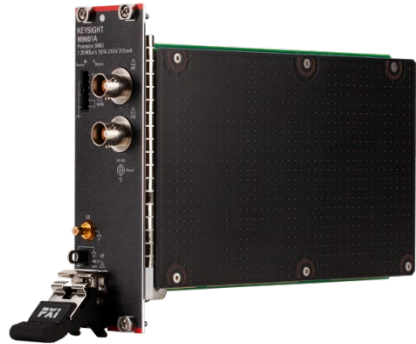


## M9601A PXIe Precision Source / Measure Unit, 1.25 MSa/s, 10 fA, 210 V, 315 mA

The high-performance PXIe source / measure unit (SMU) enables faster precise dynamic measurement from DC to 20  $\mu$ s pulse, output up to 210 V/315 mA, and 10 fA resolution.



### Key Features

- symmetry 4-quadrant and wide range operation up to 210 V and 315 mA
- best-in-class 10 fA /500 nV resolution
- narrow pulse width to 20  $\mu$ s
- fast transient response — 150  $\mu$ s (from 0 V to 200 V); settling time with 1.4 V/ $\mu$ s maximum slew rate
- fast sampling rate up to 1.25 MSa/s with 1 Mpts memory depth

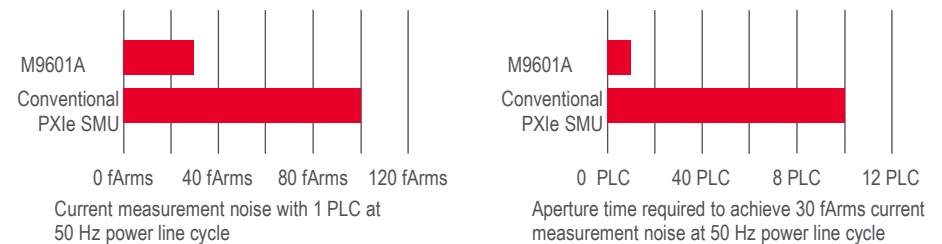
### Typical Applications

- optical devices (laser diodes, photo diodes, LED)
- semiconductor devices (FET, diodes, transistors)
- resistors, diodes, varistors, and other component devices

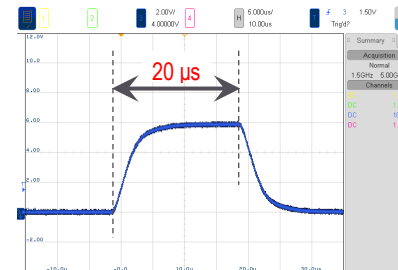
Learn more at: [www.keysight.com](http://www.keysight.com)

### Low current measurement noise performance reduces the measurement time

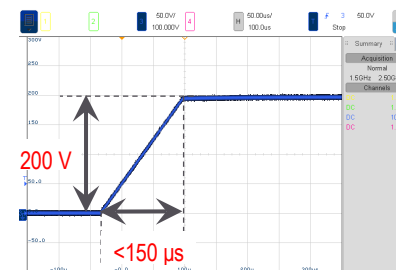
- ✓ three times lower current measurement noise — 1 power line cycle (PLC) aperture time
- ✓ ten times shorter aperture time to achieve the same level of current measurement noise



### Narrow pulse suppresses self-heating effect



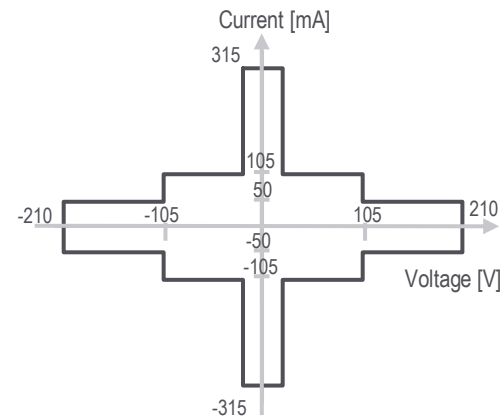
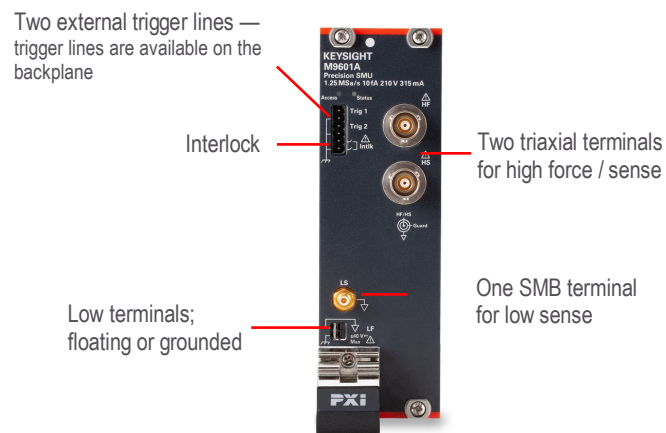
### Fast transient response captures the actual transient response from the devices and circuits



## Key Specifications and Characteristics:

Parameters		Values	
Output	Maximum voltage	210 V	
	Maximum current (DC / pulse)	315 mA / 315 mA	
	Quadrant operation	Symmetry 4-quadrant	
Current	Minimum resolution	10 fA	
	RMS noise <sup>1</sup>	1 PLC	30 fArms
		10 PLC	10 fArms
	Source noise 0.1 Hz to 10 Hz <sup>1</sup>		200 fA <sub>pp</sub>
Voltage	Minimum resolution	500 nV	
	Source noise <sup>1</sup>	0.1 – 10 Hz	4 $\mu$ V <sub>pp</sub>
		20 MHz bandwidth	< 25 mV <sub>pp</sub>
		200 MHz bandwidth	< 50 mV <sub>pp</sub>
Dynamic measurement	Minimum pulse width	20 $\mu$ s	
	Maximum slew rate <sup>1</sup>	> 1.4 V/ $\mu$ s	
	Sampling rate	1.25 MSa/s	
Slots / module	2-slot		
Channel / module	1-channel		

1. Supplemental characteristics, Refer to [M9601A datasheet](#) for details.



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