

Puregas, LLC

**PVD873U Series
Underground Combo Transducer**

Installation



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1. Introduction

This manual provides direction for the installation of the PUREGAS PVD873U Series Underground Combo Transducer. This includes both the PVD873U2 (Flow & Pressure) and the PVD873U4 (Flow, Pressure, Humidity, & Temperature) Transducers. It will cover the procedures for installing the hardware, wiring the transducer to the monitoring system, programming the transducer points in the monitoring system, and calibrating the transducer as required.

This manual will be used during the installation of the PUREGAS PVD873U Series Underground Combo Transducer.

Troubleshooting and maintenance procedures go beyond the scope of this manual and will not be covered.

2. Required Tools

- Medium size adjustable wrench
- Pipe thread sealant or tape
- Frame block spin-down tool
- PGComm or PGEEditor program
- PVD860D Transducer Calibrator / Tester (*as necessary for calibration*)

3. Before You Start

- Verify that your monitoring system meets the minimum requirement to be able to communicate with the PVD873U Series Transducer:
 - Is either a PUREGAS monitoring system (PVD818 or PVD800V)
 - OR, is a Sparton system that has been upgraded with both PUREGAS Control Board (PVD855) and replacement Dedicated Module boards (P580502, P580503)
- Verify that there is an available Dedicated wire pair to connect to.
- Verify the installation location of the PVD873U Series Transducer.
- Notify the alarm center that alarms may occur during the installation procedures.

4. High Altitude Consideration

If the PVD873U Series Underground Combo Transducer is being installed at a location higher than 2,500 ft. above sea level, it may be necessary to Zero Calibrate the transducer using the PUREGAS PVD860D Transducer Calibrator / Tester to ensure the most accurate readings. (*See Section 9-Calibrating the Transducer*)

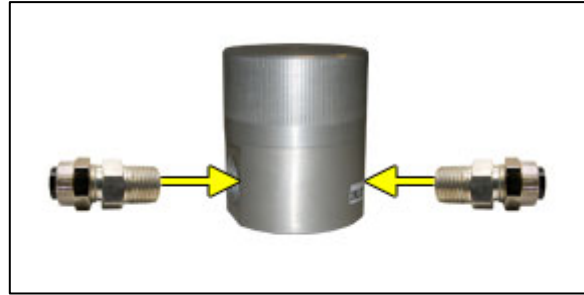
5. Hardware Contents

- (1) – PVD873U Series Transducer
- (2) – 1/4" MPT x 3/8" Compression Tube Fittings



6. Installing the Hardware

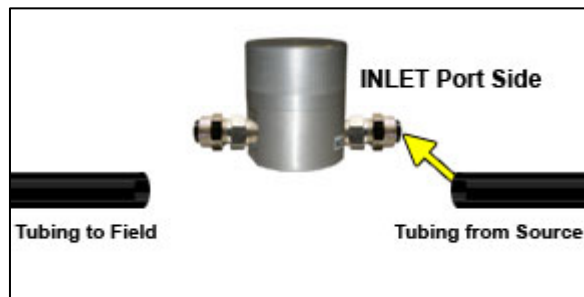
1. Determine a location along your Pipe / Cable where the PVD873U Series Transducer will be installed.
2. Using pipe thread sealant or tape (as required), attach the two (2) fittings to the INLET and OUTLET ports of the PVD873U Series Transducer.



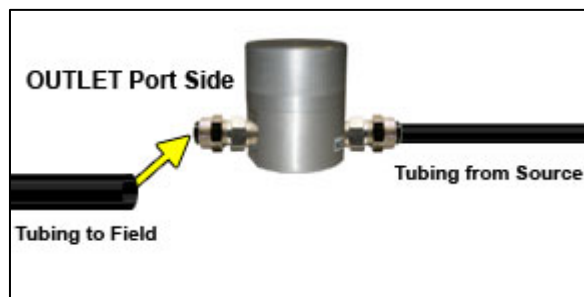
3. Depending on your specific installation, it may be necessary to splice into an existing tube coming from the air source at the location of the PVD873U Series Transducer installation. This will require two (2) separate tubing segments:
 - a. One coming from the air source (INLET)
 - b. The other going to the field (*cable / pipe*) (OUTLET)

Otherwise, install new tubing lengths as necessary connecting to the air source and the field side.

