

DIFFERENTIAL PRESSURE TRANSDUCER

For Additional Information See PR-282 Data Sheet

SPECIFICATIONS

- Accuracy*:** ±1% FS
- Linearity:** ±0.1%
- Repeatability:** ±0.1%
- Hysteresis:** ±0.1%
- Port:** 1/8" NPT
- Maximum Differential Pressure:** 200% of rated range
- Maximum Static Pressure:** 200% of DP range
- Maximum Supply Voltage:** 24 VAC / 28 VDC non-regulated
- Enclosure:** 16 Ga Steel - NEMA 1
- Finish:** Painted Gray - PMS2GR88B
- Compensated Temp Range:** 0 - 180°F
- Mounting Orientation Error:** None (100% Solid State)
- Media Compatibility:** Liquid/gases compatible to 304 SS

* Includes linearity, repeatability, hysteresis, stability and temp compensation

ORDERING INFORMATION: PR-282-

OUTPUT	PRESSURE RANGE	SUPPLY VOLTAGE
1) 0-1 VDC	1) 0-20 psid	A) 24 VDC
2) 0-5 VDC	2) 0-30 psid	B) 24 VAC
3) 0-10 VDC†	3) 0-50 psid	C) 115 VAC
4) 4-20 mA (2-wire)	4) 0-100 psid	D) 12 VDC
	5) 0-200 psid	
	6) 0-300 psid	
	7) Custom	

OUTPUT TYPE	OUTPUT AVERAGING	OUTPUT CLIPPING
1) Direct	2) Without	B) Without

† Not available with 12 VDC supply voltage.



INSTALLATION

Inspection Inspect the package for damage. If damaged, notify the appropriate carrier immediately. If undamaged, open the package and inspect the device for obvious damage. Return damaged products.

- Requirements**
- Tools (*not provided*)
 - Digital Volt-ohm Meter (DVM)
 - Appropriate screwdriver for mounting screws
 - Appropriate drill and drill bit for mounting screws
 - Appropriate accessories
 - Four #8 self-tapping mounting screws (*not provided*)
 - Training: Installer must be a qualified, experienced technician

Warning:



- Do not use on oxygen service, in an explosive/hazardous environment, or with flammable/combustible media.
- Disconnect power supply before installation to prevent electrical shock and equipment damage.
- Make all connections in accordance with the job wiring diagram and in accordance with national and local electrical codes. Use copper conductors only.

Caution:



- Use electrostatic discharge precautions (e.g., use of wrist straps) during installation and wiring to prevent equipment damage.
- Avoid locations where severe shock or vibration, excessive moisture or corrosive fumes are present.
- Do not exceed ratings of the device.

Mounting

Refer to **Figure 5** for mounting dimensions.

1. Remove the transducer cover using a Phillips head screwdriver.
2. Select the mounting location.
3. Mount transducer on a vertical surface with four #8 self-tapping screws (not provided).
4. Pull wires through bottom of enclosure and make necessary connections.
5. Replace cover and make pneumatic connections.

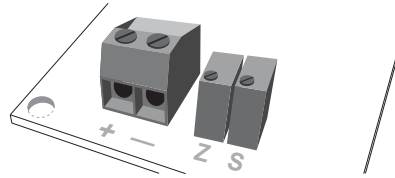
Wiring

Use maximum 12 AWG wire for wiring terminals. Refer to **Figures 1, 2, 3, & 4** for wiring information.

(Wiring Instructions continued on pages 2 and 3.)

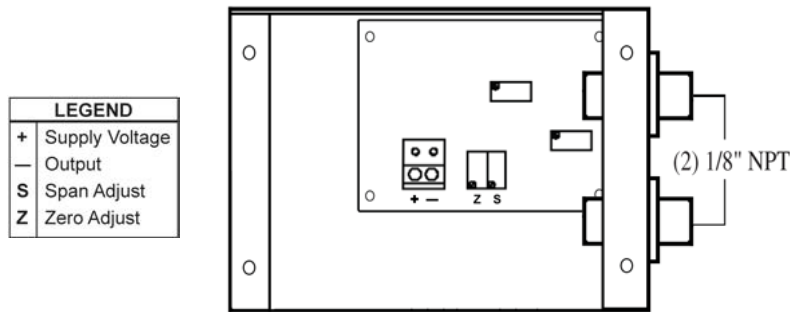
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mA Output



Wiring PR-282 Units with mA Output

PR-282 Differential Pressure Transducer with mA Output



The PR-282 pressure transducers with 4-20 mA output units are powered with a 12-40 VDC supply.

