

ScopeMeter® 190 Series

True-rms

Speed, performance and analysis power



For the 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 bandwidth
- Up to 2.5 GS/s real-time sampling per input
- Connect-and-View™ automatic triggering, a full range of manual trigger modes plus external triggering
- 27 500 points per input record length using ScopeRecord mode
- Automatic capture and replay of 100 screens
- 26 automatic waveform measurements
- Waveform mathematics: Add, subtract and multiply
- Cursors, zoom and real-time clock
- Four hours rechargeable NiMH battery pack
- Up to 1000V independently floating isolated inputs
- Includes a 5000-count true-rms multimeter and a TrendPlot™ paperless recorder

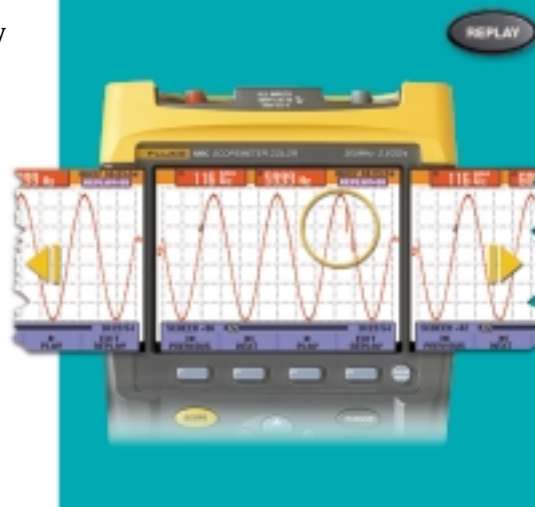
Safety Conformance

All inputs are protected to EN61010-1, CAT III 600V and CAT II 1000V. UL and CSA listed.



Automatic capture and replay of 100 screens

Scope users know how frustrating it is to see an 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.



ScopeMeter for medical applications

The MS190 software and MA190 accessory set extends the capabilities of the 190 Series for use on medical imaging equipment and video display systems.

The MS190 adds mAs measurements, smart averaging, extended offset, selectable persistence and extended video triggering.

The MA190 contains a 1Ω current shunt, a 50Ω BNC feedthrough terminator, a 50Ω BNC terminator with 10:1 signal attenuation and a 1.5m BNC cable.

ScopeMeter® 190C Series

See more, fix more ... with color

New



True-rms



The new ScopeMeter® 190C Series with large, high-resolution, color screen and new Digital Persistence mode give you an even better view of complex waveforms in the most demanding trouble-shooting applications in the field. In addition to the impressive capabilities of the 190 Series, the new color models offer:

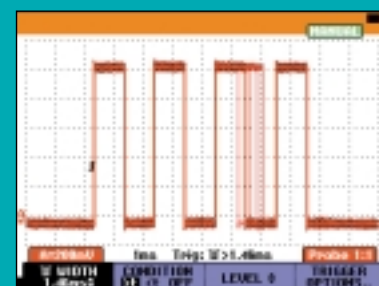
- Color for easy identification of individual waveforms
- Full-size, high-resolution screen for revealing more signal detail
- Digital Persistence for analyzing complex dynamic waveforms like on a analog scope
- Fast display update rate for seeing dynamic behavior instantaneously.
- Stop-on-Trigger in ScopeRecord mode for storing and analyzing pre-trigger waveform data
- Waveform reference for visual comparisons
- V_{pwm} function for motor drive and frequency inverter applications
- New release of FlukeView (V4.0) also supports color screens for more effective waveform analysis and use in documentation

Safety Conformance

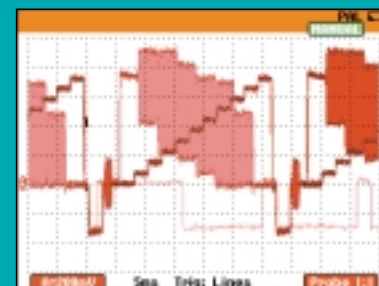
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See dynamic signal behavior instantaneously

The new 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.



Pulse width fluctuations are clearly visible using Digital Persistence



Digital Persistence mode gives analog scope like display of video signals

Accessories and Ordering Information

Included Accessories

199C, 196C, 199, 196 and 192:
Battery charger/line voltage adapter, voltage probe sets and probe accessories, test leads, user manual, rechargeable NiMH battery (installed)
199C, 196C, 199 and 196:
Industrial alligators and 2 mm test probes

Optional Accessories

VPS200-R 10:1 Voltage probe set (red)
VPS200-G 10:1 Voltage probe set (gray)
AS200-R Probe accessory set (red)
AS200-G Probe accessory set (gray)
SW90W FlukeView Software

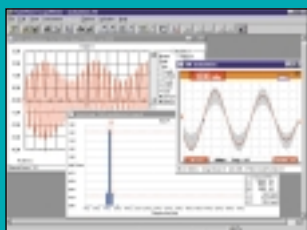
Ordering Information

Fluke 192	ScopeMeter (60MHz, 500 MS/s)
Fluke 196	ScopeMeter (100 MHz, 1 GS/s)
Fluke 199	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 192/S	+ SCC190
Fluke 196/S	+ SCC190
Fluke 199/S	+ SCC190
Fluke 196C/S	+ SCC190
Fluke 199C/S	+ SCC190
SCC190	FlukeView Software, cable, carrying case for Fluke 190 and 190C Series

ScopeMeter® Test Tools

Oscilloscopes for field applications

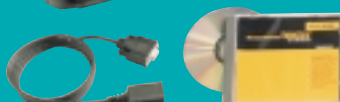
FlukeView® Software for documenting, archiving and analysis



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

ScopeMeters are connected to a PC via an optically-isolated RS-232 interface cable. Software and cable come as separate items or as part of a special value kit. This kit also includes a protective hard shell carrying case for safe and convenient storage of instrument and accessories.



Features

	199C	196C	199	196	192	123
Oscilloscope Features						
LCD Display	Color		B/W			
Persistence	Digital		●	●	●	
Cursors and zoom	●	●	●	●	●	
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					2 screens, 10 setups
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)	●	●	●	●	●	●
Capacitance and frequency measurements						●
Rugged, Dust and drip proof case.	●	●	●	●	●	●
PC and Printer Interface via optically isolated RS-232 Adapter/Cable (PM9080)	1)	1)	1)	1)	1)	1)
FlukeView® for Windows® Software (SW90W)	1)	1)	1)	1)	1)	1)

● Standard equipped 1) Optional

Specifications

	199C	196C	199	196	192	123
Oscilloscope Specifications						
Bandwidth	200 MHz	100 MHz	200 MHz	100 MHz	60 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
Inputs and digitizers	2 plus external trigger/DMM input					2
Independently floating isolated inputs	Up to 1000 V between inputs, references and ground					
Timebase range	5 ns/div to 2 min/div			10 ns/div to 2 min/div		20 ns/div-1 min/div
Input sensitivity	5 mV to 100 V/div					5 mV-500 V/div
Max. record length ... in Scope mode:	1200 points per input		1000 points per input			512 min/max points per input
... in ScopeRecord mode:	27,500 points per input (2 min/div. ... 5 ms/div.)		27,500 points per input (2 min/div. ... 10 ms/div.)			
Glitch capture	50 nsec (5 µsec/div to 1 min/div)					40 nsec
Scope measurements	7 cursor+30 automatic					26 automatic
True RMS multimeter	5000 counts, single input					5000 count, dual input
General Specifications						
Line Power	Adapter/Battery charger included					
Battery power	4 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					