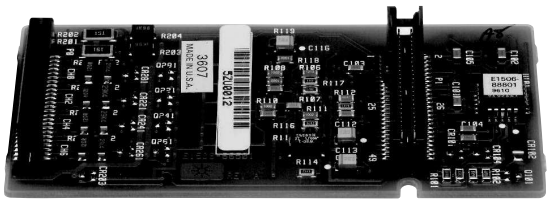
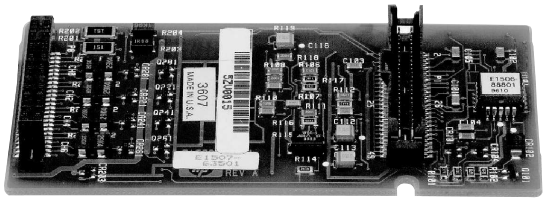
Agilent E1506A, E1507A 120 Ω and 350 Ω Strain Completion and Excitation SCPs

Data Sheet

- **Use with Agilent E1413C/E1415A/E1419A**
- **120 Ω and 350 Ω strain completion and excitation**
- **Connections for quarter, half, and full bridges**
- **Requires an input SCP to make strain gage measurements**



Agilent E1506A



Agilent E1507A

Description

The Agilent Technologies E1506A and E1507A 8-Channel Strain Completion & Excitation SCPs provide strain completion and excitation voltages for 120 Ω and 350 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 or E1507A SCP provides the excitation signals and bridge connections. The other SCP, the "sense" SCP, makes the measurement connections (e.g., E1501A, E1502A, E1503A, E1508A, or E1509A).

The E1506A or E1507A supplies the bridge excitation voltage for all bridge configurations. In quarter-bridge and half-bridge configurations, the E1506A or E1507A supplies the strain completion circuitry.

Use the E1506A or 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.

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Product Specifications

Excitation Voltage

Accuracy: (90 day) 23 ± 1° C with *CAL done after 1 hr warm-up. Measured with the E1501A Direct Input SCP.	3.9000 V nominal ±512 µV
Temp coeff:	39 µV/° C
Noise (3σ):	
A/D filter off:	450 µV
A/D filter on:	366 µV

Completion Resistors

Power:	0.125 W @ 125 ° C
Tolerance:	0.05%
TCR:	± 5 ppm/° C

Offsets

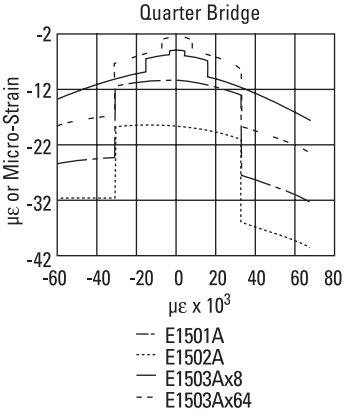
Bridge offsets:	
Quarter bridge:	± 1° C of tare cal
Offset:	± 40 µV

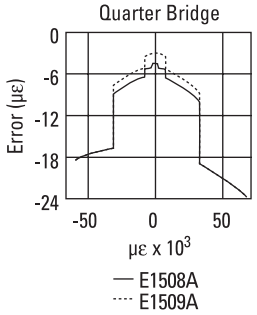
System Strain Accuracies

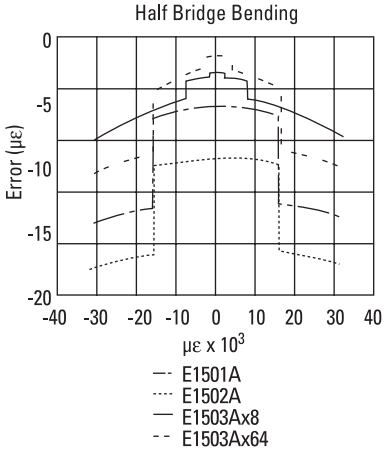
Gain + offset error:	40 µε
Noise error:	
A/D filter off:	27 µε
A/D filter on:	20 µε

