

# Virtual Instrument Package 8098535 (1250-20)

**FESTO**

LabVolt Series

Datasheet



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### General Description

The Virtual Instrument Package replaces conventional desktop test equipment with a powerful, space-saving, virtual instrumentation package that gives students state-of-the-art tools to measure, analyze, observe, and display the results of electronic circuit tests.

Fully integrated with the FACET<sup>®</sup> Electronics Training program, the Virtual Instrument Package enables students to conduct all experiments of the FACET<sup>®</sup> curriculum. The complete Virtual Instrument Package consists of an interface unit for data acquisition connections, and a Windows-based software.

The interface is connected to the computer via a USB connection. The software displays the various instruments in separate windows and includes the following virtual instruments and signal source: a dual-channel oscilloscope, a multimeter, a spectrum analyzer, and a waveform generator.

#### Complete software suite

The complete Virtual Instrument Package consists of an interface unit for data acquisition connections, and a Windows-based software. The interface is connected to the computer via a USB connection.

This package operates under any one of the following Microsoft Windows operating systems: Windows 7, Windows 8, and Windows 10. It is also possible to interface the unit with MATLAB<sup>®</sup> and LabVIEW<sup>®</sup> software for advanced control and analysis.

#### The interface unit

The Virtual Instrument unit is a lightweight, compact interface module powered from a standard AC power wall outlet.

On the front panel of the Virtual Instrument unit, two BNC connectors and a pair of safety banana sockets provide access to the various virtual instruments. A third BNC connector provides the signal generator output. A BNC connector on the back panel of the Virtual Instrument unit is the access to the external trigger input of the virtual oscilloscope.

The Virtual Instrument unit samples the signals applied to its various inputs to provide raw signal data that is used by the virtual instrument software to measure, filter, and display the input signals. The high sampling rate of 1 GS/s provides the Virtual Instrument unit a 250 MHz bandwidth that is amply sufficient for the observation and analysis of the various signals in the FACET<sup>®</sup> Electronics Training program.

The Virtual Instrument unit also generates signal samples (data) that are converted to analog format to produce the output signal. Data exchange between the Virtual Instrument unit and the host computer that runs the virtual instrument software is through a USB link (USB 1.1 and 2.0 compatible).

### Specifications

Parameter	Value
<b>Oscilloscope / Channels</b>	
Nb channel	2ch
Type	BNC
Sampling rate	500 MS/s max
Range	±200mV to ±80V
Resolution	8, 12, 14, 16 bits, user selectable
Impedance	1 MΩ, 25pF

Parameter	Value
<b>Oscilloscope / Trigger</b>	
Source	Ch1, Ch2, External
Mode	Rising, Falling, inside/outside window
Level	0 to 100 % of full scale
<b>DMM / Voltage mode</b>	
Range	$\pm 200\text{mV}$ to $\pm 80\text{V}$
Accuracy	2% of full scale
Impedance	1 M $\Omega$ , 30pF
Protection	200 V
<b>DMM / Current mode</b>	
Range	20mA to 400mA
Accuracy	2% of full scale
Protection	electronic, self restoring fuse, 500mA
<b>DMM / Resistance mode</b>	
Range	100 $\Omega$ to 2M $\Omega$
Accuracy	3% of full scale
<b>Signal generator</b>	
Output channel	1 analog, BNC
Resolution	12 bits
Signal type	Sine, square, triangle, arbitrary
Frequency range	0.1 to 20 MHz
Amplitude range	0.12, 1.2, 12 V
Accuracy	0.4 % of full range
Impedance	50 $\Omega$

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