# 350 Ohm Strain Completion and Excitation SCP Module



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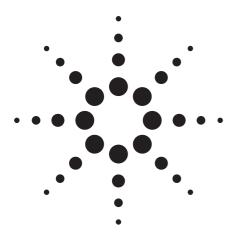
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# Agilent E1507A 350 $\Omega$ Strain Completion and Excitation SCP

**Data Sheet** 

- Use with Agilent E1413C/E1415A/E1419A
- ullet 350  $\Omega$  strain bridge completion and excitation
- Connections for quarter, half, and full bridge
- Requires an input SCP to make strain gage measurements



Agilent E1507A

#### **Description**

The Agilent E1507A 8-Channel 350  $\Omega$  Strain Completion & Excitation SCP provides strain completion and excitation voltages for 350  $\Omega$  bridges. Connections can be made for quarter-bridge, half-bridge, and full-bridge strain gage measurements.

Two SCPs are required to make strain gage measurements. The E1507A SCP provides the excitation signals and bridge connections and the other SCP, the sense SCP, makes the measurement connections (e.g., E1503A, E1508A, or E1509A).

Use the E1507A with the following VXI modules:

Model	Description
E1413C	64-Channel Scanning A/D Converter
E1415A	Algorithmic Closed Loop Controller
E1419A	Multifunction Measurement and Control Module

Refer to the Agilent Technologies Website for recent product updates, if applicable.



#### **Strain Measurements**

With the E1507A you can make quarter-bridge, half-bridge, or full bridge strain gage measurements. In the quarter-bridge and half-bridge configuration, the E1507A supplies the strain completion circuitry. The E1507A supplies the bridge excitation voltage for all bridge configurations.

#### **Product Specifications**

The following graphs show the strain accuracy for various bridge configura-

#### **Excitation Voltage**

#### Accuracy:

(90 day) 23  $\pm$  1 °C with 3.9000 V nominal  $\pm$  512  $\mu$ V \*CAL done after 1 hr

warm-up. Measured with the E1501A. Direct Input SCP.

39 μV/°C Tempco:

Noise (3σ):

 $450~\mu V$ A/D filter off: A/D filter on: 366 μV

#### **Completion Resistors**

Power: 0.125 W @ 125 °C

Tolerance: 0.05% TCR:  $\pm$  5 ppm/°C

#### **Offsets**

**Bridge offsets:** 

± 1 °C of tare cal Quarter bridge: Offset:  $\pm$  40  $\mu$ V

#### **System Strain Accuracies**

Gain + offset error:

Noise error:

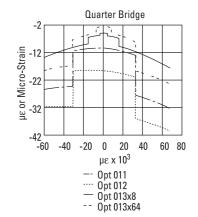
A/D filter off: 27 με A/D filter off: 20 με

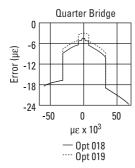
#### **Strain Measurement Accuracy**

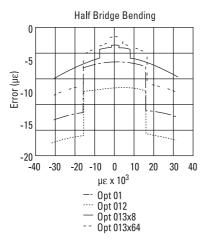
These specifications for the E1507A reflect the combined performance of the scanning A/D and the E1507A SCP.

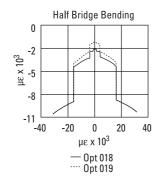
#### **Conversion Chart**

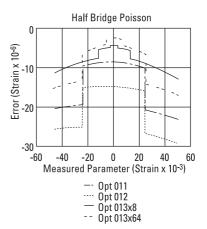
Opt 011 = E1501A Opt 012 = E1502AOpt 013 = E1503AOpt 015 = E1505AOpt 016 = E1506A Opt 017 = E1507A Opt 018 = E1508AOpt 019 = E1509AOpt 020 = E1510A Opt 021 = E1511A

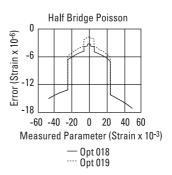


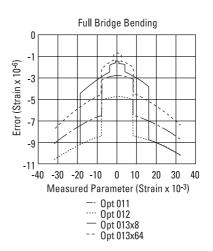


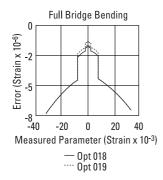


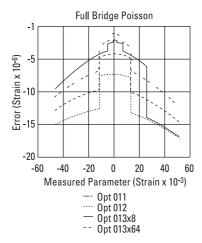


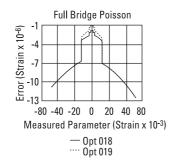


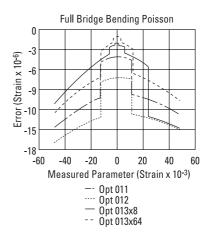


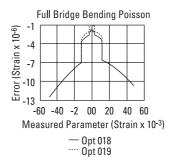












Current Requirements (Amps)							
5 V typ	5 V max	24 V typ	24 V max	–24 V typ	–24 V max		
0.09	0.09	.026	.032	.023	.027		

Ordering Information				
Description	Product No.			
8-Channel 350 Q Strain Completion & Excitation SCP	F1507A			

#### **Related Literature**

2000 Test System and VXI Catalog CD-ROM, Agilent Pub. No. 5980-0308E (detailed specifications for VXI products)

2000 Test System and VXI Catalog, Agilent Pub. No. 5980-0307E (overview of VXI products)

1998 Test System and VXI Products Data Book, Agilent Pub. No. 5966-2812E

#### **Online**

Internet access for Agilent product information, services and support www.agilent.com/find/tmdir

VXI product information www.agilent.com/find/vxi

Defense Electronics Applications www.agilent.com/find/defense ATE

Agilent Technologies VXI Channel Partners www.agilent.com/find/vxichanpart

Agilent Technologies' HP VEE Application Website www.agilent.com/find/vee

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