

Digital to Analogue Converter, 16 bit, 125 SPS, Serial, 2.95V to 5.05V, SOIC, 16 Pins

Manufacturers	Analog Devices, Inc
Package/Case	SOIC-16
Product Type	Data Conversion ICs
RoHS	Pb-free Halide free
Lifecycle	



Images are for reference only

Please submit RFQ for AD421BRZ or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

General Description

The AD421 is a complete, loop-powered, digital to 4-20 mA converter, designed to meet the needs of smart transmitter manufacturers in the Industrial Control industry. It provides a high precision, fully integrated, low cost solution in a compact 16-pin package. The AD421 is ideal for extending the resolution of smart 4-20 mA transmitters at very low cost.

The AD421 includes a selectable regulator that is used to power itself and other devices in the transmitter. This regulator provides either a +5 V, +3.3 V or +3 V regulated output voltage. The part also contains +1.25 V and +2.5 V precision references. The AD421 thus eliminates the need for a discrete regulator and voltage reference. The only external components required are a number of passive components and a pass transistor to span large loop voltages.

The AD421 can be used with standard HART FSK protocol communication circuitry without any degradation in specified performance. The high speed serial interface is capable of operating at 10 Mbps and allows for simple connection to commonly-used microprocessors and microcontrollers via a standard three-wire serial interface.

The sigma-delta architecture of the DAC guarantees 16-bit monotonicity while the integral nonlinearity for the AD421 is $\pm 0.01\%$. The part provides a zero scale 4 mA output current with $\pm 0.1\%$ offset error and a 20 mA full-scale output current with $\pm 0.2\%$ gain error.

The AD421 is available in a 16-pin, 0.3 inch-wide, plastic DIP and a 16-lead, 0.3 inch-wide, SOIC package. The part is specified over the industrial temperature range of -40°C to $+85^{\circ}\text{C}$.

Features

4mA to 20 mA Current Output

HART@ Compatible

16-Bit Resolution and Monotonicity

5 V or 3 V Regulator Output

2.5 V and 1.25 V Precision Reference

750 μ A Quiescent Current max

Programmable Alarm Current Capability

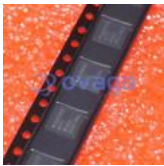
Flexible High Speed Serial Interface

16-Lead SOIC and PDIP Packages





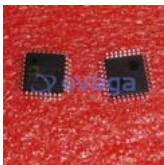
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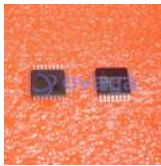
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