

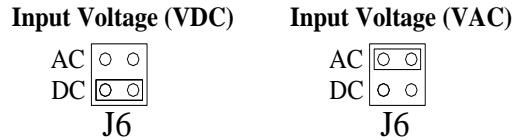


Installation and Operation Instructions A/DP2 Series

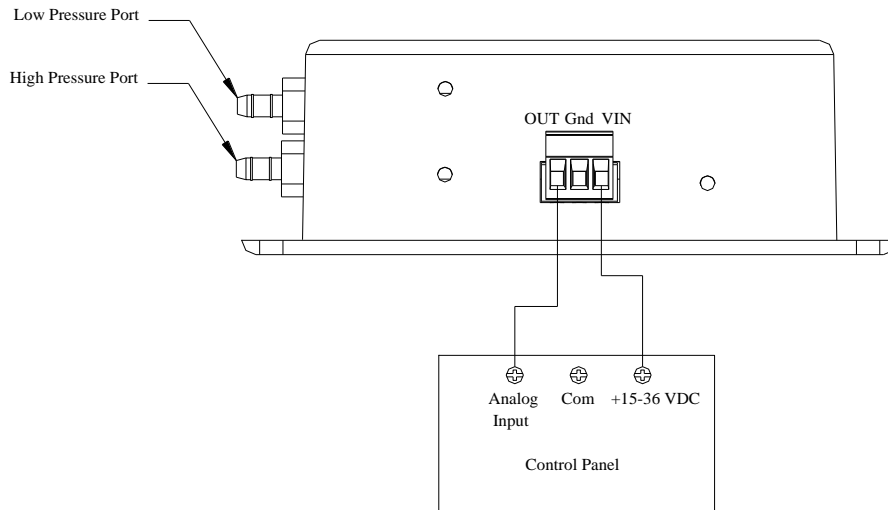
READ THESE INSTRUCTIONS BEFORE YOU BEGIN INSTALLATION

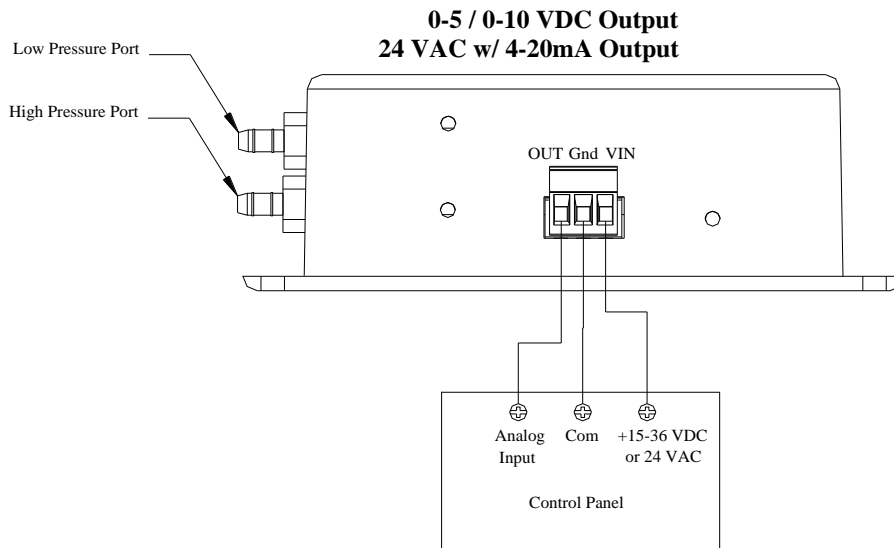
■ WIRING

All A/DP2 pressure transmitters may be powered from a regulated +15 to 36 VDC or 24 VAC power supply. **Note: Make sure to check Jumper J6 position for proper Input Voltage.**



2-Wire, 4-20 mA Output





Several

transmitters may be powered from the same supply. At full span, each transmitter draws 20mA. To determine the number of transmitters powered by one supply use the following formula:

$$N = I / 25mA$$

where: N = number of transmitters
 I = current available from power supply
 20mA = current draw of transmitter at full span

example: If $I = 1.5A$ then:

$$N = 1.5 / 25mA$$

$$N = 60$$

Therefore, a 1.5A power supply will safely power up to 60 transmitters.

