

# K1, K2, K8 PRESSURE TRANSMITTER INSTRUCTION SHEET



## Mounting

The transmitter requires no special mounting hardware, and can be mounted in any plane with negligible position error.

Although the unit can withstand normal vibration without damage or significant output effects, it is always good practice to mount the transmitter where there is minimum vibration. For units with NPT type pressure fittings apply teflon tape or an equivalent sealant to the threads before installing.

When tightening, apply a wrench to the hex wrench flats located just above the pressure fitting. **DO NOT** tighten by using a pipe wrench on the housing.

## Power Supply – K1 Models Only

The supply voltage for the 1-5 and 1-6 Vdc output transmitters must be within the range of 10 to 36 Vdc. The maximum supply voltage for a current output transmitter is 36 Vdc while the minimum supply voltage is dependent upon the loop resistance of the circuit. The figure below shows the minimum supply voltage ( $V_{min}$ ) required for a given loop resistance ( $R_{LOOP}$ ).

## Noise

For minimum noise susceptibility, avoid running the transmitter's cable in a conduit that contains high current AC power cables. Where possible avoid running the cable near inductive equipment.

## Adjustment Potentiometers

The zero and span pots are accessible through the top of the case. Loosen the four screws and separate the top carefully. The zero pot is marked with a white dot. Connect the braided shield to the guard terminal on the reading instrument (meter, etc.) if available or to ground or to the power supply negative terminal.

# WARNING!

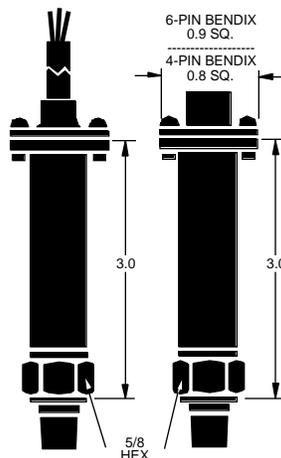
This instrument is susceptible to damage when exposed to static electrical charges. To avoid damage to the transducer observe the following:

- Ground the body of the transducer ***BEFORE*** making any electrical connections
- When disconnecting, remove the ground ***LAST***.

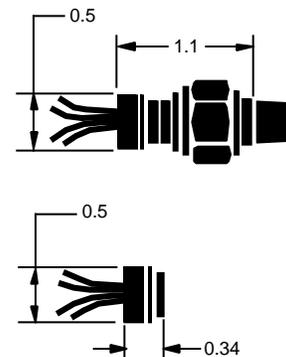
Note: The braided shield and drain wire in the cable (if supplied) is not connected to the transducer body, and is not a suitable ground.

CAUTION: Pressure spikes in excess of the rated overpressure capability of the transmitter (transducer) may cause irreversible electrical and/or mechanical damage to the pressure measuring and containing element(s).

K1, K2 Tranducers



K8 Tranducers



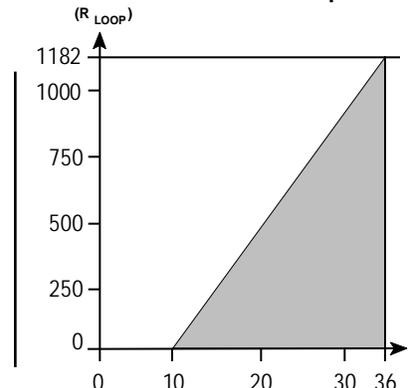
## Output – K8 Only

Sensitivity may be from 6 mV/V to 18 mV/V for any individual transducer. Zero offset is within  $\pm 3$  mV/V. Output is proportional to supply voltage.

## Excitation – K8 & K2

For proper operation a voltage within the range of 5 to 10 Vdc must be applied between the transducer's supply terminals.

