

Universal In-Line Amplifiers

Models **UBP, UV, UV-10, U3W, And U2W**

**COMPATIBLE WITH ANY
STRAIN GAGE SENSOR**

USER PROGRAMMABLE

**NEMA-4 & IP-66 WATER
RESISTANCE**

**SELECTABLE EXCITATION
VOLTAGES**



Applications

Applications that may require an in-line amplifier:

1. In some applications, a transducer must be located in a hostile environment or one which is some distance from the display. If the environment at the sensing site is subject to high temperatures, humidity, or corrosive conditions, it may be necessary to place the amplifier in-line and away from the transducer.
2. In-Line Amplifiers can be shipped from stock for quick delivery.
3. Can be used with miniature transducers or when space is limited.
4. An In-Line Amplifier may be more accessible than the transducer itself, therefore potentiometer adjustments which are located in the amplifier are more convenient.

The SENSOTEC Universal In-Line Amplifier is a highly serviceable, user-programmable unit which meets NEMA-4 and IP-66 ratings for water resistance.

The SENSOTEC Universal In-Line Amplifier is housed in a rugged plastic package, which is connected between the transducer and a readout instrument. The amplifier supplies a highly regulated bridge excitation voltage for the transducer and converts the millivolt signal of the transducer to 0-5, 0-10 VDC or 4-20 mA. The In-Line features include three selectable excitation voltages, programmable gain setting, a wide adjustment range on zero and a buffered solid state shunt cal for quick calibration

Advantages

Using SENSOTEC's In-Line Amplifier with a strain gage transducer has many advantages:

1. Signal-to-noise ratio is increased.
2. Effects of voltage drops in excitation sources are eliminated.
3. Signals can be sent to the data systems from low-impedance sources.

MODEL UV, UV-10

Connect with power pack or vehicle battery power for field use. This amplifier has a high degree of regulation to accept battery voltage changes plus transient protection. It can drive loads of up to 5 milliamperes at full output. Model UV provides ± 5 VDC output, Model UV-10 provides ± 10 VDC output. New optional metal cable glands are now available.

MODEL U3W, U2W

Model U3W provides 4-20 mA (3-wire) output, and is ideal for applications requiring long signal transmission with minimal signal loss. The U3W is inherently protected against incorrect wiring. Maximum load resistance is 1000 ohms. Model U2W provides 4-20 mA (2-wire) output. New optional metal cable glands are now available.

MODEL UBP

Connect ± 15 VDC power input to get non-floating output. Model UBP is used when both positive and negative output (± 5 VDC) or positive only output (0-5VDC) are required.

NEW METAL CASE OPTION

New optional metal case and electrical connections for all universal in-line amplifiers (2 1/2" high x 5" long x 3" wide).

Universal Vehicle Powered

Model UV

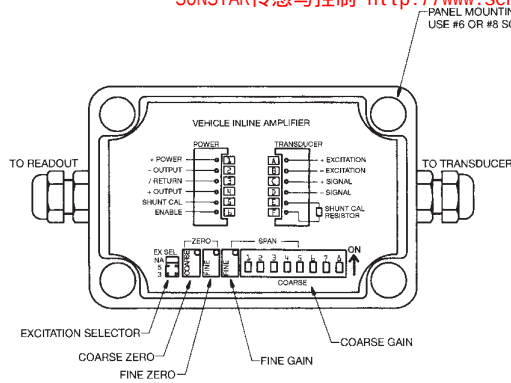
± 5 VDC Output
(Order Code BE124)

Operating Voltage	11 - 32 VDC
Operating Temperature	-20° to 180° F (-30° to 80° C)
Excitation Voltage	3 or 5, VDC @ 70 mA
Output Voltage Range	±5 VDC @ 2.5 mA
Zero Adjustment Range	±50% coarse ±15% fine
Span Adjustment Range	.75 mV/V to 10 mV/V
Shunt Calibration*	Solid state relay on-board
Frequency Response	DC - 5000 Hz.
Environment	IP-66 or NEMA-4
Linearity	.02% F.S.

Model UV-10

±10 VDC Output
(Order Code BE127)

Operating Voltage	18 - 32 VDC
Operating Temperature	-20° to 180° F (-30° to 80° C)
Excitation Voltage	3, 5 or 10 VDC @ 50 mA
Output Voltage Range	± 10 VDC @ 2.5 mA
Zero Adjustment Range	± 25% Coarse ± 10% Fine
Span Adjustment Range	1 mV/V to 20 mV/V
Solid State Relay On-Board	DC - 5000 Hz
Environment	IP-66 or NEMA-4
Linearity	.02% F.S.