■ MOUNTING PRESSURE TRANSMITTERS

The transmitter is factory calibrated and should be installed vertically (**See Figure #1**) with the brass fittings pointing downward and the arrow on the label pointing upward. If the unit must be installed flat there may be a zero shift. The shift can be corrected with the zero adjustment located inside the enclosure. To adjust the zero, both pressure ports must be open to the atmosphere. For a uni-directional span the current should be 4 mA, turn the zero adjustment until this reading is achieved. For a bi-directional span, adjust the current to read 12 mA. If the span needs to be adjusted, please contact ACI.

■ PRESSURE CONNECTIONS

The two 3/16" barbed brass fittings are located on the end of the enclosure. The connecting tubing is recommended to be 1/4" push-on. To achieve the shortest response times, larger diameter tubing must be used on longer tubing runs. For best accuracy, the 1/4" I.D. tubing length should be kept below 2 feet (24 inches) between the pressure transmitter and pitot tube.

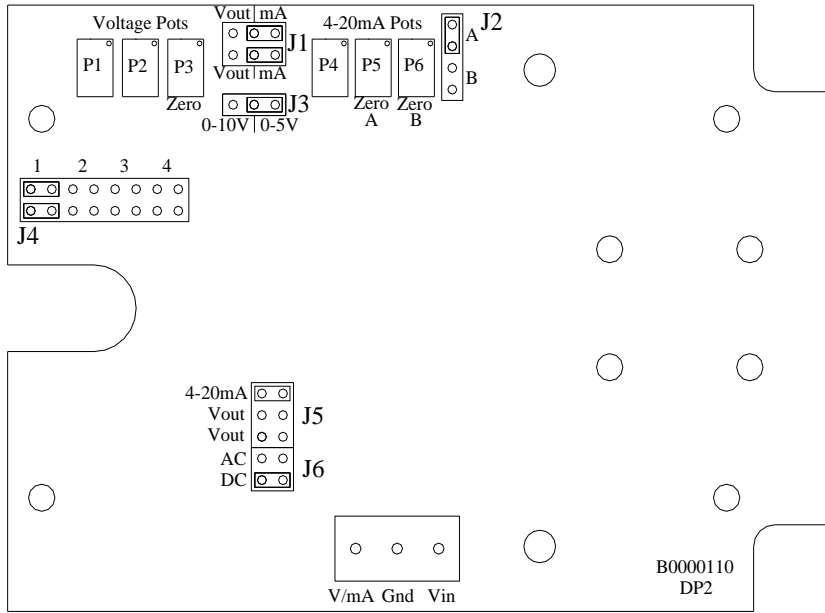
All A/DP2 units can handle a maximum pressure of 5 times the sensor range on the High side and 3 times the sensor range on the Low side. If after connecting the tubing, the output is off the scale, disconnect the tubing immediately and check the pressure input with a gauge or other test instrument.

■ SELECTING ANOTHER SPAN

Each uni-directional A/DP2 unit has the capability of being switched to three spans other than the span ordered. The bi-directional units have only two span capabilities. The switch to other spans is achieved by changing the position of jumpers found inside the enclosure. After opening the enclosure, there will be two sets of jumpers. One is a double row of pins (**J4**) with four positions numbered 1 through 4. The other is a single row of pins (**J2**) with two positions labeled A and B. For a unit ordered with a common span, the table below shows the position the jumpers are placed for both (**J2**) and (**J4**).

