ScopeMeter® Test Tools

FLUKE®

Oscilloscopes for field applications

The ScopeMeter 190 Series of high-end performance oscilloscopes have bandwidth of 60, 100 and 200 MHz and sample rates up to 2.5 GS/s. The 190C Series adds a high-resolution color display that has a fast update rate, waveform pass/fail testing and a digital persistence mode – making the analysis of complex and dynamic signals much easier.

For industrial electronic or electro mechanical applications, the 120 Series Industrial ScopeMeter, with a 20 or 40 MHz bandwidth and Connect-and-View™ triggering for an instant, stable display will get the job done.

Features

	199C	196C	199B	196B	192B	124	123
Oscilloscope Features							
LCD Display	Color		B/W			B/W	
Persistence	Digital		●	●	●		
Waveform reference	●	●	●	●	●		
Automatic pass fail testing	●	●					
Cursors and zoom	●	●	●	●	●	Cursors	
Connect-and-View Triggering	●	●	●	●	●	●	●
Video triggering with line count	●	●	●	●	●	●	●
Selectable pulse width triggering	●	●	●	●	●		
Capture and replay of last 100 screens	●	●	●	●	●		
Dual Input TrendPlot	With cursors and zoom					●	●
Memory for screens and setups	10 screens and setups					20	10
Recorder memories, each can store 100 scope screens, a ScopeRecord or a TrendPlot	2 recorder memories						
1000V Independently floating isolated inputs	●	●	●	●	●		
Meter measurements: VAC RMS, VAC+DC, VDC, Ohms, Continuity, Diode, Amps, Temp. (°C, °F)	●	●	●	●	●	●	●
Waveform mathematics: A + B, A – B, A x B, A versus B (X-Y-mode)	●	●	●	●	●		
Frequency Spectrum Analysis using FFT	●	●					
Capacitance and frequency measurements	-/●	-/●	-/●	-/●	-/●	●/●	●/●
Rugged, Dust and drip proof case.	●	●	●	●	●	●	●
PC and Printer Interface via optically isolated RS-232/USB cable	1)	1)	1)	1)	1)	1)	1)
FlukeView® for Windows® Software (SW90W)	1)	1)	1)	1)	1)	1)	1)

● Standard equipped 1) Optional

Specifications

(Check the Fluke web for detailed specifications)

	199C	196C	199B	196B	192B	124	123
Oscilloscope Specifications							
Bandwidth	200 MHz	100 MHz	200 MHz	100 MHz	60 MHz	40 MHz	20 MHz
Maximum real time sample rate	2.5 GS/s	1 GS/s	2.5 GS/s	1 GS/s	500 MS/s	25 MS/s	
Input sensitivity	2 mV to 100 V/div		5 mV to 100 V/div			5 mV-500 V/div	
Timebase range	5 ns/div to 2 min/div				10 ns/div to 2 min/div	10 ns/div to 1 min/div	20 ns/div to 1 min/div
Inputs and digitizers	2 plus external trigger/DMM input					2	
Independently floating isolated inputs	Up to 1000 V between inputs, references and ground						
Max. record length … in Scope mode: … in ScopeRecord mode:	3.000 points per input 27.500 points per input or more (5 ms/div…2 min/div.)					512 min/max points per input	
Glitch capture	Up to 3 ns using Pulse Width triggering; 50 ns peak detect at 5 µs/div. to 1 min/div.					40 nsec	
Scope measurements	7 cursor+30 automatic					cursors + 26 automatic	26 automatic
True RMS multimeter	5000 counts, single input					5000 counts, dual input	
General Specifications							
Line Power	Adapter/Battery charger included						
Battery power	4 hours NiMH					7 hours NiMH	5 hours NiCad
Size	256 x 169 x 64 mm					232 x 115 x 50 mm	
Weight	2 kg					1.2 kg	
Safety certified (EN61010-1)	1000 V CAT II/600 V CAT III					600 V CAT III	
Warranty	3 years					3 years	

