

# ScopeMeter® Test Tools

## Oscilloscopes for field applications

### Features



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.

	199C	196C	199B	196B	192B	125	124	123
<b>Oscilloscope Features</b>								
LCD Display	Color		B/W			B/W		
Persistence	Digital		●	●	●			
Waveform reference	●	●	●	●	●			
Automatic pass fail testing	●	●						
Cursors and zoom	●	●	●	●	●	Cursors	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	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	●	●						
Power measurements and $V_{pwm}$	●	●	●	●	●	●		
Capacitance and frequency measurements	-/●	-/●	-/●	-/●	-/●	●/●	●/●	●/●
Bus Health Test function						●		
Rugged, Dust and drip proof case.	●	●	●	●	●	●	●	●
PC and Printer Interface via optically isolated RS-232/USB cable	1)	1)	1)	1)	1)	1)	1)	1)
FlukeView® for Windows® Software (SW90W)	1)	1)	1)	1)	1)	1)	1)	1)

● Standard equipped 1) Optional

### Specifications

(Check the Fluke web for detailed specifications)

	199C	196C	199B	196B	192B	125	124	123
<b>Oscilloscope Specifications</b>								
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							
Independently floating isolated inputs	Up to 1000 V between inputs, references and ground							
Max. record length	3,000 points per input					512 min/max points per input		
... in Scope mode:	27,500 points per input or more (5 ms/div...2 min/div.)							
... in ScopeRecord mode:	Up to 3 ns using Pulse Width triggering; 50 ns peak detect at 5 μs/div. to 1 min/div.							
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, incl. power and $V_{pwm}$					cursors + 26 automatic		26 automatic
						plus power measurements and $V_{pwm}$		
True RMS multimeter	5000 counts, single input					5000 counts, dual input		
<b>General Specifications</b>								
Line Power	Adapter/Battery charger included							
Battery power	4 hours NiMH					7 hours NiMH		
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® 120 Series

**New**



Fluke 125



Fluke 124



Fluke 123

## Three-in-one simplicity

The compact ScopeMeter 120 Series is the rugged solution for industrial troubleshooting and installation applications. It's a truly integrated test tool, with oscilloscope, multimeter and "paperless" recorder in one affordable, easy-to-use instrument. Find fast answers to problems in machinery, instrumentation, control and power systems.

- Dual-input 40 MHz or 20 MHz digital oscilloscope
- Two 5,000 counts true-RMS digital multimeters
- A dual-input TrendPlot™ recorder
- Bus Health Test for industrial bus systems (Fluke 125)
- Connect-and-View™ trigger simplicity for hands-off operation
- Power Measurements and Harmonics measurement (Fluke 125)
- Shielded test leads for oscilloscope, resistance and continuity measurements
- Up to 7 hours battery operation
- 600 V CAT III safety certified
- Optically isolated interface for PC and Printer connection (optional)
- Rugged, compact case

## Connect-and-View™ triggering for an instant, stable display

Scope users know how difficult triggering can be. Wrong settings show unstable and sometimes wrong results. Fluke's unique

Connect-and-View recognizes signal patterns, and automatically sets up correct triggering. It provides a stable, reliable and repeatable display of virtually any signal - including motor drive and control signals - without touching a button. Signal changes are instantly recognized and settings adjusted for - once again - a stable display.

## Use TrendPlot™ to help find intermittents fast

The toughest faults to find are those that happen only once in a while: intermittents. They can be caused by bad connections, dust, dirt, corrosion or simply broken wiring or connectors. You may not be around to see it - your Fluke ScopeMeter will. In this "paperless recorder" mode, you can plot the minimum and maximum peak values and average over time - up to 22 days (Fluke 190 Series) or 16 days (Fluke 120 Series).

## Bus Health mode (Fluke 125)

Bus Health mode gives a clear "Good/Bad" indication for the electrical signals on industrial buses and networks, such as CAN-bus, Profi-bus, RS-232 and many more. The Fluke 125 validates the quality of the electrical signals as soon as any electrical signals are passed along the network.



On all inputs



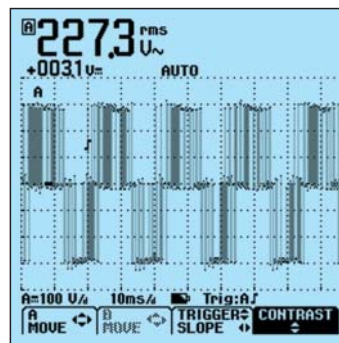
True RMS

## Included Accessories

PM 8907 line adapter/charger, STL120 shielded test leads set (1 red, 1 grey), AC120 Alligator Clips, HC120 Hook Clips, BB120 shielded BNC adapter, BP120MH NiMH battery pack, VPS40 wide bandwidth Voltage Probe (Fluke 124/125), TL75 hard point test lead, i400s current clamp (Fluke 125), Getting Started booklet, user's manual (cd-rom)

## Ordering Information

- Fluke 123 Industrial ScopeMeter® (20MHz)
- Fluke 123/S Industrial ScopeMeter® (20MHz) + SCC120 kit
- Fluke 124 Industrial ScopeMeter® (40MHz)
- Fluke 124/S Industrial ScopeMeter® (40MHz) + SCC120 kit
- Fluke 125 Industrial ScopeMeter (40 MHz)
- Fluke 125/S Industrial ScopeMeter (40 MHz) + SCC120 kit
- SCC120 FlukeView® Software + OC4USB Cable + Carrying Case
- OC4USB USB Interface Cable
- PM9080 RS-232 Interface Cable
- DP120 Differential Voltage Probe
- ITP120 Isolated Trigger Probe
- SW90W FlukeView Software



Connect-and-View captures even the most complex motor drive signals.

