Keysight Technologies
Handheld Digital Oscilloscopes

Competitive Comparison



Compare and see how our handhelds outperform Fluke models

KEYSIGHT TECHNOLOGIES

The U1610A/U1620A Handheld Oscilloscope

- World's first VGA display handheld oscilloscopes with two isolated channels
- Optimized viewing under all lighting conditions with three selectable viewing modes (indoor, outdoor, night vision mode)
- Fast sampling rate and deep memory depth to capture even the most subtle details

Performance	Keysight U1610A**	Keysight U1620A**	Fluke 190-102*	Fluke 190-202*
UI language	10 selectable languages	10 selectable languages	English only	English only
Display	5.7" VGA TFT LCD color display (640 x 480 pixels)	5.7" VGA TFT LCD color display (640 x 480 pixels)	6" LCD color display (320 x 240 pixels)	6" LCD color display (320 x 240 pixels)
Display viewing mode	Indoor, Outdoor, Night Vision	Indoor, Outdoor, Night Vision	Single mode	Single mode
No. of channel	2	2	2	2
Bandwidth	100 MHz	200 MHz	100 MHz	200 MHz
Rise time	3.5 ns	1.7 ns	3.5 ns	1.7 ns
Independently floating isolated input	Yes	Yes	Yes	Yes
Input coupling	AC, DC	AC, DC	AC, DC	AC, DC
Floating input voltage	CAT III 600 V	CAT III 600 V	CAT III 1000V, CAT IV 600 V	CAT III 1000V, CAT IV 600 V
Input sensitivity	2 mV/div to 50 V/div	2 mV/div to 50 V/div	2 mV/div to 100 V/div	2 mV/div to 100 V/div
Maximum sampling rate (real time)	1 GSa/s (500 MSa/s for each channel)	2 GSa/s (1 GSa/s for each channel)	1.25 GSa/s for each channel	2.5 GSa/s (2 channels)
Recording length (Scope mode)	120 Kpts/channel interleave (60 Kpts/channel non-interleave}	2 Mpts/channel interleave (1 Mpts/channel non-interleave)	10 kpts for each channel	10 kpts for each channel
Time base range	5 ns/div to 50 s/div	2 ns/div to 50 s/div	5 ns/div to 4 s/div	2 ns/div to 4 s/div
Triggering	Edge, Glitch, TV, Nth Edge, CAN, LIN	Edge, Glitch, TV, Nth Edge, CAN, LIN	Edge, delay, dual slope, video, pulsewidth, Automatic Connect and View, N-cycle	Edge, delay, dual slope, video, pulsewidth, Automatic Connect and View, N-cycle
TV/Video Triggering	NTSC, SECAM, PAL, PAL-M, HDTV 720P, HDTV 1080P, HDTV 1080i	NTSC, SECAM, PAL, PAL-M, HDTV 720P, HDTV 1080P, HDTV 1080i	NTSC, PAL, PAL+, SECAM	NTSC, PAL, PAL+, SECAM
FFT	Yes	Yes	Yes	Yes
Internal memory for waveform storage	Up to 10 setups and traces	Up to 10 setups and traces	100 screen capture	100 screen capture
Meter function	Yes	Yes	Yes	Yes
Meter resolution	10,000 counts	10,000 counts	5,000 counts	5,000 counts
Basic dcV accuracy	0.09% + 2	0.09% + 2	0.5% + 5	0.5% + 5
Logger function	Yes (up to 8 days)	Yes (up to 8 days)	Yes (48 hours)	Yes (48 hours)
Connectivity	USB 2.0	USB 2.0	Mini USB	Mini USB
USB host for thumb drive	Yes	Yes	Yes	Yes
Operating time on a fully-charged battery	3 hours	3 hours	4 hours	4 hours
Warrant	3 years	3 years	3 years	3 years

* Fluke 190-102 and Fluke 190-202 specifications (Reference: 4/2011 3801685B A-EN-N) were downloaded from www.fluke.com on November 15, 2011.
** Keysight U1610A and U1620A Handheld Digital Oscilloscope Data Sheet, literature number: 5990-9523EN
Product specifications and descriptions in this document are subject to change without notice.



The U1600 Series Handheld Oscilloscopes

- Integrated with a built-in DMM and data logger
- Engineered with fast sampling rate and deep memory depth
- Packed in a robust package with up to 4 hours battery life

Performance	Keysight U1602B**	Keysight U1604B**	Fluke 123*	Fluke 124*
Display	4.5" color LCD	4.5" color LCD	4" monochrome LCD	4" monochrome LCD
No. of channel	2	2	2	2
Bandwidth	20 MHz	40 MHz	20 MHz	40 MHz
Rise time	17.5 ns	8.8 ns	17.5 ns	8.75 ns
Input coupling	AC, DC, GND	AC, DC, GND	AC, DC, GND	AC, DC, GND
Input sensitivity	5 mV/div to 100 V/div	5 mV/div to 100 V/div	5 mV/div to 50 V/div	5 mV/div to 50 V/div
Maximum sampling rate (real time)	100 Msa/s	200 Msa/s	25 Msa/s	25 Msa/s
Recording length (Scope mode)	125 kpts	125 kpts	512 Min-Max points per input	512 Min-Max points per input
Time base range	10 ns/div to 50 s/div	10 ns/div to 50 s/div	20 ns/div to 1 min/div	10 ns/div to 1 min/div
Triggering	Edge, pattern, pulsewidth, video	Edge, pattern, pulsewidth, video	Connect-and View, edge, single-shot, video, video line	Connect-and View, edge, single-shot, video, video line
FFT	Yes	Yes	-	-
Glitch/Peak detect	5 ns	5 ns	40 ns	40 ns
Internal memory for waveform storage	Up to 10 setups and traces	Up to 10 setups and traces	Up to 10 screens with user setup	Up to 20 screens with user setup
Meter function	Yes	Yes	Yes	Yes
Meter resolution	6,000 counts	6,000 counts	5,000 counts	5,000 counts
Basic dcV accuracy	0.30%	0.30%	0.50%	0.50%
Logger function	Yes (up to 20 days)	Yes (up to 20 days)	Yes (up to 16 days)	Yes (up to 16 days)
Connectivity	USB 2.0	USB 2.0	Optional optical isolated interface	Optional optical isolated interface
USB host for thumb drive	Optional	Optional	-	-
Operating time on a fully-charged battery	4 hours	4 hours	7 hours	7 hours
Warranty	3 years	3 years	3 years	3 years

* Fluke 123 and Fluke 124 specifications (Reference: 4/2007 1629083 D-EN-N Rev F) were downloaded from www.fluke.com on November 15, 2011.
** Keysight U1602B and U1604B Handheld Digital Oscilloscope Data Sheet, literature number: 5989-5576EN
Product specifications and descriptions in this document are subject to change without notice.

KEYSIGHT TECHNOLOGIES

This information is subject to change without notice.
© Keysight Technologies, 2011-2014
Published in USA, August 1, 2014
5990-9530EN
www.keysight.com