ACI/Part No.	SPAN	Jumper J2 Position A	Jumper J2 Position B
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		J4 Position 1	J4 Position 2	J4 Position 3	J4 Position 4
A/DP2-1-xx	±1"	-2 to 2"	N/A	N/A	-1 to 1"
A/DP2-2-xx	±0.5"	N/A	±0.8"	N/A	-0.5 to 0.5"
A/DP2-3-xx	±0.25"	-0.5 to 0.5"	N/A	N/A	-0.25 to 0.25"
A/DP2-4-xx	0 - 0.25"	0 to 0.5"	0 to 0.4"	0 to 0.3"	0 to 0.25"
A/DP2-5-xx	0 - 0.5"	0 to 0.5"	0 to 0.4"	0 to 0.3"	0 to 0.25"
A/DP2-6-xx	0 - 1"	0 to 1"	0 to 0.8"	0 to 0.6"	0 to 0.5"
A/DP2-7-xx	0 - 2"	0 to 2.5"	0 to 2"	0 to 1.5"	0 to 1.25"
A/DP2-8-xx	0 - 3"	0 to 5"	0 to 4"	0 to 3"	0 to 2.5"
A/DP2-9-xx	0 - 5"	0 to 5"	0 to 4"	0 to 3"	0 to 2.5"
A/DP2-10-xx	0 - 10"	0 to 10"	0 to 8"	0 to 6"	0 to 5"
A/DP2-11-xx	± 5"	-5 to 5"	N/A	N/A	-2.5 to 2.5"
A/DP2-12-xx	± 0.1"	-0.2 to 0.2"	N/A	N/A	-0.1 to 0.1"
A/DP2-13-xx	0 - 0.1"	0 to 0.2"	0 to 0.16"	0 to 0.12"	0 to 0.1"
A/DP2-10U-xx	0 - 10"	0 to 10"	0 to 5"	0 to 2.5"	0 to 1"



Note:
Set all Jumpers for optional spans according to the diagram on page 3 and the above chart. The chart tells where the jumpers should be placed.

The position of the jumpers on (J2) depends on the position of the jumpers on (J4). If the jumpers on (J4) are in position 1 or 2, the shunt in (J2) should be in position A. For positions 3 or 4 on (J4), the jumper on (J2) should be in position B. If the unit is calibrated to a custom span, please consult the factory for more information.

Setting Adjustable “Zero” Potentiometers:

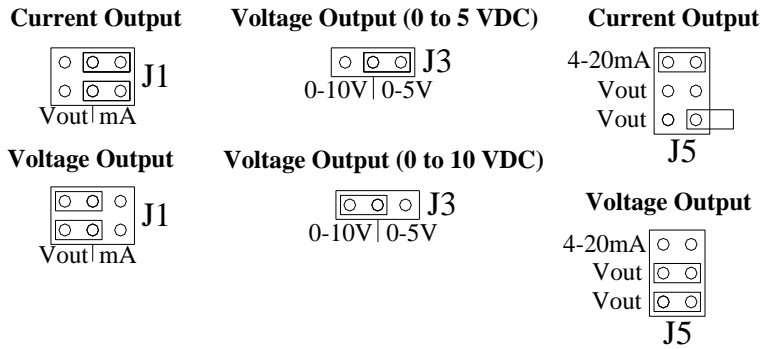
If you desire to adjust the Zero output signal you first must determine if you have a Voltage or Current Output signal.

Voltage Output: Turn Zero potentiometer (P3) counterclockwise to increase, clockwise to decrease the output signal.

Current Output: First determine if J2 jumper is in A or B position. If in **A position** turn Zero potentiometer (P5) counterclockwise to decrease, clockwise to increase the output signal.

If in **B position** turn Zero potentiometer (P6) counterclockwise to decrease, clockwise to increase the output signal.

■ JUMPER SELECTION DIAGRAMS



■TROUBLESHOOTING

No reading	No power to board – check voltage at power terminal – should be between 15-36 VDC or 24 VAC
Reading too low	Not enough airflow, check pitot tubes Improper range of transmitter (too high) - check current – should be between 4 and 20mA
Reading too high	OVERPRESSURE check for a high common mode pressure Improper range of transmitter (too low) - check current – should be between 4 and 20mA Condensation on board - inspect visually
Unstable reading	Air flow is too small; Tubing diameter needs to be increased or tubing length needs to be shortened Condensation on board - inspect visually