Load Limitations 4-20mA Output Only



K1 Transducers – Electrical Connections

Voltage Output Units 1-5, 1-6 Vdc



**Cable Type F2**  
 Red = +Power  
 White = Common  
 Green = Output



**Cable Type C1**  
 Red = + Power  
 White = Common  
 Green = Output



**Hirshmann Type**  
 PIN-1 = +Power  
 PIN-2 = Common  
 PIN-4 = Output



**Bendix 4-Pin, 6 Pin**  
 Pin A = +Power  
 Pin B = Output  
 Pin D = Common

Current Output Units 4-20 mA



**Cable Type F2**  
 Red = +Power  
 Black = -Power



**Cable Type C1**  
 Red = +Power  
 Black = -Power



**Hirshmann Type**  
 PIN-1 = +Power  
 PIN-2 = -Power



**Bendix 4 Pin, 6 Pin**  
 Pin A = +Power  
 Pin B = -Power

K2 Transducers – Electrical Connections

Ratiometric (mV/V)



**Cable Type F2**  
 Red = +Power  
 White = -Power  
 Green = +Output  
 Black = -Output



**Cable Type C1**  
 Red = + Power  
 White = - Power  
 Green = + Output  
 Black = - Output



**Bendix 4-Pin**  
 Pin A = +Power  
 Pin B = +Output  
 Pin C = -Output  
 Pin D = -Power  
 \*Signal and power commons (neg.) must be electrically isolated from each other.



**Bendix 6-pin**  
 Pin A = +Power  
 Pin D = -Power  
 Pin B = +Output  
 Pin C = -Output  
 Pin E = Shunt Cal.  
 Pin F = Shunt Cal.

K8 Transducers – Electrical Connections

Ratiometric (mV/V)



**Cable Type F2**  
 Red = +Power  
 White = -Power  
 Green = +Output  
 Black = -Output



**4 Inch Leads**  
 Red = +Power  
 White = -Power  
 Green = +Output  
 Blue = -Output

Special Wiring – See “X” Variation On Unit Label

Variation	Wire Hookup	Pin
#2239	+ Output	A
#2281	- Output	B
	+ Power	C
	- Power	D
	Shunt Cal.	E&F**
** B6 Connector Only		
XTQ	Red = +Power Black = Common White = Output	
XTG	Red = +Power Black = Common Green = Output	

**WARNING: READ BEFORE INSTALLATION**

Fluid hammer and surges can destroy any pressure transducer and must always be avoided. A pressure snubber should be installed to eliminate the damaging hammer effects. Fluid hammer occurs when a liquid flow is suddenly stopped, as with quick closing solenoid valves. Surges occur when flow is suddenly begun, as when a pump is turned on at full power or a valve is quickly opened.

Liquid surges are particularly damaging to pressure transducers if the pipe is originally empty. To avoid damaging surges, fluid lines should remain full (if possible), pumps should be brought up to power slowly, and valves opened slowly. To avoid damage from both fluid hammer and surges, a surge chamber should be installed.

Symptoms of fluid hammer and surge's damaging effects:

- Pressure transducer exhibits an output at zero pressure (large zero offset). If zero offset is less than 10% FS, user can usually re-zero transducer, install proper snubber and continue monitoring pressures.
- Pressure transducer output remains constant regardless of pressure.
- In severe cases, there will be no output.

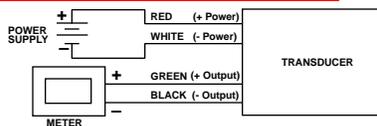
**Recalibration Instructions:**

- Apply 0% Full Scale Pressure.
- Set the output using the *Zero adjustment potentiometer*.
- Apply 100% Full Scale Pressure.
- Set the output using the *Span adjustment potentiometer*.
- Repeat steps 1 thru 4 as necessary.

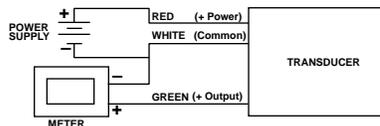


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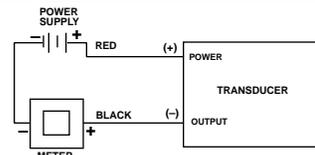
Wiring Diagrams for All Transducers



4-Wire Ratiometric (mV/V)



3-Wire Voltage



4-20 mA