

### FEATURES

- Easy to use
- Easily interfaces with other evaluation tools
- Scratch space for additional components

### APPLICATIONS

- High voltage current shunt sensing
- Analog input front-end signal conditioning
  - Isolation
  - Sensor signal conditioning
  - Power supply monitoring
  - Motor control

### GENERAL DESCRIPTION

The AD628-EVALZ allows the user to quickly evaluate the AD628's performance by itself or within a system. Users can interface this board directly to an Analog Devices, Inc., ADC evaluation kit. In addition, the scratch area allows the designer to add active filters, buffers, and additional signal conditioning components to the evaluation board.

Table 1. Factory Settings

Component	Factory Setting
JP1	Solder connected
C <sub>FILT</sub>	No connect
RG1	100 kΩ
RG3	11 kΩ

### Grounding

Two ground pins are available to the user: GND and SIGNAL GND. Although the grounds are connected, SIGNAL GND should be considered the ground to which the reference and the output are referred. The AD628-EVALZ permits the user to set the reference voltage of the AD628 externally, either with a precision voltage reference or to SIGNAL GND. For the most accurate performance, the reference voltage should be made with respect to SIGNAL GND. For example, if a 2.5 V offset is desired, a 2.5 V precision reference can be used in series with SIGNAL GND (see Figure 2). Alternatively, V<sub>REF</sub> can be set to SIGNAL GND by soldering the jumper, JP1.

### FUNCTIONAL BLOCK DIAGRAM

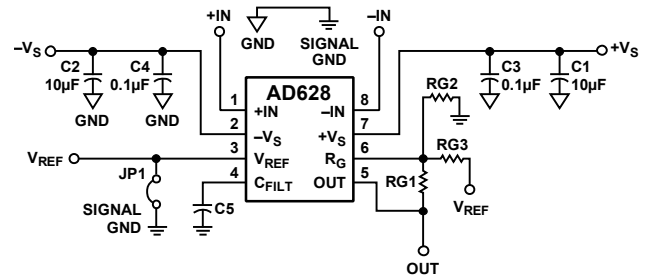


Figure 1.

### BASIC OPERATION

The AD628 rejects common-mode voltages and conditions the difference voltages. The following list describes available connections.

- Supplies: Voltage supply should be connected to +V<sub>s</sub>, -V<sub>s</sub>, and GND.
- Inputs: Input of AD628. If a signal generator is used to create an input signal, the signal generator's ground should be connected to the board's GND pin (see Figure 2).
- Output: Output of AD628. Output should be measured with respect to V<sub>REF</sub>.
- Reference: Connects to the V<sub>REF</sub> pin of the AD628.
- C<sub>FILT</sub>: Filter pin. A capacitor can be used to create a one-pole low-pass filter.
- SIGNAL GND: SIGNAL GND should be used to establish the voltage at V<sub>REF</sub>, either by a direct connection or with a series voltage reference (see the Grounding section).
- RG1: Feedback resistor between Pin 5 and Pin 6 of the AD628.
- RG2: Resistor between Pin 6 and SIGNAL GND.
- RG3: Resistor between Pin 6 and V<sub>REF</sub>.
- JP1: Solder jumper. When soldered, the AD628's V<sub>REF</sub> pin is shorted to SIGNAL GND. This jumper is located between the V<sub>REF</sub> pin and the SIGNAL GND pin.

### Rev. 0

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# AD628-EVALZ

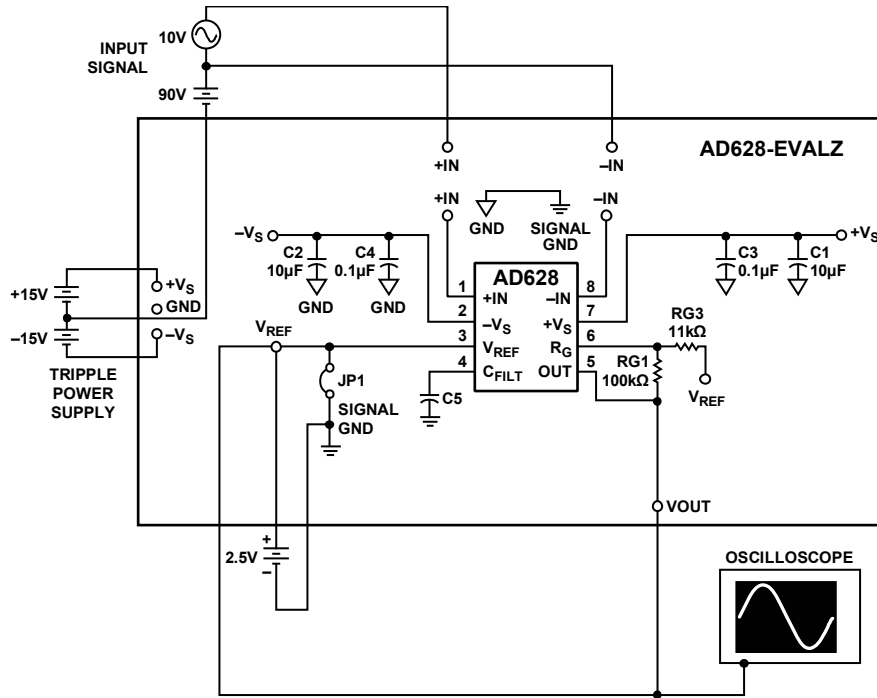


Figure 2. Example Test Setup Using the AD628-EVALZ

07163-002

## ORDERING GUIDE

Model	Description
AD628-EVAL	Evaluation Board
AD628-EVALZ <sup>1</sup>	Evaluation Board

<sup>1</sup> Z = RoHS Compliant Part.

## ESD CAUTION



**ESD (electrostatic discharge) sensitive device.** Charged devices and circuit boards can discharge without detection. Although this product features patented or proprietary protection circuitry, damage may occur on devices subjected to high energy ESD. Therefore, proper ESD precautions should be taken to avoid performance degradation or loss of functionality.