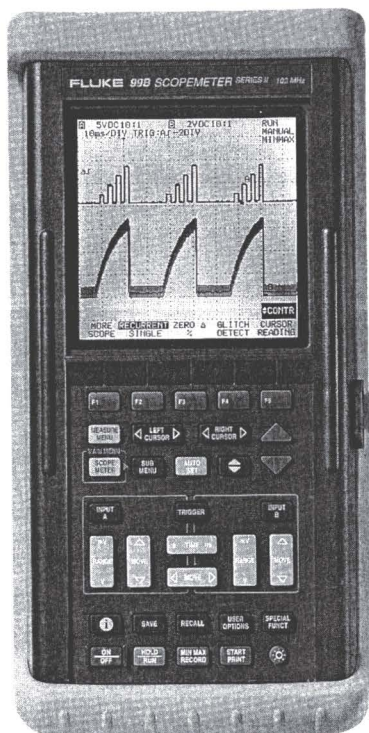


ScopeMeter Test Tools

ScopeMeter® B

**New
Feature**



Fluke 99B

Fluke ScopeMeter 90 Series B is the most powerful family of handheld Digital Storage Oscilloscopes, used by more engineers worldwide than any other in rugged industrial applications.

- Handheld format at just 4 lb. (10.8"H x 5.5"W x 2.5"D) makes it easy to take measurements anywhere for 4 hours on a single charge. Rechargeable batteries and charger included.
- 100 MHz bandwidth dual channel DSO and 5 GS/s repetitive sampling provides excellent signal fidelity.
- Large, high brightness cold cathode fluorescent backlit display has excellent contrast and visibility from dark corners to broad daylight.
- Extensive trigger capabilities include edge, video, event, n-cycle and external triggering. Time delay up to 20 divisions pre-trigger view and up to 640 divisions post-trigger view.
- Video triggering with selectable line number. User selectable 2-Field or 4-Field sequence. Select from NTSC, PAL, PAL/M, SECAM or Non-Interlaced video with line selection up to 3200 lines and line frequency up to 65 kHz.

- ScopeRecord™ with 30k deep memory shows events as long as 125 screens, capturing long events with good time detail. Use for motor starts, complete machine cycles, power systems, UPS systems.
- Extensive memory to save up to 40 user setups, 20 waveforms and 10 screens. Recall instantly for quick reference or printing. See selection chart page for details.
- Versatile cursor measurements include Vmean, true-RMS Vac, Hz, rise/fall time, Vpeak-peak, time between cursors, time at cursors (Time of day or time from start), Vmin-peak, phase, dV between cursors, V at cursors. Measurements can be scaled to Amps.
- ScopeMeter B tools features include continuous autoset, 40 ns Glitch capture and waveform mathematics. Includes add, multiply, filter, subtract, invert and integrate. Instantaneous or mean Watts with optional current probes.

- True-RMS DMM with 3000 count resolution and 0.5% accuracy includes following measurements: Vdc, true-RMS Vac, Hz, duty cycle, pulse width, rpm, dBm, dBV, dBW, Audio or rf watts, amps, temperature, ohms, continuity and diode check
- TrendPlot™ meter logging shows a simultaneous graph of the minimum, maximum and average values of any meter readings, over hours or days. Time and date stamp to help trace and identify intermittent problems
- Optional printer/PC interface and Windows software make documentation tasks simple. (Included in Model 105B)
- Rugged, splash proof design for long life and reliable operation in industrial environments

Safety Conformance

Safety designed for measurements on 600 V industrial power systems with included probes. EN61010-1 Cat III, UL 1244, CSA C22.2 No 1010.1, ANSI/ISA-S 82.01-94.