BUS RS-232		EIA-232		
Activity:		LIMIT	LOW	HIGH
U-Level High	✓	7.1	30	150V
U-Level Low	✓	-6.8	-150	-30V
Data Baud	⌚	19200	bps	
Rise	✗	4.5	N/A	40%
Fall	!	3.8	N/A	40%
Distortion Jitter	✓	2.3	N/A	50%

Bus Health mode allows for an analysis of the signal quality on an industrial network.

## Recommended Accessories



SCC120



C125



DP120



OC4USB



SCC128

# ScopeMeter® Accessories

## ScopeMeter probes



VPS40



VPS100/200 series



VPS210-R series



VPS210-G series



DP120

	VPS40	VPS200-R	VPS200-G	VPS201	VPS100-R	VPS100	VPS250	VPS121	DP120	PM8918/301
Description	Voltage Probe Set	Voltage Probe Set	Voltage Probe Set	Voltage Probe Set	Voltage Probe Set	Voltage Probe Set	Voltage Probe Set	Voltage Probe	Differential Probe Set	Low Pass Filter Probe
Number and Color	One Black	One Red	One Grey	Red & Grey	One Red	Red & Grey	Red & Grey	One Black	Red & Grey	One Blue
Attenuation	10:1	10:1	10:1	100:1	10:1	10:1	10:1	1:1	200:1, 20:1	10:1
Band Width DC-MHz	40	200	200	200	100	100	75	12	20	4 kHz
Length [m]	1.2	1.2	1.2	1.2	1.2	1.2	2.5	1.2	1.5	2.5
EN 61010-2 CAT II	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	-	1000 V	-
EN 61010-2 CAT III	600 V	600 V	600 V	600 V	600 V	600 V	600 V	300 V	600 V	600 V
ScopeMeter 190 Series		●	●	●	●	●	●	●	●	●
ScopeMeter 120 Series	●						●	● <sup>1)</sup>	● <sup>1)</sup>	● <sup>1)</sup>

1) Using BB 120

	VPS210-R	VPS210-G	VPS212-R	VPS212-G	VPS220-R	VPS220-G	VPS201
Description	Voltage Probe Set		Voltage Probe Set		Voltage Probe Set		Voltage Probe Set
Number and color	1 Red	1 Grey	1 Red	1 Grey	1 Red	1 Grey	1 Black
Attenuation	10:1		10:1		100:1		1:1
Bandwidth DC...MHz	200 MHz		200 MHz		200 MHz		30 MHz
Length (m)	1.2 m		2.5 m		1.2 m		1.2 m
EN 61010-2 CAT II	1000 V		1000 V		1000 V		-
EN 61010-2 CAT III	600 V		600 V		600 V		300 V
ScopeMeter 190 Series	●	●	●	●	●	●	●
ScopeMeter 120 Series			●	●			



PM9091/9092



PM9081



PM9082



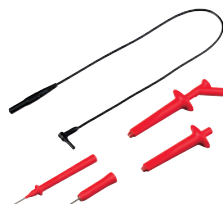
PM9093

	PM9091	PM9092	PM9081	PM9082	PM9093
Description	50 Ω BNC cable set (1Red, 1Grey, 1Black)	50 Ω BNC cable set (1Red, 1Grey, 1Black)	Dual Banana plug male to female BNC	Dual Banana jack male to female BNC	Male BNC to dual female BNC
Length	1.5 m	0.5 m			
EN 61010-2 CAT III	300 V	300 V	300 V	300 V	300 V
ScopeMeter 190 Series	●	●	●	●	●
ScopeMeter 120 Series	● <sup>1)</sup>	● <sup>1)</sup>	●	● <sup>1)</sup>	● <sup>1)</sup>

1) Using BB 120



RS200



AS200-R



OC4USB



PM9080



PM9090

RS200	Probe Replacement Set for VPS Series Probes
AS200-R	Probe Accessory Set, Red for VPS Series Probes
AS200-G	Probe Accessory Set, Grey for VPS Series Probes
PM9080	Optical Interface Adapter Cable for serial port
OC4USB	Optical Interface Adapter Cable for USB Port
PM9090	Probe Pin Grabber Flexible Clip for VPS Series Probes
PM9094	Mini Testhook Set for PM8918 Probes
PAC91	Printer Adapter Cable

Battery Packs	
PM9086	NiCd Battery Pack for 90 Series
BP120MH	NiMH Battery Pack for 120 Series + 43B
BP190	NiMH Battery Pack for 190 + 430 Series

All accessories have a one year warranty