



# M9186A PXI Isolated Single Channel Voltage/Current Source

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## Industries and Applications

- Automotive
- Electronic test

## Product Description

The M9186A is a two-slot, PXI based V/I source module that enables the sourcing of a voltage or a current to perform measurements on the resultant current or voltage through another module. It consists of two separate amplifiers, denoted “low” and “high” that share a common output connection. The “low” amplifier provides voltages in the range of 16 V at up to 200 mA and the “high” amplifier provides voltages in the range of 100 V at up to 20 mA.

Typical applications for the low-voltage amplifier include I/O pin parametric leakage, bias current, impedance, threshold and clamp voltage. The high voltage amplifier can be applied to help verify the presence of clamp diodes as the outputs of modules that drive inductive loads. Both amplifiers can sense the amount of current flowing while forcing a constant voltage.

A unique feature is the safety interlock for high-voltage amplifiers that automatically disables the high-voltage amplifier and opens all relays when the interlock circuit is broken, providing protection to the device under test during the presence of high voltages.



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## Models

M9186A Isolated single channel V/I source

## Main Features and Benefits

Product features	Your Benefit
Large voltage-current range 16 V at 200 mA to 100 V at 20 mA	Enables device under test characterization required in parametric testing of device under test I/O pin
SENSE input	Enables accurate power source supply to device under test
Safety interlock	Protects the device under test from damage due to high voltages
Chassis slot compatibility: cPCI (J1, J2), PXI-1, PXIe Hybrid	

## Specifications and Characteristics

### Hardware

Size	2 slots, 3 U
Resolution	16 bit
Accuracy	$\pm 16$ V up to 200 mA: 0.02 % + 3 mV
	-10 to + 100 V at up to 20 mA: 0.02 % + 40 mV

### Voltage Source Accuracy (% of output + offset)

16 V Range	Up to 200 mA: 0.02 % + 3 mV
	Current Sense using the SENSE pin with respect to OUTPUT:
	200 mA range: 1.5 % + 500 $\mu$ A
	20 mA range: 0.5 % + 50 $\mu$ A
	2 mA range: 0.5 % + 10 $\mu$ A
	200 $\mu$ A range: 0.3 % + 5 $\mu$ A
-10 to + 100 Range	Up to 20 mA: 0.02 % + 20 mV
	Current Sense using the SENSE pin with respect to OUTPUT: 0.75 % + 300 $\mu$ A

### Current Source Accuracy (% of output + offset)

$\pm 200$ mA Range	0.3 % + 500 $\mu$ A (Over $\pm 16$ V)
$\pm 20$ mA Range	0.1 % + 50 $\mu$ A
$\pm 2$ mA Range	0.3 % + 5 $\mu$ A
$\pm 200$ $\mu$ A Range	0.1 % + 0.5 $\mu$ A
$\pm 20$ mA Range	0.2 % + 200 $\mu$ A (Over -10 to +100 Vdc)



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## Software

The M9186A single channel V/I source module is supplied with a comprehensive portfolio of module drivers, documentation, examples, and software tools to help you quickly develop test systems with your software platform of choice. Support includes Microsoft® development environments like C/C++, C#, or VB.NET, LabVIEW and LabWindows/CVI software platforms from National Instruments as well as MATLAB from The MathWorks.

To help you get started and complete complex tasks quickly, the module software support provides context sensitive help, complete documentation and code examples that allow a quick module set up and basic acquisition functionalities. These code examples can be easily modified, so that the card can be quickly integrated into a measurement system. In addition, the M9186A includes a soft front panel graphical interface. This simple software application can be used to control, verify the functionality and explore the capabilities of the Agilent V/I source module.

Supported operating systems	Windows® XP (32-bit) Windows Vista® (32-bit/64-bit) Windows 7 (32-bit/64-bit)
Included device drivers	IVI-COM, IVI-C, LabVIEW G
Included GUI	Soft front panel

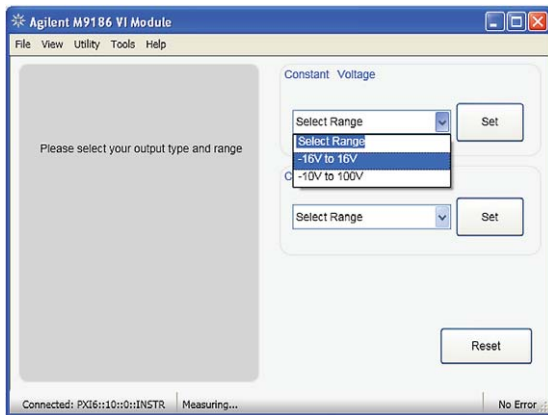


Figure 1. Module configuration - Constant Voltage

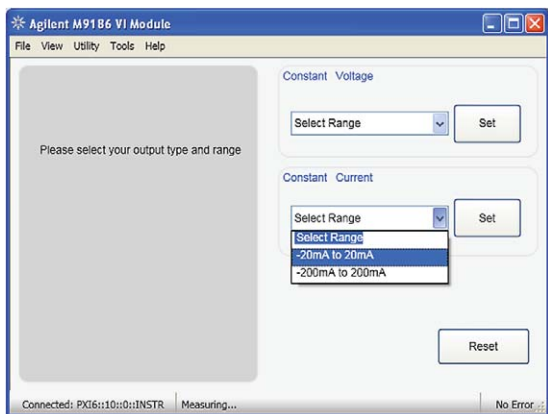


Figure 2. Module configuration - Constant Current

## Ordering Information

Model	Description
M9186A	M9186A PXI isolated single channel voltage/current source, 100 V

### Advantage Services: Calibration and Warranty

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