The following describes the proper wiring of these pressure transducers with mA output:

1. Remove the terminal block by carefully pulling it off the circuit board.
2. Locate the [+] and [-] terminal markings on the board.
3. Attach the supply voltage to the [+] lead.
4. Connect the 4-20 mA output ([-] terminal) to the controller's input terminal.
5. Ensure that the power supply common is attached to the common bus of the controller.
6. Re-insert the terminal block to the circuit board and apply power to the unit.
7. Check for the appropriate output signal using a DVM set on DC milliamps connected in series with the [-] terminal.

TYPICAL APPLICATIONS (wiring diagrams)

Figure 1 and **Figure 2** illustrate typical wiring diagrams for the PR-282, 4-20 mA, 2-wire, Differential Pressure Transducer.

Figure 1 - Wiring for mA Differential Pressure Transducers with External DC Power Supply

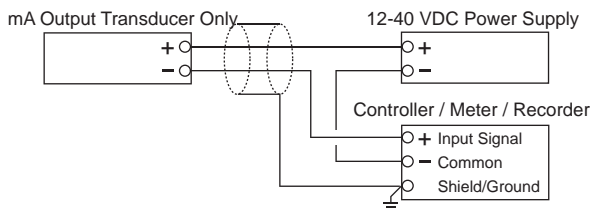
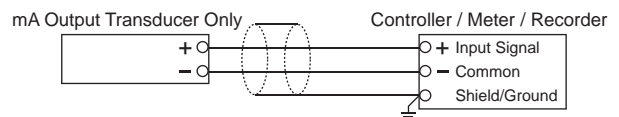
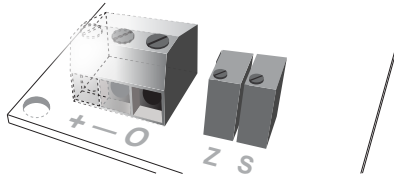


Figure 2 - Wiring for mA Differential Pressure Transducers where the Controller or Meter has an Internal DC Power Supply



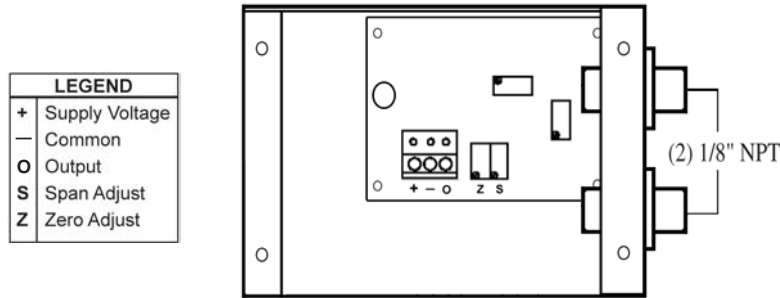
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VDC Output



Wiring PR-282 Units with VDC Output

PR-282 Differential Pressure Transducer with VDC Output



The PR-282 pressure transducers with VDC output can be powered with either a 12-40 VDC or 12-35 VAC.

The following describes the proper wiring of these pressure transducers with VDC output:

1. Remove the terminal block by carefully pulling it off the circuit board.
2. Locate the [+], [-] and [O] terminal markings on the board.
3. Attach the power wires to the [+] and [-] terminals. The [-] terminal is also the negative terminal.
4. Connect the [O] terminal, which is the positive VDC output terminal, to the controller's input terminal.
5. Re-insert the terminal block to the circuit board and apply power to the unit.
6. Check the appropriate VDC output using a voltmeter set on DC volts connected to the [O] and [-] terminals.

TYPICAL APPLICATIONS (wiring diagrams)

Figure 3 and Figure 4 illustrate typical wiring diagrams for the PR-282, 0-5/0-10 VDC Differential Pressure Transducer.

