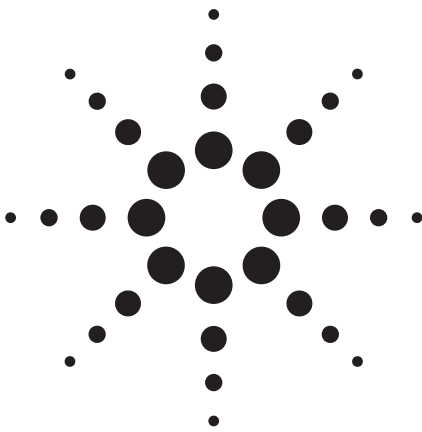


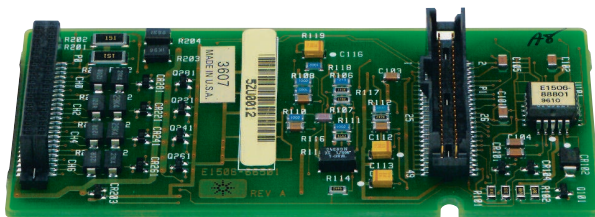


Agilent E1506A

120 Ω Strain Completion and Excitation SCP

Data Sheet

- Use with Agilent E1413C/E1415A/E1419A
- 120 Ω strain completion and excitation
- Connections for quarter, half, and full bridge
- Requires an input SCP to make strain gage measurements



Agilent E1506A

Description

The Agilent E1506A 8-Channel 120 Ω Strain Completion & Excitation SCP provides strain completion and excitation voltages for 120 Ω strain 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 E1506A 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 E1506A 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 E1506A you can make quarter-bridge, half-bridge, or full bridge strain gage measurements. In the quarter-bridge and half-bridge configuration, the E1506A supplies the strain completion circuitry. The E1506A supplies the bridge excitation voltage for all bridge configurations.

Product Specifications

These specifications for the E1506A reflect the combined performance of the scanning A/D and the E1506A SCP.

Excitation Voltage

Accuracy:	3.9000 V nominal $\pm 512 \mu\text{V}$ (90 day) $23 \pm 1 \text{ }^\circ\text{C}$ with *CAL done after 1 hr warm-up. Measured with the E1501A. Direct Input SCP.
Tempco:	$39 \mu\text{V}/^\circ\text{C}$
Noise (3 σ):	
A/D filter off:	$450 \mu\text{V}$
A/D filter on:	$366 \mu\text{V}$

Completion Resistors

Power:	$0.125 \text{ W @ } 125 \text{ }^\circ\text{C}$
Tolerance:	0.05%
TCR:	$\pm 5 \text{ ppm}/^\circ\text{C}$

Offsets

Bridge offsets:	
Quarter bridge:	$\pm 1 \text{ }^\circ\text{C}$ of tare cal
Offset:	$\pm 40 \mu\text{V}$