Specifications

Oscilloscope Specifications				
	105B	99B	96B	92B
Bandwidth	100 MHz	100 MHz	60 MHz	60 MHz
Maximum Repetitive Sample Rate	5 GS/s	5 GS/s	2.5 GS/s	2.5 GS/s
Number of Channels	2 + Ext. Trig	2 + Ext. Trig	2 + Ext. Trig	2 + Ext. Trig
Rise Time	<3.5 ns	<3.5 ns	<5.7 ns	<5.7 ns
Time/Division	5 ns - 60s	5 ns - 60s	10 ns - 60s	10 ns - 60s
Volts/Division	1 mV - 100V	1 mV - 100V	5 mV - 100V	5 mV - 100V
Record Length (bytes)	512/30,000	512/30,000	512/30,000	512
Screen/Waveform/Set-up Memories	10 / 20 / 40	10 / 20 / 40	5 / 10 / 20	- / - / -
Pre and Post Trigger Adjustment in Divisions	-20 to +640	-20 to +640	-20 to +640	-20 to +640
Autoranging True-RMS Multimeter Specifications				
	105B	99B	96B	92B
Number of DMM Channels	1	1	1	1
Display Readout (Basic DC Accuracy 0.5%)	3000 cnts	3000 cnts	3000 cnts	3000 cnts
TrendPlot with Time and Date Stamp	1 channel	1 channel	1 channel	1 channel
General Specifications				
	105B	99B	96B	92B
NiCd Battery Operation & Charger	4 hours	4 hours	4 hours	4 hours
Automatic Setup Measurements	40	40	40	28
Size	2 1/8 x 5 1/2 x 1 1/8"	2 1/8 x 5 1/2 x 1 1/8"	2 1/8 x 5 1/2 x 1 1/8"	2 1/8 x 5 1/2 x 1 1/8"
Weight	4 lb.	4 lb.	4 lb.	4 lb.

ScopeMeter Test Tools

ScopeMeter® B

Use TrendPlot Recording to Find Faults Faster

Intermittent faults are a constant frustration to even the most experienced trouble-shooters. The ScopeMeter B test tool features a TrendPlot function that works like a chart recorder to help identify these faults. It can record any meter reading—including Volts, Amps, temperature, frequency, and resistance—by plotting them over time. And it can display up to 40 days on a single screen, helping you pinpoint variations that last only seconds. The real-time stamp helps you correlate measurements to other events within your environment so you can identify the cause of those faults more quickly.

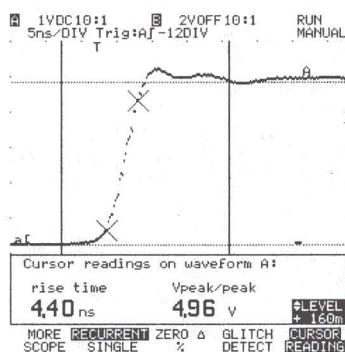


TrendPlot shows voltage drop each day over a 22 day period.

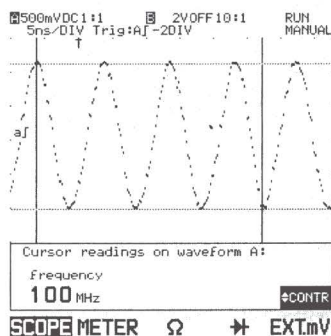
5 GS/s, 200 ps Random Repetitive Sampling for Better Accuracy

Verifying repetitive signals—such as clock pulses, carrier waves, and fast rise time signals—in computing or communications equipment can be difficult because high frequencies are hard to capture. At the higher timebase speeds used to capture

these higher frequencies, ScopeMeter B uses “random repetitive” sampling—the technique used in larger, higher priced lab scopes. This technique takes one or more samples following multiple triggers from a repetitive signal. The microprocessor in ScopeMeter B arranges all the samples and displays them in order. Even at the highest timebase speed of 5 ns/div, each division is represented by 25 true samples. The delivers a 200 picosecond time resolution—the equivalent of a sampling rate of 5 GS/s!



Enough real samples to accurately display this 4 ns rising edge.



25 real samples/division even at 5 ns/division timebase.

Ordering Information

Models

- Flk-105B/003** Fluke 105B 100 MHz ScopeMeter Series II
- Flk-99B/003** Fluke 99B 100 MHz ScopeMeter Series II
- Flk-96B/003** Fluke 96B 60 MHz ScopeMeter Series II
- Flk-92B/003** Fluke 92B 60 MHz ScopeMeter Series II

Included Accessories

Protective holster, Training circuit board, (upon customer registration), Rechargeable NiCad battery pack, Power adapter/battery charger, Soft accessory case, User's manual.

