velleman® INSTRUMENTS

DIGITAL OSCILLOSCOPES RANGE	HPS10 / HPS10SE	HPS40	APS230	PCS100	PCS500
Number of channels	1	1	2	1	2
Maximum sample rate	**10MS/s**	**40MS/s**	**2 x 240MS/s**	**32MS/s**	**2 x 1GS/s**
Maximum bandwidth	**up to 2MHz**	**up to 12MHz**	**30MHz (ex. 1&2mV)**	**12MHz all ranges**	**50MHz all ranges**
Real time sample rate (single shot event)	1MS/s	5MS/s	2 x 60MS/s	32MS/s	2 x 50MS/s
Number of screen layout modes	**5**	**5**	**5**	1	1
LCD screen / PC signal screen size (pixels)	128x64	192x112	192x128	apr. 520x295	apr. 520x295
LCD backlight	White/Blue for **SE** version	☑	WHITE	/	/
Memory length (bytes)	256	256	256	**4096**	**2 x 4096**
Sensitivity Vpp	0.1mV	0.1mV	0,03mV	0.3mV	0.1mV
Volt /div range and number of steps	5mV to 20V / 12steps	5mV to 20V / 12steps	1mV to 20V / 14 steps	10mV to 3V / 6 steps	5mV to 15V / 8 steps
Maximum visible voltage with X 10 probe	600VDC incl ACp	600VDC incl ACp	600VDC incl Acp	120VDC incl ACp	600VDC incl Acp
Fastest time / div	**0.2µs**	**0.05µs**	**0.025µs**	**0.1µs**	**0.02µs**
Slowest time / div in recorder or roll mode	3600s	3600s	3600s	2000s	2000s
Data or screen capture to computer		☑ **RS232**	☑ **RS232**	☑	☑
PC software	/	Download only	Download only	PC-Lab2000 CD	PC-Lab2000 CD
Operation through computer (LPT port)			Yes opto- RS232	**Optical isolated LPT**	**Optical isolated LPT**
Screen memories	**2**	**2**		PC harddisk	PC harddisk
Stand alone operation (portable)	☑	☑	☑		
Standard oscilloscope probe compatible	☑	☑	☑	☑	☑
Recorder mode	☑	☑	☑	☑	☑
Spectrum analyser mode				☑	☑
Bode plot option if used with PCG10 generator	/	/	/	☑	☑
X position and Y position shift	☑	☑	☑	☑	☑
X 10 probe calculation option	☑	☑	☑		
Adjustable trigger level		☑	☑	☑	☑
External trigger input			Via other channel		☑
Pre trigger function			☑		☑
Zoom function for time/div				☑	☑
Screen memory compare / recall	☑	☑		☑	☑
DVM with X10 probe option	☑	☑	☑		
Auto set-up FULL	☑	☑	☑		
Auto set-up SEMI				☑	☑
Dynamic screen (auto fit) for markers	☑	☑			
Signal markers (dt / dV / 1/dt)	☑	☑	☑	☑	☑
Audio power calculation	☑	☑	☑		
Gain measurement	/	/	☑	/	/
dBm measurement	☑	☑	☑	☑	☑
dBV measurement	☑	☑	☑		
AC only true rms measurement	☑	☑	☑	☑	☑
AC + DC true rms measurement	☑	☑	☑		
DC measurement with zero reference set-up	☑	☑	☑		
Mathematical functions CH1+Ch2, Invert...					☑
Auto power off option	☑	☑	☑	/	/
Demo mode	☑	☑		☑ (software)	☑ (software)
Battery / rechargeable battery operation	☑	☑	Included		
Low battery indication	☑	☑	☑	/	/
Battery charge circuit	☑	☑	Fast	/	/
Holster included (BAGHPS)	☐	☑		/	/
Case (GIB)	/	/	☐	☐	☐
Oscilloscope probe included (PROBE60S)	☑	☑	☑	☑	☑
Hard carrying case (CASEHPS)	SE version	☑	/	/	/
upgradeable firmware	/	/	☑	/	/
upgradeable software	/	/	/	☑	☑

☐ = Option