



# Agilent M9181A Basic Features PXI DMM

**DISCOVER** the Alternatives...

## Industries and Applications

- Aerospace and defense
- Automotive
- Electronic test

## Product Description

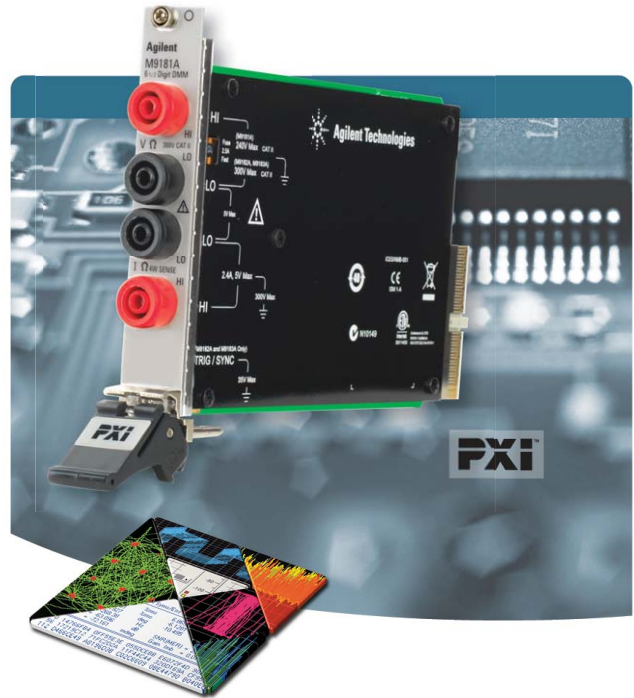
The Agilent M9181A 6½ digit PXI digital multimeter (DMM) offers the most common measurement functions at an affordable price. The M9181A provides six built-in measurement types with all the reliability and stability you would expect from an Agilent PXI DMM.

## Main Features and Benefits

| Product features   | Your benefits  |
|--|--|
| Basic DCV accuracy of 90 ppm   | Measurements you can trust   |
| Measurements: DCV, ACV, DCI, ACI<br>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 Agilent Connection Expert                       | Fast and easy installation, configuration, and calibration                         |

## Comparison of Agilent PXI DMM Models

|                                    | M9181A                                 | M9182A   | M9183A  |
|------------------------------------|--|--|---|
| Resolution                         | 6½ digits                              |  |   |
| Maximum reading rate at 4 ½ 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         |   |



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## 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)     |
| <b>Measurement ranges</b>          |                 |
| 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  |



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## Specifications and Characteristics

| Sensitivity |                  |                 |
|-------------|------------------|-----------------|
| Function    | Lowest range     | Sensitivity     |
| DCV         | 200.0000 mV      | 100 nV          |
| ACV         | 200.0000 mV      | 100 nV          |
| Resistance  | 20.0000 $\Omega$ | 100 $\mu\Omega$ |
| DCI         | 2.000000 mA      | 10 nA           |
| ACI         | 2.000000 mA      | 1 nA            |

### Resolution vs. aperture and reading rate for DCV, DCI, $\Omega$

| 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) |
|-------------------|---|

## 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   |

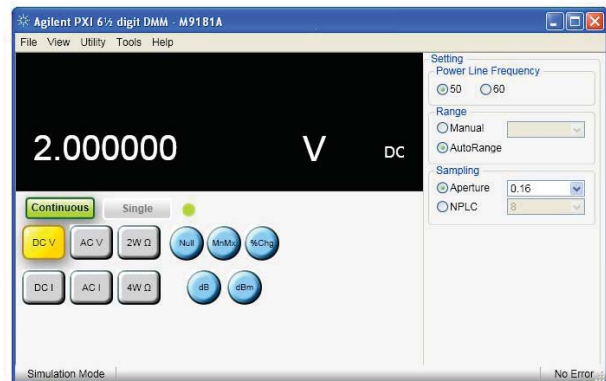
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## Software

|                               |  |
|-------------------------------|--|
| 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.



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