

Voltage Model

TRANSDUCER IN-LINE AMPLIFIER



SENSOTEC

2080 Arlingate, Columbus, Ohio 43228, (614) 850-5000

Sensotec, Inc.

2080 Arlingate Lane

Columbus, Ohio 43228

Copyright 1995 by Sensotec, Inc. all rights reserved

TEL (614) 850-5000

FAX (614) 850-1111

1-800-848-6564

Voltage Transducer In-Line Model User's Guide

Sensotec Part Number: 008 - 0171 - 00

Rev. A: September 1996

IMPORTANT! IT IS RECOMMENDED THAT YOU READ THIS DOCUMENT THOROUGHLY BEFORE APPLYING POWER TO THIS UNIT. THIS DOCUMENT CONTAINS INFORMATION ON WIRING, CALIBRATION, AND USE OF FEATURES.

TRANSDUCER IN-LINE AMPLIFIER VOLTAGE MODEL

The SENSOTEC Transducer In-Line Amplifier is a small, rugged stainless steel package that can be connected between the transducer and a readout instrument. The In-Line Amplifier both supplies a highly regulated bridge excitation voltage for the transducer and converts the millivolt signal of the pressure transducer to a voltage signal of 0-5 VDC.

The In-Line Amplifier includes:

- 1) Regulation on the input power circuit for use with unregulated 11-26 VDC.
- 2) Bridge excitation voltage regulator, after the input regulator, for accuracy.
- 3) High gain amplifier.
- 4) Multi-turn zero and gain adjustments.

1.1 SPECIFICATIONS

- Power requirements: 11-26 VDC unregulated @ 35mA.
- Output: 0-5 VDC with 0 volts = _____ and
5 volts = _____ with sensitivity of
mV/V = _____.
- Output impedance: 250 ohms nominal.
- Bridge excitation factory set at _____ VDC.
- Zero, gain adjustments: 15% nominal.
- Short circuit protected.
- Dimensions: 1 1/2" diameter; 3" long.

1.2 WIRING INSTRUCTIONS

Caution: Be sure amplifier power (11-26 VDC) is connected to Pins A and B (Fig.1). Permanent damage will occur as a result of an extended overvoltage applied to the incorrect pins.

Step 1. Connect transducer, power supply, and readout instrument (see Fig. 1).

Step 2. Allow amplifier to stabilize after power supply and readout instrument are connected (approximately 30 minutes).

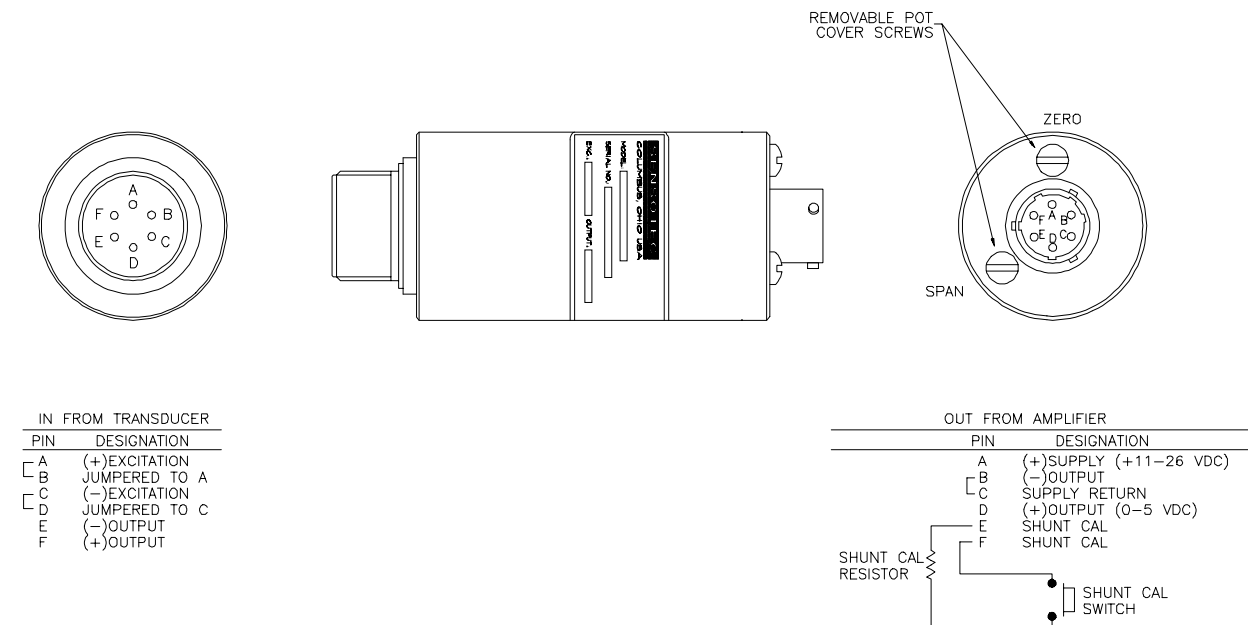


Figure 1

Note If leadwires between amplifier and readout are less than 10 ft., use Pins B or C as common for both power supply and signal return (3 wire system). If leadwires exceed 10 ft., use Pin B for power supply common and Pin C for signal common (4 wire system).

