Wiring and Circuit Diagrams

Models PA, HX-PA

Excitation Voltage: 25 VDC or VAC Max.
Potentiometer Resistance: 1000 ohms ±10%

Note: Any input voltage up to the maximum specified above may be used. For best performance, the input voltage should be closely regulated to insure a stable and accurate output voltage.

Models PB, HX-PB

Excitation Voltage: 25 VDC or VAC Max
Input Impedance: 1.2KΩ
Output Impedance: 14.1KΩ max. @ 51% span setting

With small blade type screwdriver (.105" max. blade width x .023" max. blade thickness), adjust the Zero and Span controls on the transducer to set zero voltage output and maximum output voltage as follows.

Models P420, HX-P420

The 4 to 20 mA output transducer is a 2-wire, loop powered device. The transducer, power supply, and current monitor must be connected in series as illustrated above.

The minimum supply voltage is a function of total loop resistance. It may be calculated using the formula:

V(Min.) = (0.02 x Load Res.) + 9 VDC

It may also be determined from the accompanying graph, shown at right.

When mounting, insure that the baseplate of the transducer is grounded to earth ground. For best noise immunity, use twisted pair shielded cable between the transducer and the electrical interface. The shield of the cable should be open at the transducer and grounded at the electrical interface.

With small blade type screwdriver (.105" max. blade width x .023" max. blade thickness), adjust the Zero and Span controls on the transducer to set the 4 and 20 mA output limits. Note: The Zero and Span controls are somewhat interactive and may require several iterations to obtain the desired zero and maximum settings. Extend the transducer's cable (on angular position transducers, rotate shaft) to the desired zero position (must be within 0% to 30% of range). Adjust the Zero control so that the output current is 4 mA. Then extend the cable (on angular position transducers, rotate shaft) to the desired maximum position (must be within 80% to 100% of range). Adjust the Span control for maximum output current of 20 mA. Recheck the zero setting and adjust if necessary. Recheck the Span setting and readjust if necessary.

Models P510, HX-P510

Excitation Voltage: 11 to 35 VDC
Excitation Current: 40 mA max.
Output Impedance: 10 Ω max.
Output Load: 5k Ω min.

As shown in the diagram above, all commons on pins “B” and “C” are connected together internally at the transducer, so that either a 3-wire or 4-wire connection to the transducer may be made.

With small blade type screwdriver (.105" max. blade width x .023" max. blade thickness), adjust the Zero and Span controls on the transducer to set zero output voltage and maximum output voltage. Note: The Zero and Span controls are somewhat interactive and may require several iterations to obtain the desired zero and maximum settings.

Extend the cable (on angular position transducers, rotate shaft) of the transducer to the desired zero position (must be within 0% to 30% of range). Adjust the Zero control so that the output voltage is zero. Then extend the cable (on angular position transducers, rotate shaft) to the desired maximum position (must be within 80% to 100% of range). Adjust the Span control for maximum output voltage required (unit will adjust from 5 VDC to 10 VDC). Recheck the zero setting and adjust if necessary. Recheck the Span setting and readjust if necessary.

Models P1010, HX-P1010

Excitation Voltage: +15 VDC & -15 VDC (±5%)
Output Impedance: 1.0 Ω max.
Output Load: 5k Ω min.

With small blade type screwdriver (.105" max. blade width x .023" max. blade thickness), adjust the Zero and Span controls on the transducer to set the zero and maximum output voltages. Note: The Zero and Span controls are somewhat interactive and may require several iterations to obtain the desired zero and maximum voltage settings. Extend the transducer cable (on angular position transducers, rotate shaft) to the desired zero position (must be within 10% to 90% of the total range). Adjust the Zero control to give a zero voltage output. Then extend the cable (on angular position transducers, rotate shaft) to the desired maximum position in the direction of longest possible travel (either positive or negative) from the zero position. To obtain maximum output voltage magnitude this position must lie within 50% to 100% of the longest possible travel. Adjust the Span control to the output voltage magnitude required (+ or - 10 VDC maximum). Recheck the zero and span settings and readjust if necessary.