Figure 3 - Wiring for VDC Differential Pressure Transducers when applied with External AC Supply

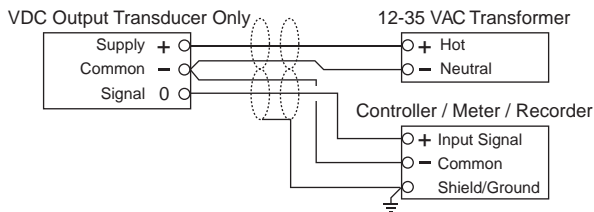
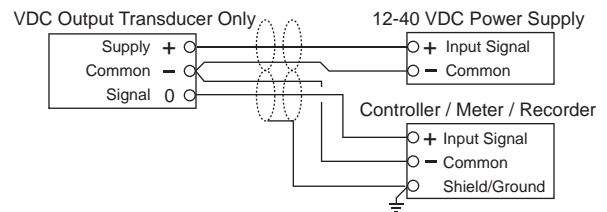


Figure 4 - Wiring for VDC Differential Pressure Transducers when applied with External DC Supply





DIFFERENTIAL PRESSURE TRANSDUCER

- CHECKOUT**
1. Verify that the unit is mounted in the correct position.
 2. Verify appropriate input signal and supply voltage.



CAUTION: Never connect 120 VAC to these transducers. Never connect AC voltage to a unit intended for DC supply.

3. Verify appropriate configuration range.

Transducer Operation

This is a rough functional check only.

1. Adjust the pressure to obtain maximum output signal for appropriate range.
2. Output should be 20 mA or 5 or 10 VDC.
3. Adjust the pressure to obtain minimum output signal.
4. Output should be 4 mA or 0 VDC.

NOTE: The PR-282 is a highly accurate device. For applications requiring a high degree of accuracy, the use of laboratory quality meters and gauges are recommended.

- CALIBRATION** All units are factory calibrated to meet or exceed published specifications. If field adjustment is necessary, follow the instructions below.

Calibration of PR-282 mA Units

1. Connect terminals [+] and [-] to the appropriate power source.
2. Connect the DVM in series on the [-] terminal.
3. Apply low pressure to the unit and carefully adjust the zero trimmer (Z) to obtain desired low output.
4. Apply high pressure to the unit and adjust span trimmer [S] to obtain the desired high output pressure.
5. Repeat steps 3 and 4 until desired calibration is achieved.

Calibration of PR-282 VDC Units

1. Connect terminals [+] and [-] to the appropriate power source. The [-] terminal is also the negative output terminal.
2. Connect the DVM on DC volts across [O] and [-] terminal.
3. Apply low pressure to the unit and carefully adjust the zero trimmer (Z) to obtain desired low output.
4. Apply high pressure to the unit and adjust span trimmer [S] to obtain the desired high output pressure.
5. Repeat steps 3 and 4 until desired calibration is achieved.

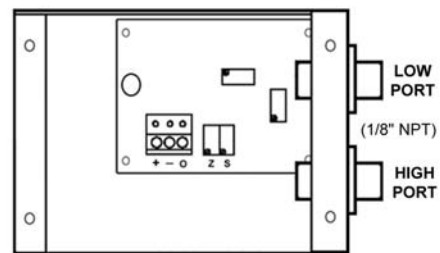
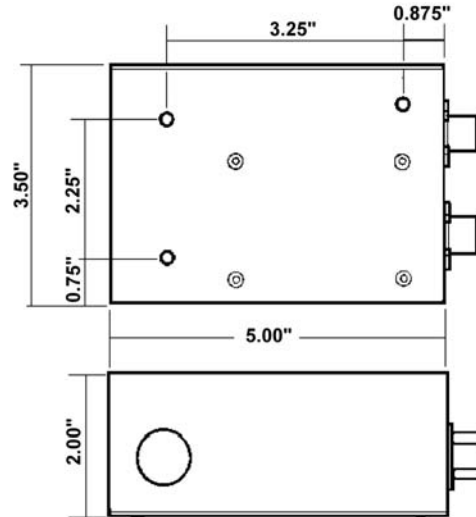
- MAINTENANCE** Regular maintenance of the total system is recommended to assure sustained optimum performance.

- FIELD REPAIR** None. Replace with a functional unit.

- WARRANTY** See Data Sheet for additional information.

DIMENSIONAL DATA

Figure 5 - PR-282 Differential Pressure Transducer dimensions shown in inches.



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