NOTE: (-) OUTPUT AND RETURN ARE TIED TOGETHER INTERNALLY

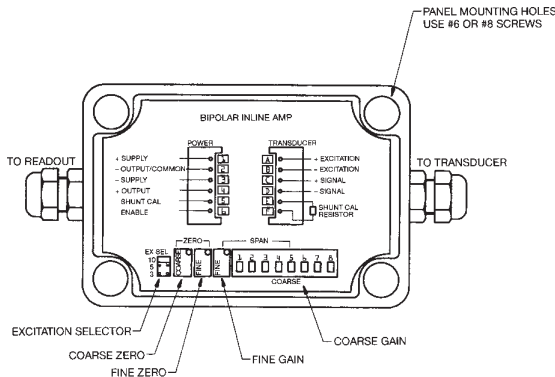
Dimensions: L; 3.75" x W; 2.50" x H; 2.10"

Universal Bi-Polar

Model UB

± 5 VDC Output
(Order Code BE123)

Operating Voltage	±15 VDC
Operating Temperature	-20° to 180° F (-30° to 80° C)
Excitation Voltage	3, 5 or 10 VDC @ 70 mA
Output Voltage Range	±5VDC @ 2mA with ±15VDC ±5VDC @ .2mA with 28VDC
Zero Adjustment Range	±50% coarse ±15% fine
Span Adjustment Range	.5 mV/V to 10 mV/V
Shunt Calibration*	Solid state relay on-board
Frequency Response	DC - 5000 Hz.
Environment	IP-66 or NEMA-4
Linearity	.01% F.S.



Dimensions: L; 3.75" x W; 2.50" x H; 2.10"

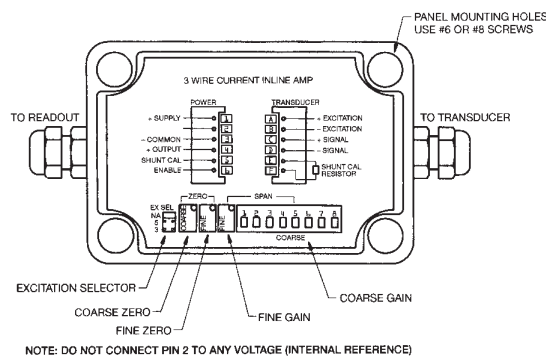
NOTE: This model is for replacement only, not to be used in new designs

Universal 3-Wire

Model U3W

(Order Code BE125)

Operating Voltage	18 - 32 VDC
Operating Temperature	-20° to 180° F (-30° to 80° C)
Excitation Voltage	3 or 5 VDC @ 70 mA
Output Voltage Range	4 - 20 mA
Zero Adjustment Range	± 70% coarse ± 25% fine
Span Adjustment Range	.5 mV/V to 6.6 mV/V
Shunt Calibration*	Solid state relay on-board
Frequency Response	DC - 5000 Hz.
Environment	IP-66 or NEMA-4
Linearity	.02% F.S.



NOTE: DO NOT CONNECT PIN 2 TO ANY VOLTAGE (INTERNAL REFERENCE)

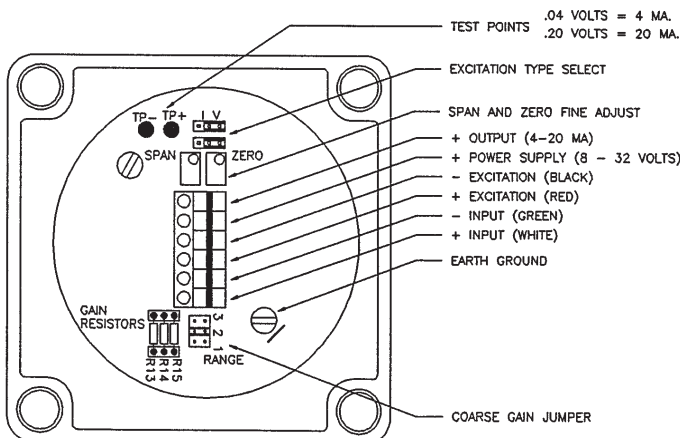
Dimensions: L; 3.75" x W; 2.50" x H; 2.10"

Universal 2-Wire

Model U2W

(Order Code BE128)

Operating Voltage	8 - 32 VDC
Transducer Bridge Excitation and Resistance	5 VDC @ 2 mA max.; 3K to 10 K ohms
Constant Voltage Mode	0.5 mA w/3 volts compliance; 2K to 6 K ohms
Constant Current Mode	4-20 mA 2-wire
Output	± 15% fine
Zero Adjustment Range	Jumper selectable and ± 20% fine adjustment
Span Adjustment Range	1 KHz @ 2 mV/V
Frequency Response	IP-66 or NEMA-4
Environment	Yes
Lightning Protection	



Dimensions: L; 3.77" x W; 3.7" x H; 2.24"

New-Package size available. Same configuration as above models UV or U3W

*Standard Shunt Calibration resistor is 59k.

New Metal Case option: enclosure size: 5" long, 3" wide, 2 1/2" high. Electrical connection options: 51k Metal Case, 59e Turck output connectors, 51k Turck cable, and Turck molded connector assembly order code SA128

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