Check the Fluke web site for Technical Specifications and Application Notes for the Fluke ScopeMeters

ScopeMeter® 190 Series

FLUKE®

Fluke 199C

Fluke 196C

Fluke 199B

Fluke 196B

Fluke 192B

Speed, performance and analysis power

For more demanding applications, the ScopeMeter 190 Series high performance oscilloscopes offer specifications usually found on top-end bench instruments. With up to 200 MHz bandwidth, 2.5 GS/s real-time sampling and a deep memory of 27 500 points per input they're ideal for engineers who need the full capabilities of a high performance oscilloscope in a handheld, battery powered instrument.

- Dual input – 60, 100 or 200 MHz models
- Up to 2.5 GS/s real time sampling per input
- Choice between a high resolution Color or Black and White display
- NEW. See even more detail than before. The Fluke ScopeMeter 190 family is now twice as fast with >100/second trace updates rates.
- High waveform resolution of 3000 datapoints per channel
- Digital Persistence for analyzing complex dynamic waveforms like on an analog scope (190C Series only)
- Fast display update rate for seeing dynamic behavior instantaneously
- Connect&View™ automatic triggering, a full range of manual triggering modes plus external triggering.
- Automatic capture and replay of 100 screens
- 27 500 points per input record length using ScopeRecord mode
- Up to 1000 V independently floating isolated inputs
- Waveform reference for visual comparisons and automatic pass/fail testing of waveforms (190C Series only)
- V_{pwm} function for motor drive and frequency inverter applications.
- Waveform mathematics: Add, Subtract and Multiply
- Frequency Spectrum Analysis using FFT (190C)
- Cursors, zoom and real-time clock
- 30 automatic waveform measurements
- Four hours rechargeable Ni-MH battery pack
- Includes a 5000 count true-RMS multimeter and a TrendPlot™ paperless recorder

ScopeMeter for medical applications

The ScopeMeter 190 Series is also available optimized for measurements on medical imaging equipment and video display systems. For more information please visit the Fluke web site.

Automatic capture and replay of 100 screens

Scope users know how frustrating it is to see a one time anomaly flash by never to be seen again. Not with the ScopeMeter 190 Series! Now you can look back in time with a touch of the replay button. In normal use, the instrument continuously memorizes the last 100 screens. Each time a new screen is acquired, the oldest is discarded. At any moment you can "freeze" the last 100 screens and scroll through picture-by-picture or replay as a 'live' animation. Cursors can be used for further analysis. You can even use the advanced trigger capabilities to capture up to 100 specific events. Two sets of 100 captured screens with individual time stamps can be stored for later recall or download to a PC.

LISTED UL CSA True RMS

600V CAT III
On all inputs

ScopeMeter® 190 Series

FLUKE®

See dynamic signal behavior instantaneously

The Digital Persistence mode helps to find anomalies and to analyze complex dynamic signals by showing the waveforms amplitude distribution over time using multiple intensity levels and user selectable decay time – it's as if you're looking at the display of an analog, real time oscilloscope! A fast display update rate reveals signal changes instantaneously, useful for instance when making adjustments to a system under test.

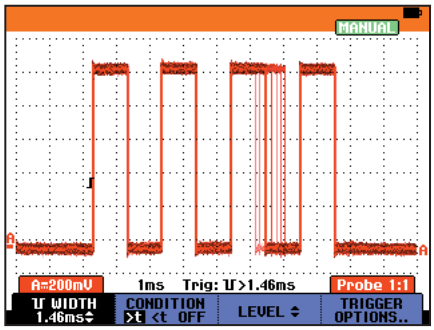
Frequency Spectrum Analysis 190C

All 190C Color ScopeMeters include Frequency Spectrum Analysis on Fast Fourier Transformation (FFT) analysis as a standard feature.
This makes it possible to identify the individual frequency components contained in a signal. The spectrum analysis function is also handy to reveal the effects of vibration, signal interference or crosstalk. An automatic window function assures optimal windowing, although you may manually select your preferred time window.

