Keysight M9181A
Basic Features PXI DMM

Industries and Applications

- Aerospace and defense
- Automotive
- Electronic test

Product Description

The Keysight Technologies, Inc. M9181A 6½ digit PXI digital multimeter (DMM) offers the most common measurement functions at an affordable price. The M9181A provides six built-in measurement types with all the reliability and stability you would expect from a Keysight PXI DMM.

Main Features and Benefits

Product features	Your benefits
Basic DCV accuracy of 90 ppm	Measurements you can trust
Measurements: DCV, ACV, DCI, ACI 2- & 4-wire Ω	Basic digital multimeter measurements for the most common measurement applications
Software drivers to support the most common programming environments	Work in your environment of choice and reduce development time
Soft front panel and Keysight Connection Expert	Fast and easy installation, configuration, and calibration

Comparison of Keysight PXI DMM Models

	M9181A	M9182A	M9183A
Resolution	6½ digits		
Maximum reading rate at 4 1/2 digits	150 rdgs/s	4,500 rdgs/s	15,000 rdgs/s
Measurements and functions	DCV, ACV, DCI, ACI, 2-wire Ω, 4-wire Ω	All M9181A measurements, plus frequency/period, temperature, and capacitance	All M9182A measurements plus duty cycle, counter/totalizer, DC source
Basic DCV accuracy	90 ppm	40 ppm	
Maximum DCV range	200 V	300 V	
Triggering	Immediate	Immediate, analog threshold (pre- and post-trigger), PXI trigger bus	

Selected Specifications and Characteristics

Hardware	M9181A
Resolution	6½ digit
DCV basic 1-year accuracy	90 ppm
Maximum reading rate (4½ digits)	150 rdgs/s
Floating Isolation (CAT II)	240 V
Connector Compatibility	PXI-1 (J-1)

Measurement ranges	
DCV, ACV; 4 ranges	200 mV to 200 V
DCI, ACI; 4 ranges	2 mA to 2 A
2- and 4-wire resistance; 6 ranges	200 Ω to 20 MΩ

Specifications and Characteristics

Sensitivity		
Function	Lowest range	Sensitivity
DCV	200.0000 mV	100 nV
ACV	200.0000 mV	100 nV
Resistance	20.0000 Ω	100 µΩ
DCI	2.000000 mA	10 nA
ACI	2.000000 mA	1 nA

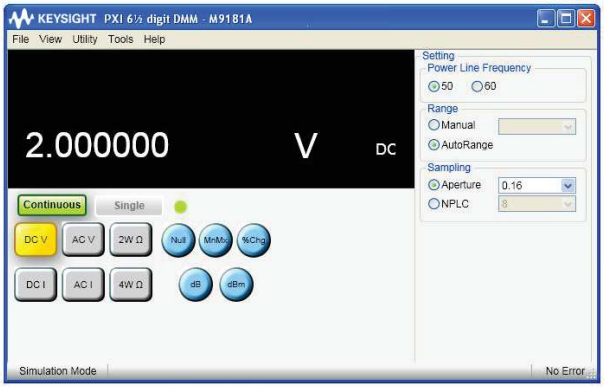
Resolution vs. aperture and reading rate for DCV, DCI, Ω		
Measurement aperture	Maximum readings per second	Resolution
1.28 s	0.8	6½ Digits (21 bits)
160 ms	6	6 Digits (20 bits)
20 ms	45	5½ Digits (18 bits)
10 ms	85	5 Digits (17 bits)
5 ms	150	4½ Digits (16 bits)

System Requirements	
Operating systems	Microsoft Windows XP, Microsoft Windows Vista, Microsoft Windows 7 (32/64 bit)

Software	
Software development platform	Visual Studio (C, C++, C#, Visual Basic) LabVIEW, MATLAB
Included GUI	Soft front panel
Application code examples	C/C++, C#, Visual Basic

Soft Front Panel

The soft front panel provides easy to use instrument control. The M9181A graphical user interface guides developers through module setup so users can quickly configure the DMM. Use the soft front panel to perform yearly calibration, if desired.



Ordering Information

Model	Description
M9181A	PXI digital multimeter, 6½ digit, basic features
Accessories	
34138A	Test lead set
Related Products	
M9018A	18 slot PXI chassis
M9021A	PXIe system interface
M9101A	PXI high-density multiplexer, 64 ch, reed relays
M9120A	PXI matrix switch, 4 x 32, armature relays
M9182A	PXI multimeter, 6½ digit, high performance
M9183A	PXI multimeter, 6½ digit, enhanced performance

www.keysight.com/find/modular
www.keysight.com/find/pxi-dmm
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