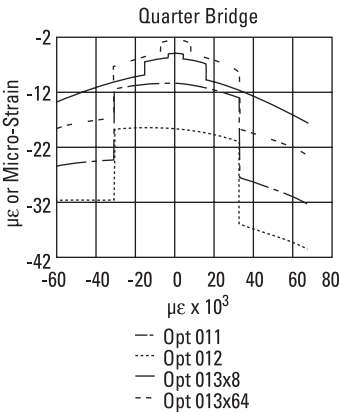
System Strain Accuracies

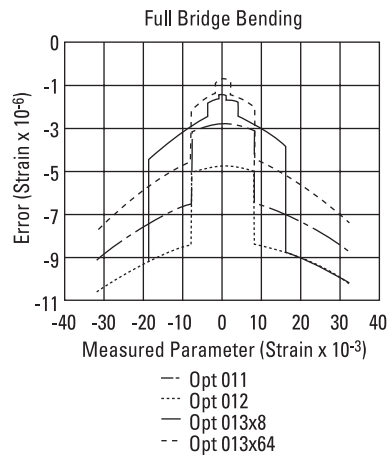
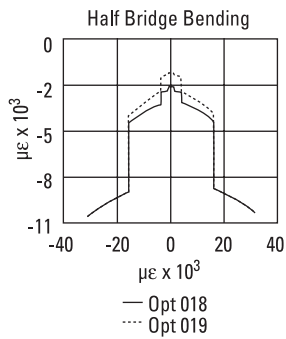
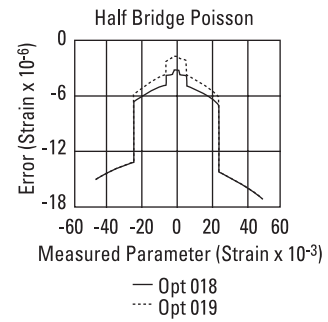
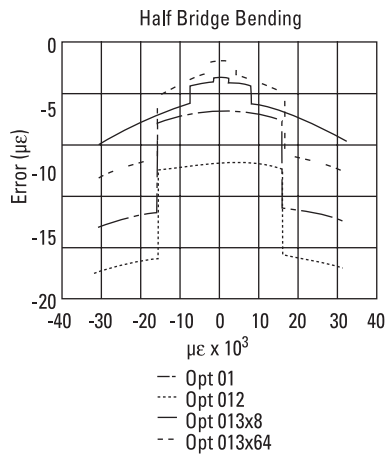
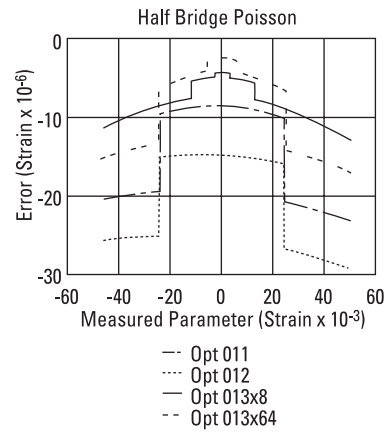
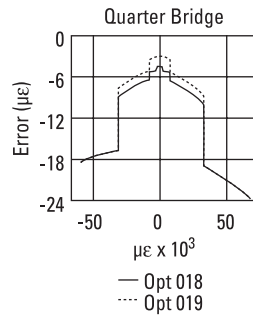
Gain + offset error:	$40 \mu\epsilon$
Noise error:	
A/D filter off:	$27 \mu\epsilon$
A/D filter on:	$20 \mu\epsilon$

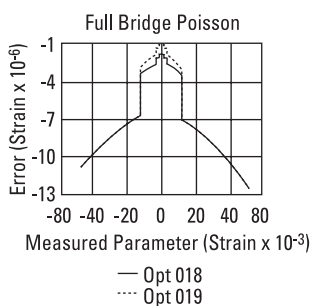
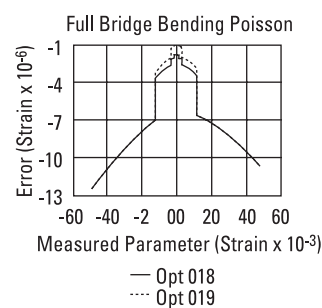
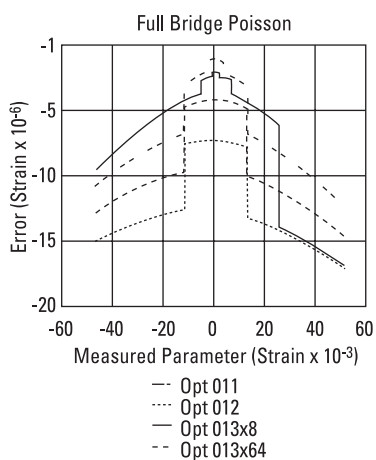
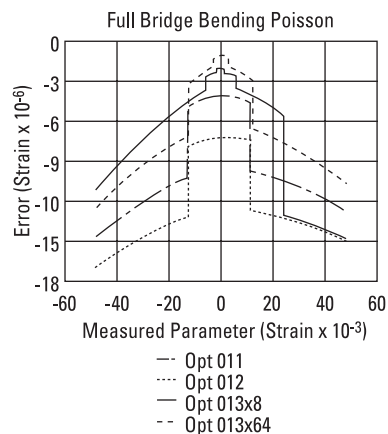
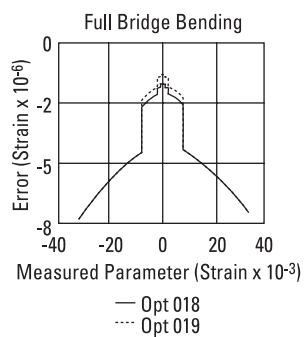
Strain Measurement Accuracy

The following graphs show the strain accuracy for various bridge configurations.

Conversion Chart	
Opt 011	= E1501A
Opt 012	= E1502A
Opt 013	= E1503A
Opt 015	= E1505A
Opt 016	= E1506A
Opt 017	= E1507A
Opt 018	= E1508A
Opt 019	= E1509A
Opt 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
0.28	0.28	.026	.032	.023	.027

Ordering Information

Description	Product No.
8-Channel 120 Ω Strain Completion & Excitation SCP	E1506A

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

Agilent Technologies Data Acquisition and Control Website
www.agilent.com/find/data_acq

Agilent Technologies Instrument Driver Downloads
www.agilent.com/find/inst_drivers

Agilent Technologies Electronics Manufacturing Test Solutions
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Get assistance with all your test and measurement needs at
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