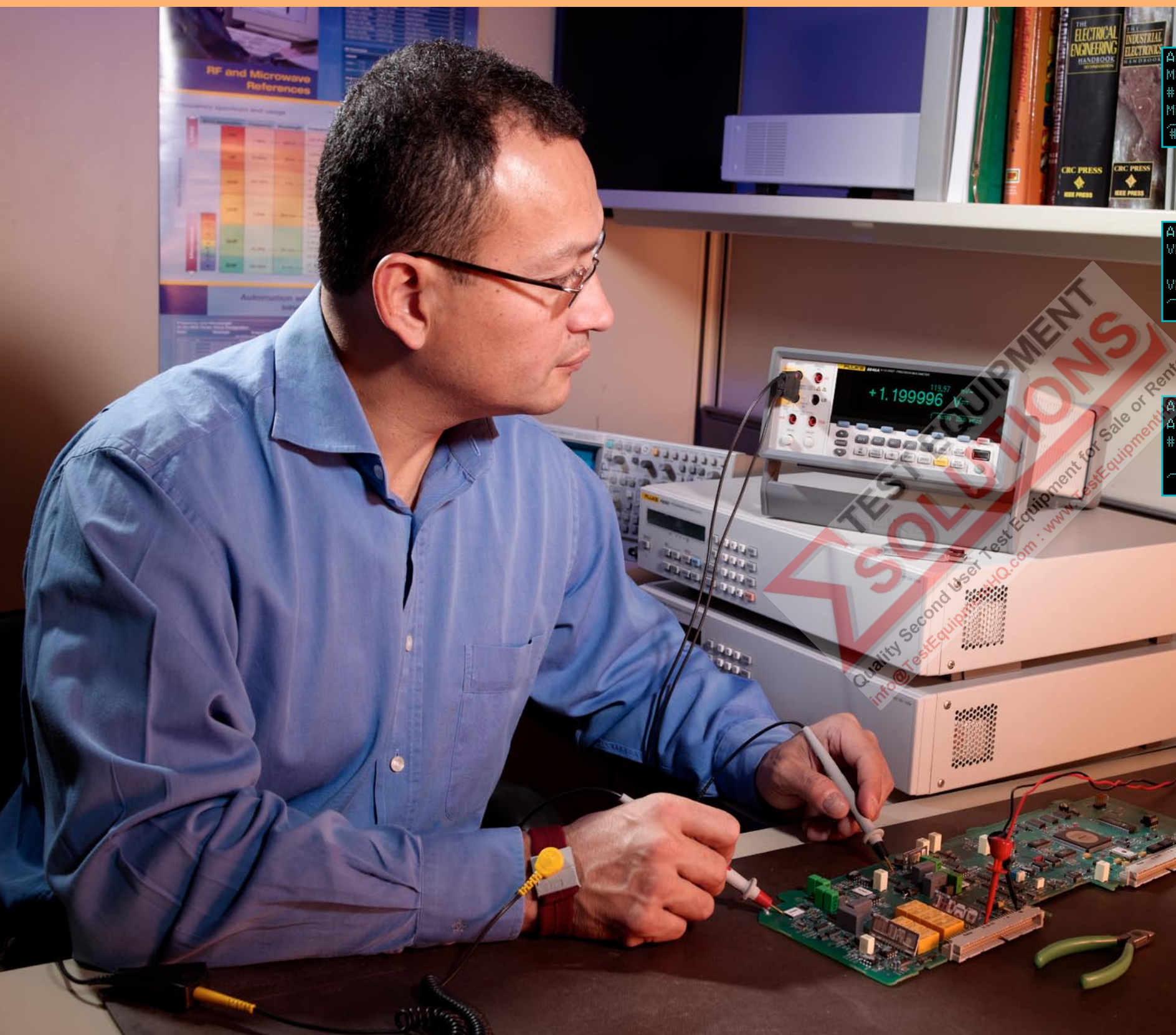
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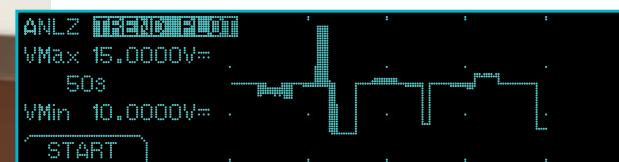
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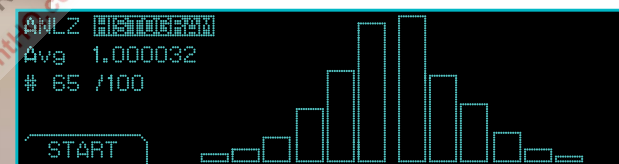
Exceed your expectations for performance and value



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.

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.