10:1 600V safety-designed probes, Industrial meter test leads, Probe accessory set, Industrial alligator clip, C97B case with Model 105B, FlukeView software for Windows® with 105B.

Visit Fluke on the world wide web at:
<http://www.fluke.com>

1997/
Catalog

Section
3

ScopeMeter® test tool Selection Guide

	Fluke 105B	Fluke 99B	Fluke 96B	Fluke 92B	Fluke 123
Oscilloscope Features					
Bandwidth	100 MHz	100 MHz	60 MHz	60 MHz	20 MHz
Maximum repetitive sample rate	5 GS/s	5 GS/s	2.5 GS/s	2.5 GS/s	1.25 GS/s
Number of channels	2 + Ext. Trig	2 + Ext. Trig	2 + Ext. Trig	2 + Ext. Trig	2
Rise time	<3.5 ns	<3.5 ns	<5.7 ns	<5.7 ns	<17.5 ns
Time/division	5 ns-60 sec	5 ns-60 sec	10 ns-60 sec	10 ns-60 sec	20 ns-60 sec
Volts/division	1 mV-100V	1 mV-100V	5 mV-100V	5 mV-100V	5 mV-500V
Record length (bytes)	512	512	512	512	512
ScopeRecord™ 30k memory	•	•	•		
Screen/waveform/set-up memories	10 / 20 / 40	10 / 20 / 40	5 / 10 / 20	- / - / -	2 / - / 10
Continuous AUTOSET	•	•	•	•	Connect-and-View™
Glitch capture down to 40 ns	•	•	•	•	•
Video triggering; interlaced, NTSC, PAL, SECAM (line and field selectable)	•	•	•	•	•
Video triggering; high resolution video, non-interlaced (line selectable)	•	•	•	•	
External triggering	•	•	•	•	+
Pre and post trigger adjustment in divisions	-20 to +640	-20 to +640	-20 to +640	-20 to +640	-10 to +10
Envelope Mode (Min/Max) and Waveform Smooth	•	•	•	•	•
Measure amps with optional current clamps	•	•	•	•	•
Cursor measurements	•	•	•		
Waveform math (integrate, +, -, filter)	•	•			
Autoranging True-rms Multimeter Features					
Number of DMM channels	1	1	1	1	2
Display readout (basic dc accuracy 0.5%)	3000 counts	3000 counts	3000 counts	3000 counts	5000 counts
Advanced measurements (temp., current, % duty, pulse width, dB, Hz, amps, and more)	•	•	•	•	•
Diode Test and Continuity Beeper	•	•	•	•	•
Min Max TrendPlot with time and date stamp	1 channel	1 channel	1 channel	1 channel	2 channel
DMM measurements with waveform	•	•	•	•	•
Capacitance					50 nF-500 µF
General Features					
High-contrast, gray scaled backlit display	•	•	•	•	•
Waveform and screen image transfers to a PC and remote operation	•	•	•		•
Screen image transfers to a PC	•	•	•	•	•
4 hour NiCad battery operation and charger	•	•	•	•	5 hours
Optically isolated RS-232C interface for printer and PC interface cable optional (included in 105B)	•	•	•	•	•
On-line help (information)	•	•	•	•	
EN61010-1 approved and UL listed for 600 volts rms, CSA certified	•	•	•	•	•
Automatic setup measurements	40	40	40	28	26
Signal generator/component tester output	•	•			
Size (HxWxD)	10.2 x 5.1 x 2.4 in 260x130x60 mm	10.2 x 5.1 x 2.4 in 260x130x60 mm	10.2 x 5.1 x 2.4 in 260x130x60 mm	10.2 x 5.1 x 2.4 in 260x130x60 mm	9.1 x 4.5 x 2.0 in 232x115x50 mm
Weight	4 lb/1.8 kg	4 lb/1.8 kg	4 lb/1.8 kg	4 lb/1.8 kg	2.5 lb/1.2 kg
PC software for Windows + PM 9080 cable	•	+	+		+
Hard carrying case	•	+	+	+	+

- = Standard feature
- + = Option

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