1.3 CALIBRATION

Note: The shunt cal resistor is connected externally by the purchaser to Pins E and F (Fig. 1). The value of the shunt cal resistor is given on the transducer calibration sheet supplied by transducer manufacturer.

Step 1. Allow unit to warm up to stable reading.

Step 2. With no load or pressure on transducer, remove balance screw cover and with small screwdriver adjust zero balance potentiometer to indicate zero VDC on meter.

Note: Since the amplifier is a unipolar device, the output will not go below zero VDC. Be careful not to have erroneous readings at zero.

Step 3. Apply either a full scale pressure or load to the transducer or a known shunt calibration resistance and adjust the gain potentiometer to full scale or desired output of the amplifier.

Step 4. Recheck zero (Step 2.).

Step 5. Repeat steps 2 and 3 until zero volts is equal to zero pressure, and 5 volts is equal to full scale output.

CAUTION: The zero "BAL" and "GAIN" adjustments are independent. However, any offset at zero will be added to the full scale output reading.

NOTE: Replace screw covers to prevent moisture from getting into amplifier.

APPENDIX

A.1.1 LIMITED WARRANTY ON PRODUCTS

Any of our products which, under normal operating conditions, proves defective in material in workmanship within one year from the date of shipment by SENSOTEC, will be repaired or replaced free of charge provided that you obtain a return material authorization from SENSOTEC and send the defective product, transportation charges prepaid with notice of the defect, and establish that the product has been properly installed, maintained, and operated within the limits of rated and normal usage. Replacement product will be shipped F.O.B. our plant. The terms of this warranty do not extend to any product or part thereof which, under normal usage, has an inherently shorter useful life than one year. The replacement warranty detailed here is the buyer's exclusive remedy, and will satisfy all obligations of SENSOTEC whether based on contract, negligence, or otherwise. SENSOTEC is not responsible for any incidental or consequential loss or damage which might result from a failure of any SENSOTEC product. This express warranty is made in lieu of any and all other warranties, express or implied, including implied warranty of merchantability or fitness for particular purpose. Any unauthorized disassembly or attempt to repair voids this warranty.

A.1.2 SERVICE UNDER WARRANTY

Advanced authorization is required prior to the return to SENSOTEC. Before returning the items, either write to the Customer Service Department c/o SENSOTEC, Inc., 2080 Arlingate Lane, Columbus, Ohio 43228, or call (800) 848-6564 with: 1) a part number; 2) a serial number for the defective product; 3) a technical description* of the defect; 4) a no-charge purchase order number (so products can be returned to you correctly); and 5) ship and bill addresses. Shipment to SENSOTEC shall be at Buyer's expense and repaired or replacement items will be shipped F.O.B. our plant in Columbus, Ohio. Non-verified problems or defects may be subject to an evaluation charge. Please return the original calibration data with the unit.

A.1.3 NON-WARRANTY SERVICE

Advance authorization is required prior to the return to SENSOTEC. Before returning the item, either write to the Customer Service Department c/o SENSOTEC, Inc., 2080 Arlingate Lane, Columbus, Ohio 43228, or call (800) 848-6564 with: 1) a model number; 2) a serial number for the defective product; 3) a technical description* of the malfunction; 4) a purchase order number to cover SENSOTEC's repair cost; and 5) ship and bill addresses. After the product is evaluated by SENSOTEC, we will contact you to provide the estimated repair costs before proceeding. Shipment to SENSOTEC shall be at Buyer's expense and repaired items will be shipped to you F.O.B., our plant in Columbus, Ohio. Please return the original calibration data with the unit.

A.1.4 REPAIR WARRANTY

All repairs of SENSOTEC products are warranted for a period of 90 days from date of shipment. This warranty applies only to those items which were found defective and repaired, it does not apply to products in which no defect was found and returned as is or merely recalibrated. Out of warranty products may not be capable of being returned to the exact original specifications or dimensions.

* Technical description of the defect: In order to properly repair a product, it is necessary for SENSOTEC to receive information specifying the reason the product is being returned. Specific test data, written observations on the failure and the specific corrective action you require is needed.