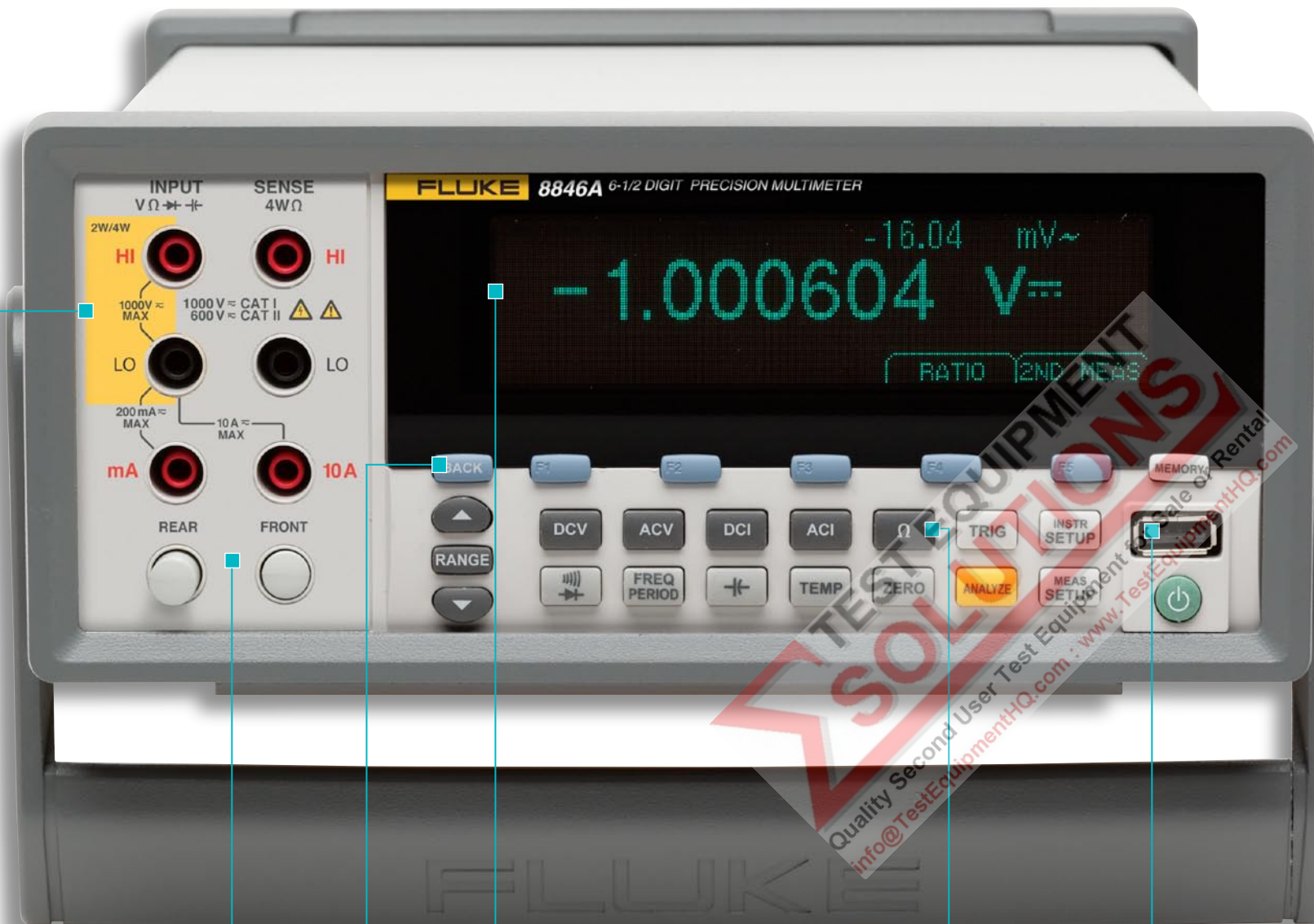
Of course, these meters are also durable and dependable, features you expect from any Fluke meter. This unique combination of features and performance makes the 8845A and 8846A an unbeatable value for a wide variety of applications, including manufacturing test, research and development, and service.

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

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

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



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

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

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

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

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

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.

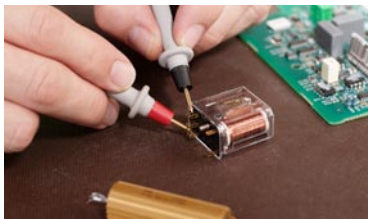
Extended current and ohms ranges and additional capabilities such as temperature and capacitance increase the variety of measurements you can make and tests you can perform with a single instrument.

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.



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.