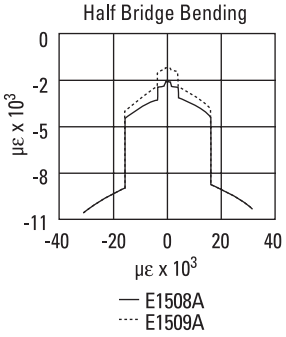
Strain Measurement Accuracy

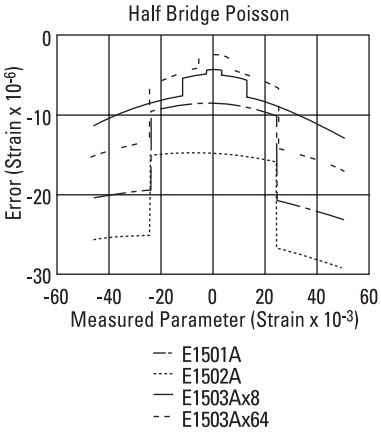
These specifications for the E1506A and E1507A reflect the combined performance of the scanning A/D plus the E1506A or E1507A for various bridge configurations.

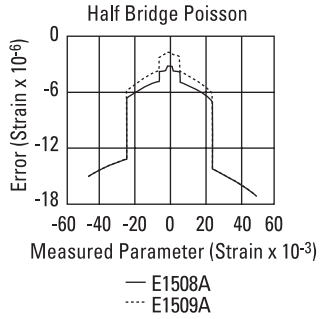


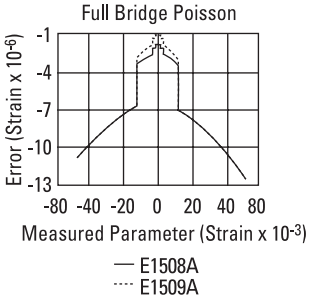


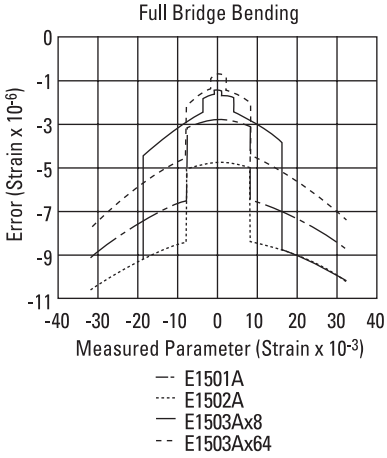


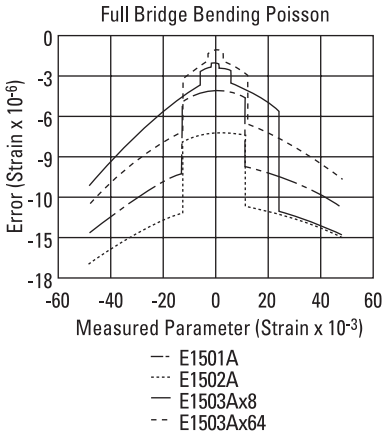


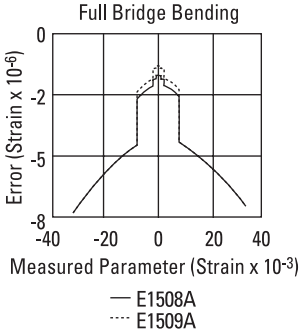


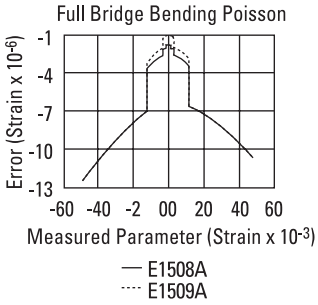


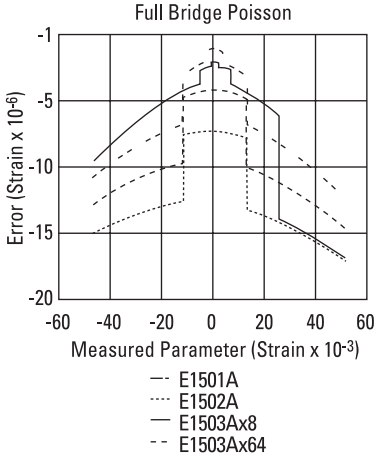












Current Requirements (Amps)

	5 V typ	5 V max	24 V typ	24 V max	–24 V typ	–24 V max
E1506A:	0.28	0.28	.026	.032	.023	.027
E1507A:	0.09	0.09	.026	.032	.023	.027

Ordering Information

Description	Product No.
8-Channel 120 Ω Strain Completion & Excitation SCP	E1506A
8-Channel 350 Ω Strain Completion & Excitation SCP	E1507A

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