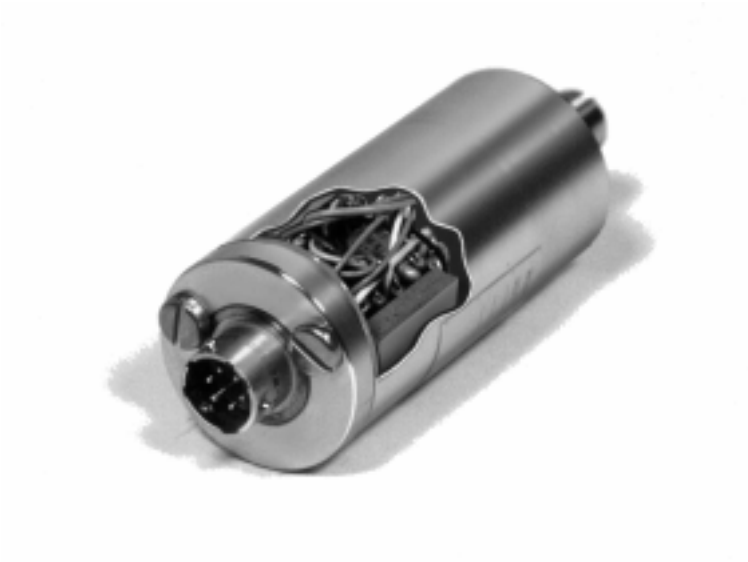
Bi-Polar Model

TRANSDUCER IN-LINE AMPLIFIER



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Bi-Polar In-line Amplifier
Sensotec Part Number: 008 - 0030 - 00
Rev. B: December, 1997

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.

1.0 INTRODUCTION

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 Bi-Polar 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 ± 5 VDC.

The In-Line amplifier includes:

- Regulation on the input power circuit for use with unregulated ±15VDC
- Bridge excitation voltage regulator, after the input regulator, for accuracy
- High gain amplifier
- Multi-turn zero and gain adjustments

2.0 SPECIFICATIONS

- Power requirements: ±14 to ±16VDC @ 50mA. (Optional power supply: 26 - 32VDC @ 50mA).
- Output: ±5VDC with -5V = _____, 0V = _____ and +5V = _____, with sensitivity of _____ mV/V.
- Output impedance: 1 ohm maximum.
- Recommended output current drain: 2mA maximum. ±15V supply only.
- Bridge excitation factory set at _____ VDC. (.1mA with 28V supply)
- Zero, gain adjustments: ±15% nominal.
- Output is short circuit protected.
- Dimensions: 1 1/2” diameter; 3” long.

3.0 WIRING INSTRUCTIONS

Caution: Be sure amplifier power (±15VDC) is connected to Pins A, B and C (See Figure). Permanent damage will occur as a result of an extended over voltage applied to the incorrect pins.

Step 1. Connect transducer, power supply, and readout instruments (See Figure).

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

A 0-28 VDC power supply can be used when a ± 15 VDC source is not available. However, the output common will not be at zero volts. The output common will be at Vs/2 (e.g. 14 volts for a 28 volt source (Vs)). The output will vary ± 5 volts around 14 volts.

IN FROM TRANSDUCER
PIN DESIGNATION
A (+)EXCITATION
B JUMPERED TO A
C (-)EXCITATION
D JUMPERED TO C
E (-)OUTPUT
F (+)OUTPUT
REMOVABLE POT COVER SCREWS
SPAN
ZERO
OUT FROM AMPLIFIER
PIN DESIGNATION
A (+)SUPPLY (+15 VDC)
B (-)OUTPUT/SUPPLY COMMON
C (-)SUPPLY (-15 VDC)
D (+)OUTPUT (±5 DC)
E SHUNT CAL
F SHUNT CAL
SHUNT CAL RESISTOR
SHUNT CAL SWITCH
PIN DESIGNATION
A (+)SUPPLY (+26-32 VDC)
B (-)OUTPUT
C SUPPLY RETURN
D (+)OUTPUT (±5 DC)
E SHUNT CAL
F SHUNT CAL
SHUNT CAL RESISTOR
SHUNT CAL SWITCH

4.0 CALIBRATION

Caution: The zero “BAL” and “GAIN” adjustments are independent. However, any offset at zero balance will be added to the full scale output.

Step 1. With no load or pressure on the transducer, remove balance screw covers (See Figure) and adjust the zero balance potentiometer to indicate 0VDC on meter.

Step 2. 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 amplifier.

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

5.0 WARRANTY

5.1 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.

5.2 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.

5.3 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.

5.4 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.