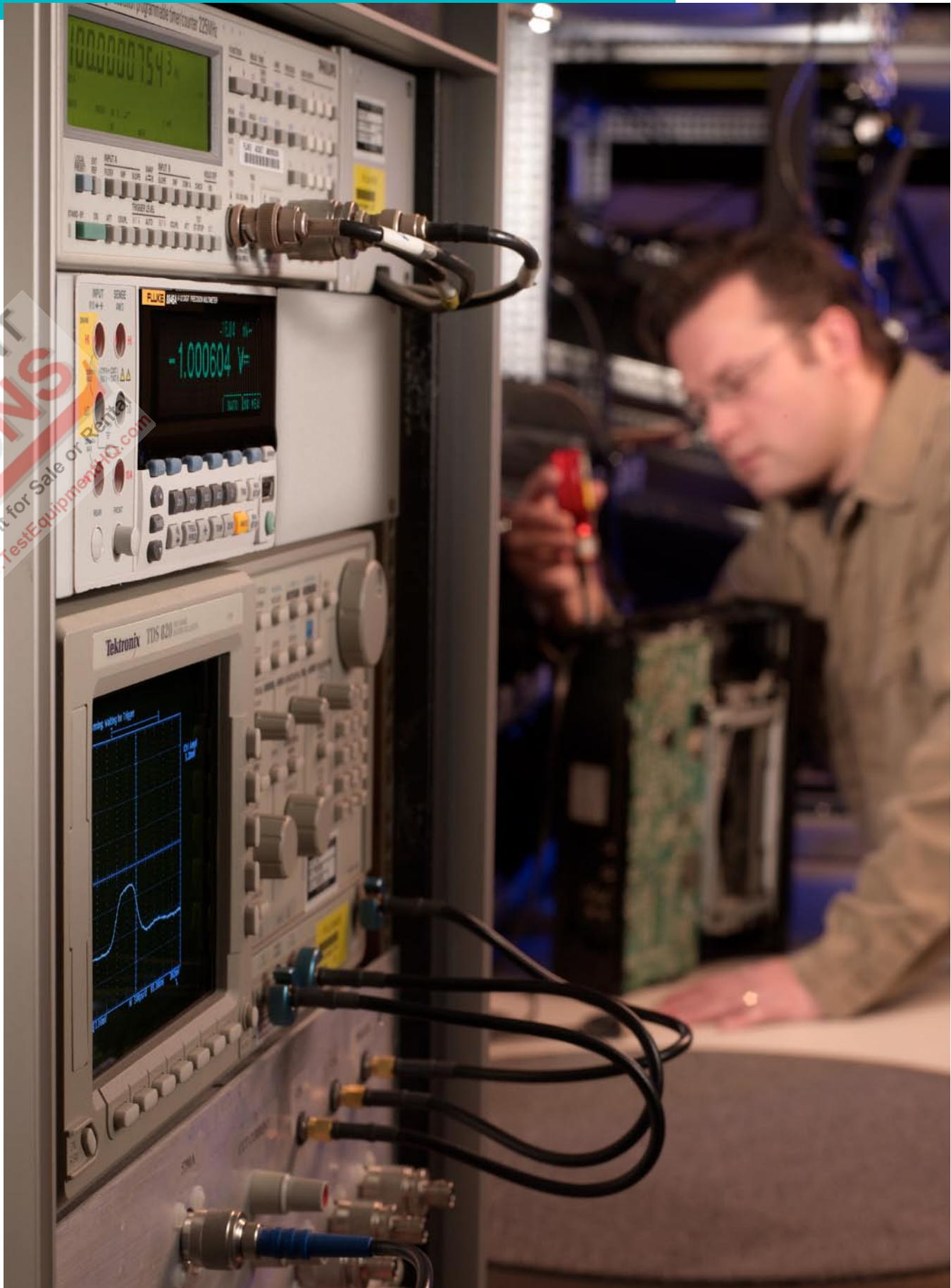
FlukeView® Software and drivers add PC power and application compatibility.
FlukeView Forms increases the power of your Fluke tool by enabling you to document, store and analyze individual readings or series of measurements, then convert them into professional-looking documents. Log live readings while 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 FVF-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.

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, \pm (% of reading + % of range), one year after calibration	
V DC		
Ranges	100 mV to 1000 V	
Max. Resolution	100 nV	
Accuracy	0.0035 + 0.0005	0.0024 + 0.0005
V AC		
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		
2x4 Wire	Yes	Yes
Ranges	100 Ω to 100 M Ω	10 Ω to 1 G Ω
Max. Resolution	100 $\mu\Omega$	10 $\mu\Omega$
Accuracy	0.010 + 0.001	0.010 + 0.001
A DC		
Ranges	100 μ A to 10 A	100 μ A to 10 A
Max. Resolution	100 pA	100 pA
Accuracy	0.050 + 0.005	0.050 + 0.005
A AC		
Ranges	10 mA to 10 A	100 μ A to 10 A
Max. Resolution	10 μ A	100 pA
Accuracy	0.10 + 0.04	0.10 + 0.04
Frequency	3 Hz to 10 kHz	3 Hz to 10 kHz
Freq/Period		
Ranges	3 Hz to 300 kHz	3 Hz to 1 MHz
Max. Resolution	1 μ Hz	1 μ Hz
Accuracy	0.01 %	0.01 %
Continuity/ Diode Test	Yes	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		
	Zero, Min/Max/Average, Std Dev; mx+b	
dB/dBm	Yes	Yes
Advanced Functions		
Statistics/Histogram	Yes	
Trendplot	Yes	
Limit Test	Yes	
Input Output		
USB Memory	—	USB memory drive port
Real Time Clock	—	Yes
Interfaces	RS 232, IEEE-488.2, Ethernet, USB (with optional adaptor)	
Programming Languages/Modes	SCPI (IEEE-488.2), Agilent 34401A, Fluke 45	
General		
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 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.™*

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