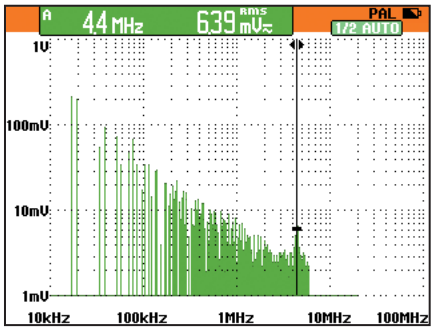
FlukeView® Software for documenting, archiving and analysis

FlukeView® for Windows® helps you get more out of your ScopeMeter by:

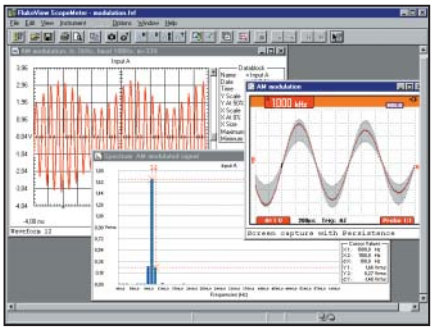
- Documenting – transfer waveforms, screens and measurement data from the ScopeMeter to a PC. Print or import the data into your report
- Archiving – create a library of waveforms with your comments for easy reference and comparison
- Analysis – use cursors, perform spectrum analysis or export data to other analysis programs



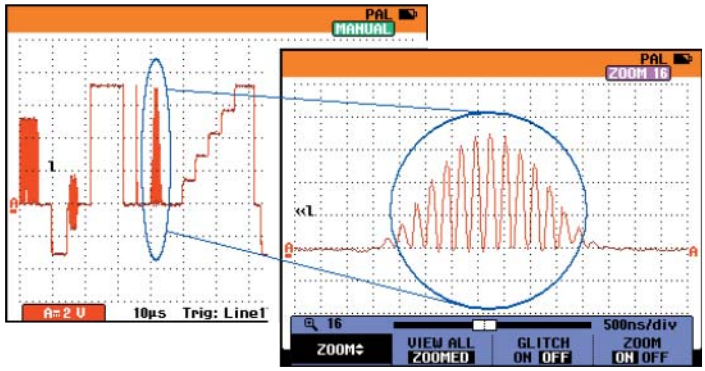
Pulse width fluctuations are clearly visible using Digital Persistence



Frequency Spectrum shows an overview of frequencies contained in a signal.



Fluke ViewScreen



Thanks to the deeper memory, very small parts of the waveform can be studied in full detail using "zoom".

Included Accessories

BC190 Battery Charger
BP190 NiMH Battery Pack
VPS200-G + VPS200-R Voltage Probe
TL75 Hard Point Test Lead Set
user's manual (CD-Rom)

Ordering Information

Fluke 192B	ScopeMeter (60MHz, 500 MS/s)
Fluke 196B	ScopeMeter (100 MHz, 1 GS/s))
Fluke 199B	ScopeMeter (200 MHz, 2.5 Gs/s)
Fluke 196C	Color ScopeMeter (100 MHz, 1 GS/s)
Fluke 199C	Color ScopeMeter (200 MHz, 2.5 GS/s)
Fluke 192B/S	192B + SCC 190 kit option
Fluke 196B/S	196B + SCC 190 kit option
Fluke 199B/S	199B + SCC 190 kit option
Fluke 196C/S	196C + SCC 190 kit option
Fluke 199C/S	199C + SCC 190 kit option
SCC190	FlukeView Software, OC4USB cable, carrying case for Fluke 190B and 190C Series
SW90W	FlukeView Software

Recommended Accessories

SCC190

C195

OC4USB

i400s

SCC198

10458-eng Rev. 07