

Microprocessor Compatible Circuit

INTRODUCTION

A simple microprocessor compatible circuit is shown in Figure 1. Amplifiers A1 to A4 form a basic signal conditioning circuit similar to that described in Application Note APP-101, "A Simple Pressure Sensor Signal Conditioning Circuit."

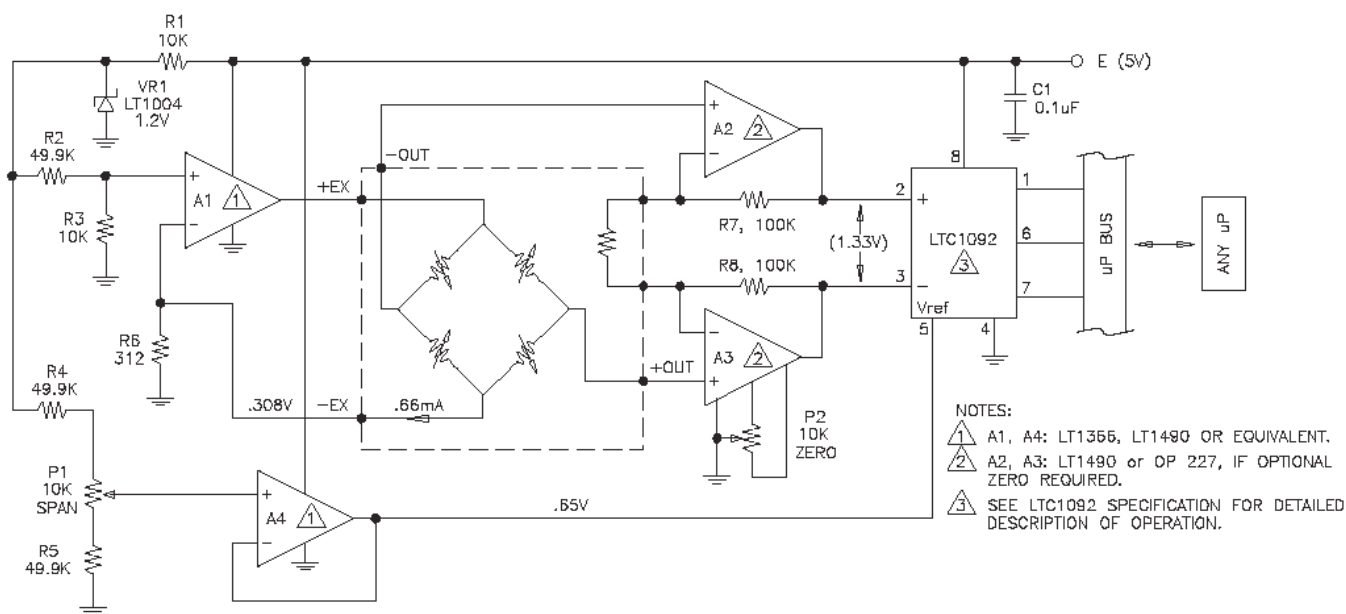


Figure 1 - Microprocessor Compatible Transducer

CIRCUIT DESCRIPTION

To enable the operation of a single 5V power supply, the current through the sensor has been decreased to 0.66 mA. Furthermore, the voltage across R6 has been decreased to 0.2V (from 1.2V in APP-101), thus allowing increased voltage across the bridge which will be reflected in a higher output span.

A/D

The differential output of amplifiers A2 and A3 controls the differential input of analog to digital converter LTC1092.

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CALIBRATION

Sensitivity calibration is achieved by adjusting the reference voltage for the A-D converter through amplifier A4. The span between pins 2 and 3 of the converter will be two times the reference voltage at pin 5.

ADDITIONAL INFORMATION

A detailed discussion of the temperature compensation circuit can be found in Application Note APP-01001, "Signal Conditioning For MEAS Pressure Sensors."

ORDERING INFORMATION

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