Agilent M9182A/M9183A High-Performance PXI DMMs

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Industries and Applications

- Aerospace/defense
- Automotive
- Electronic test
- Medical
- Semiconductor

Product Description

Agilent's M9182A and M9183A 6½ digit high-performance PXI digital multimeters offer fast development, fast operation, and reliable results. The M9182A provides nine built-in measurement types with all the accuracy and stability you would expect from an Agilent 6½ digital multimeter (DMM). The M9183A provides the same capabilities as the M9182A plus market-leading measurement speed, additional ranges, and advanced triggering.

Models	
M9182A	PXI Digital Multimeter, 6½ Digit
M9183A	PXI Digital Multimeter, 6½ Digit, Enhanced Performance

Product features	Your benefits
Measurement speeds up to 15,000 readings/second; single reading interval time: 66 µs	Fast single reading test throughput saves functional test time, especially when taking several different measurements with the DMM
Basic DCV accuracy of 40 ppm	Measurements you can trust
Measurements: DCV, ACV, DCI, ACI, 2 & 4-wire Ω, frequency/period, temperature, capacitance	Reduces instrumentation and accessories required
Software drivers support the most common programming environments	Work in your environment of choice and reduce development time
Soft front panels and Agilent connection expert	Fast and easy installation and configuration

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Specifications and Characteristics

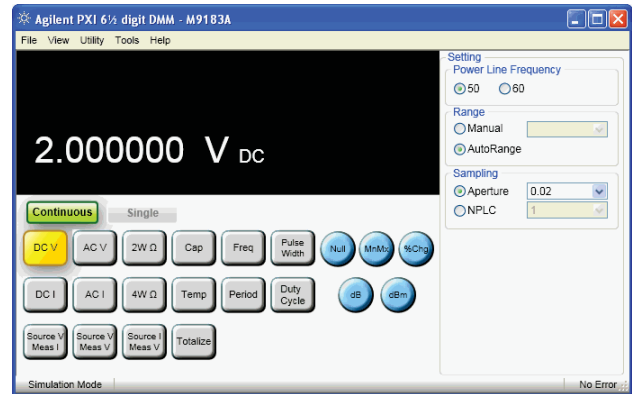| Hardware	M9182A	M9183A
Resolution	6½ digit	6½ digit
DCV basic 1-year accuracy	40 ppm	40 ppm
4½ digit rdg/s	4,500	15,000
Triggering	External, threshold level, pre- or post-	
Measurement ranges		
DCV, ACV	200 mV to 300 V	200 mV to 300 V
DCI	2 mA to 2 A	200 nA to 2 A
ACI	2 mA to 2 A	2 mA to 2 A
2 & 4-wire resistance	200 Ω to 20 MΩ	20 Ω to 200 MΩ
Frequency/period	1 Hz to 300 kHz	1 Hz to 300 kHz
Capacitance	1 nF to 10 mF	1 nF to 10 mF
Temperature	Thermocouple (B, E, J, K, N, R, S, T), RTD (6 types), Thermistor (2.25 kΩ, 5 kΩ, 10 kΩ)	

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Specifications and Characteristics

Hardware *continued*	M9182A	M9183A
Other measurements	n/a	Offset compensated ohms, pulse width & duty cycle, totalizer/event counter
DC Source	n/a	± 10 V, ± 12 mA
Floating isolation (Cat-II)	300 Vrms	300 Vrms
Connector compatibility	cPCI, PXI-H, PXI-1	
Sensitivity		
Function	Lowest Range	Sensitivity
DCV	200.0000 mV	0.1 µV
ACV	200.0000 mV	0.1 µV
Resistance (M9183A)	20.00000 Ω	10 µΩ
Resistance (M9182A)	200.0000 Ω	100 µΩ
DCI (M9183A)	200.0000 nA	0.1 pA
DCI (M9182A)	2.000000 mA	10 nA
ACI	2.000000 mA	1 nA
Capacitance	1000.0 pF	0.1 pF

Resolution vs. aperture and reading rate for DCV, DCI, Ω

Measurement aperture	Maximum readings per second	Resolution
10 ms	98	6½ digits (22 bits)
625 µs	1,200	5½ digits (18 bits)
130 µs	4,500	4½ digits (14 bits)
2.5 µs (M9183A only)	15,000	4½ digits (14 bits)

System requirements

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

Software

Software development platform	Visual Studio® (VB.NET, C#, C/C++), LabVIEW, LabWindows/CVI, VEE, MATLAB
Included GUI	Soft front panel
Application code examples	C/C++®, Visual Basic®

Soft Front Panel

Agilent soft front panel provides easy to use instrument control. The M9182A and M9183A graphical user interface guides developers through module setup so users can quickly configure the DMM.

Ordering Information

Model	Description
M9182A	PXI Digital Multimeter-6½ Digit
M9183A	PXI Digital Multimeter-6½ Digit, Enhanced Performance

Accessories	
34138A	Test Lead Set

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