

Differential Preamplifier

ADA400A Datasheet



ADA400A

Features & Benefits

- Active Differential Preamplifier
- 10 $\mu\text{V}/\text{div}$ Sensitivity
- Typically 100 dB CMRR DC to 10 kHz
- Integral Probe Power with TEKPROBE™ BNC

Applications

- Mechanical Analysis
- Audio Design
- Biomedical Research (Not Certified For Patient Connection)
- Medical Equipment (Not Certified For Patient Connection)

ADA400A

The ADA400A Differential Preamplifier allows direct oscilloscope measurements of very low amplitude voltages and signals which are not ground referenced. The high impedance of both inputs eliminates the need to add additional ground points in the DUT, thereby avoiding circulating currents which disturb the measurement or the circuit.

The high gain and extremely high common mode rejection provide usable measurements of voltages as low as 5 μV , even in high-noise environments. Selectable bandwidth limiting reduces normal mode noise from digital logic, switch mode power supplies, and line frequency sources. Adjustable differential offset allows the user to null out transducer bridge bias and galvanic potential from the test setup. An "infinite impedance" mode can be selected in the two highest gain ranges allowing accurate measurements of signals with high source impedance.

The ADA400A is powered directly from TDS400, TDS500, TDS600, TDS700, TDS5000, TDS7000 (TEKPROBE), TDS7000 (TekConnect) w/ TCA-1MEG Series oscilloscopes. It may also be powered by a 1103 Probe Power Supply.

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Characteristics

Gain – 100x, 10x, 1x, .01x.

CMRR – ≥100,000: 1 DC - 10 kHz.

Gain	CM Range	Differential Range*1	Max Offset
100	±10 V	0.1 V	±1.0 V
10	±10 V	1 V	±1.0 V
1	±40 V	10 V	±40 V
0.1	±40 V	80 V	±40 V

*1 For higher voltages, attenuating probes may be used, but CMRR performance will be degraded.

Bandwidth Limits – 100 Hz, 3 kHz, 100 kHz, full (≥1 MHz).

Input Impedance – 1 MΩ || ~ 55 pF (infinity Ω selectable in 100x and 10x gains).

Noise – Typically ≤30 μV_{RMS} at 100x gain (referred to input).

Ordering Information

ADA400A

Differential Preamplifier.

Includes: Instruction manual (Order 070-9164-01), 2 spare input fuses (Order 159-0024-xx).

Service

Opt. C3 – Calibration Service 3 Years.

Opt. C5 – Calibration Service 5 Years.

Opt. D1 – Calibration Data Report.

Opt. D3 – Calibration Data Report 3 Years (with Opt. C3).

Opt. D5 – Calibration Data Report 5 Years (with Opt. C5).

Opt. R5 – Repair Service 5 Years.

Opt. SILV200 – Standard Warranty Extended to 5 Years.

Recommended Accessories

P6101B 1x passive probe (2 recommended).

CE Marking Not Applicable.



Tektronix is registered to ISO 9001 and ISO 14001 by SRI Quality System Registrar.

For Further Information. Tektronix maintains a comprehensive, constantly expanding collection of application notes, technical briefs and other resources to help engineers working on the cutting edge of technology. Please visit www.tektronix.com



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