

Instrument Amplifier, 1 Amplifier, 70  $\mu$ V, 0.8 V/ $\mu$ s, 2.2 MHz, 3.5V to 36V, MSOP

Manufacturers	<a href="#">Analog Devices, Inc</a>
Package/Case	RM-8
Product Type	Amplifier ICs
RoHS	Pb-free Halide free
Lifecycle	

## CONNECTION DIAGRAM

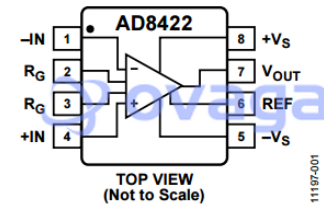


Figure 1. 8-Lead MSOP (RM), 8-Lead SOIC (R)

Images are for reference only

Please submit RFQ for AD8422ARMZ or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

## General Description

The AD8422 is a high precision, low power, low noise, rail-to-rail instrumentation amplifier that delivers the best performance per unit microampere in the industry. The AD8422 processes signals with ultralow distortion performance that is load independent over its full output range.

The AD8422 is the third generation development of the industry standard AD620. The AD8422 employs new process technologies and design techniques to achieve higher dynamic range and lower errors than its predecessors, while consuming less than one-third of the power. The AD8422 uses the high performance pinout introduced by the AD8221.

Very low bias current makes the AD8422 error-free with high source impedance, allowing multiple sensors to be multiplexed to the inputs. Low voltage noise and low current noise make the AD8422 an ideal choice for measuring a Wheatstone bridge.

The wide input range and rail-to-rail output of the AD8422 bring all of the benefits of a high performance in-amp to single supply applications. Whether using high or low supply voltages, the power savings make the AD8422 an excellent choice for high channel count or power sensitive applications on a very tight error budget.

The AD8422 uses robust input protection that ensures reliability without sacrificing noise performance. The AD8422 has high ESD immunity, and the inputs are protected from continuous voltages up to 40 V from the opposite supply rail.

A single resistor sets the gain from 1 to 1000. The reference pin can be used to apply a precise offset to the output voltage. The AD8422 is specified from  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$  and has typical performance curves to  $125^{\circ}\text{C}$ . It is available in 8-lead MSOP and 8-lead SOIC packages.

## Features

Low power: 330  $\mu$ A maximum quiescent current Rail-to-rail output

Low noise and distortion 8 nV/ $\sqrt{\text{Hz}}$  maximum input voltage noise at 1 kHz 0.15  $\mu$ V p-p RTI noise = 1)

Excellent ac specifications 80 dB minimum CMRR at 10 kHz = 1)

High precision dc performance (AD8422BRZ) 150 dB minimum CMRR = 1000) 0.3  $\mu$ V/ $^{\circ}\text{C}$  maximum input offset drift 0.5 nA maximum input bias current

Wide supply range 4.6 V to 36 V single supply  $\pm$ 2.3 V to  $\pm$ 18 V dual supply Input overvoltage protection:

40 V from opposite supply Gain range: 1 to 1000

## Application

Medical instrumentation

Industrial process controls

Strain gages

Transducer interfaces

Precision data acquisition systems

Channel-isolated systems

Portable instrumentation

## CONNECTION DIAGRAM

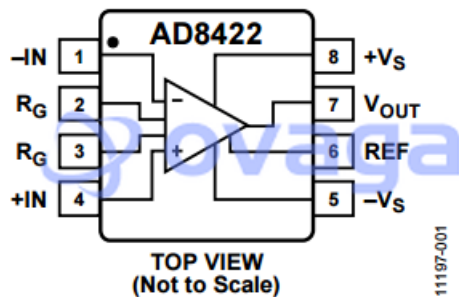


Figure 1. 8-Lead MSOP (RM), 8-Lead SOIC (R)

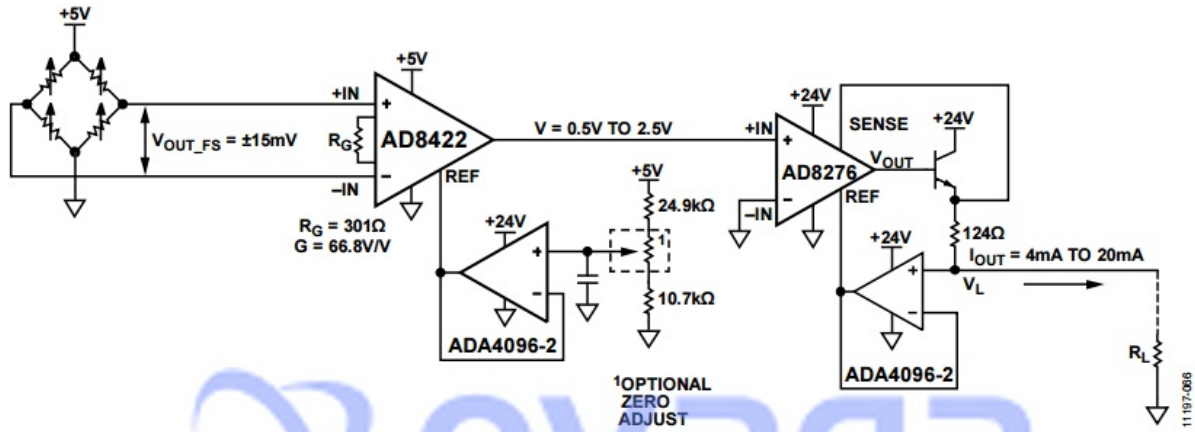


Figure 65. Bridge Circuit with 4 mA to 20 mA Output

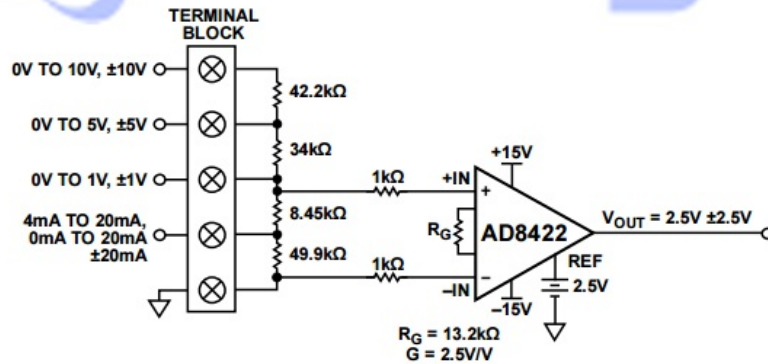
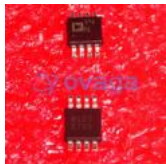


Figure 66. Process Control Analog Input

## Related Products



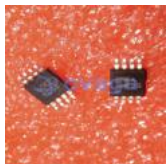
[AD8418BRMZ-RL](#)

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