■PRODUCT SPECIFICATIONS

Supply Voltage	250 Ohm Load: 15-36 VDC / 24VAC 0-5 VDC: 15-36 VDC / 24VAC (+/-10%) 500 Ohm Load: 20-36 VDC / 24VAC 0-10 VDC: 20-36 VDC / 24VAC (+/-10%)
Supply Current	25mA minimum
Output	2-wire, Linear 4 to 20mA DC Current or 3-wire, 0-5 or 0-10VDC, or 4-20mA
Sensor Accuracy ¹	± 0.3% FSO for all ranges ± 0.5% FSO for A/DP2-11, A/DP2-13 ± 0.8% FSO for A/DP2-3, A/DP2-10, A/DP2-12 ± 1% FSO for A/DP2-10U
Response Time	4ms maximum
Operating Temperature Range	-14 to 140°F (-10 to 60°C)
Compensated Temperature Range	50 to 104°F (10 to 40°C)
Humidity	0 to 92% RH, non-condensing environment
Proof Pressure	1.0 PSI (either port)
Burst Pressure	1.5 PSI (either port)
Media	Dry Air
Features	Jumper switch selectable ranges and outputs Adjustable null pressure offset
Enclosure	UL94-V0 rated, flame retardant ABS
Approvals	RoHS
Note 1: Accuracy includes linearity, hysteresis and repeatability.	
Note 2: Shift is relative to 77°F (25°C).	

■WARRANTY SPECIFICATION

The A/DP2 Series pressure transmitters are covered by ACI’s Five (5) Year Limited Warranty, which is located in the front of ACI’S SENSORS & TRANSMITTERS CATALOG or can be found on ACI’s web site: www.workaci.com.

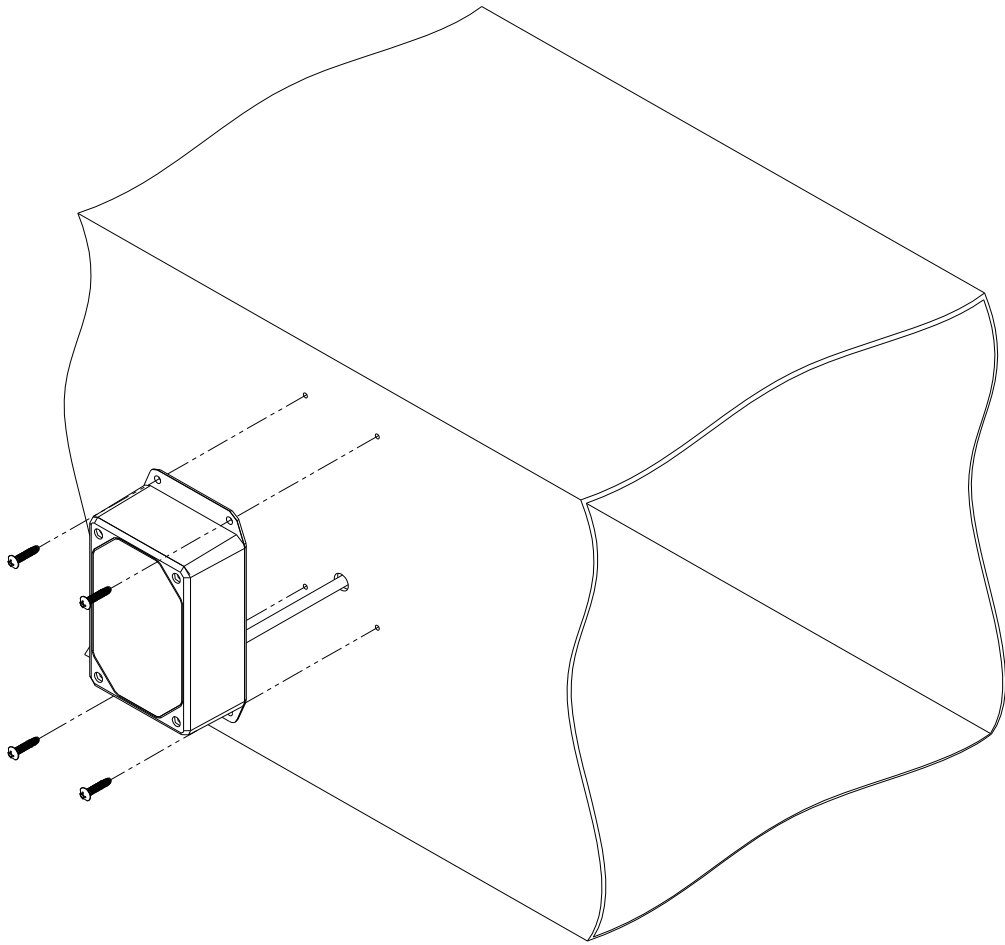


Figure #1