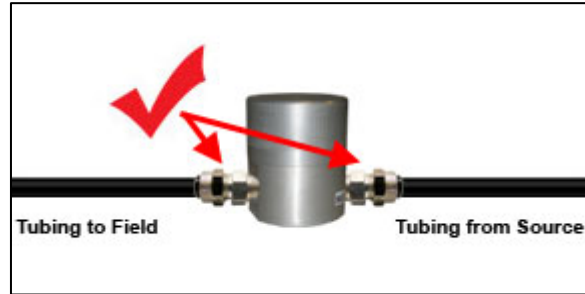
4. Attach the tube end coming from the air source to the INLET side fitting of the PVD873U Series Transducer.



5. Attach the tube end going to the field to the OUTLET side fitting of the PVD873U Series Transducer.



6. Check for leaks from tubing or fittings at the PVD873U Series Transducer installation.



7. Wiring the Transducer to the Monitoring System

NOTE: If wiring to an existing Sparton system module, that system must be upgraded with PUREGAS modules:

Control Module – PVD855
Dedicated Module – P580502 & P580503's

Also, because of the communication method used by the PVD873U Series Transducer, it is necessary to use the highest Dedicated wire pair supported by your Sparton system.

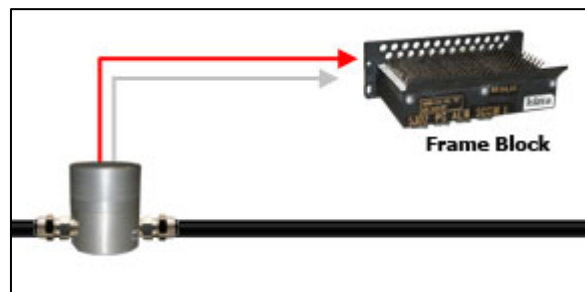
For Example: If your system has the capabilities of monitoring 108 Dedicated points, wire the PVD873U Series Transducer to position 108 on the frame block.

In the Field installation location:

1. Connect the wires from the PVD873U Series Transducer to an available cable pair.

In the Central Office:

1. Locate an available Dedicated wire pair position on the Dedicated frame block.
2. Connect the cable pair from the PVD873U Series Transducer to the available wire pair frame block location.



8. Programming the Transducer Points

NOTE: Your company may require the following procedures to be done by a supervisor or an individual at a monitoring center. Please forward the information for these procedures to that individual as necessary.

Use PUREGAS' PGComm or PGEEditor to program the following into a new or existing Unit:

1. Add the necessary Thresholds with Low, High, and Trend values set specific to your system (as required) –

For the **PVD873U2** Transducer:

1. Add type 36 – STD-95 *Used for Pressure*
2. Add type 38 – STD-9500 *Used for Flow*

For the **PVD873U4** Transducer:

1. Add type 36 – STD-95 *Used for Pressure*
2. Add type 36 – STD-95 *Used for Humidity*
3. Add type 37 – STD-950 *Used for Temperature*
4. Add type 39 – STD-95000 *Used for Flow*

2. Determine the Input Numbers for each individual point.

NOTE: The PVD873U Series Transducer uses one (1) actual** input number and up to three (3) virtual input numbers to monitor each of the monitored points. They are determined as follows:

Flow -	Actual	=	<input type="text"/>
Pressure -	Actual + 25	=	<input type="text"/>
*Humidity -	Actual + 50	=	<input type="text"/>
*Temperature -	Actual + 75	=	<input type="text"/>

* *PVD873U4 ONLY*

Input Number Examples

Actual Input #	Flow Input # <i>Actual</i>	Pressure Input # <i>Actual +25</i>	*Humidity Input # <i>Actual +50</i>	*Temperature Input # <i>Actual +75</i>
1	1	26	51	76
2	2	27	52	77
3	3	28	53	78
40	40	65	90	115
108	108	133	158	183

Table 1 - Input Number Examples

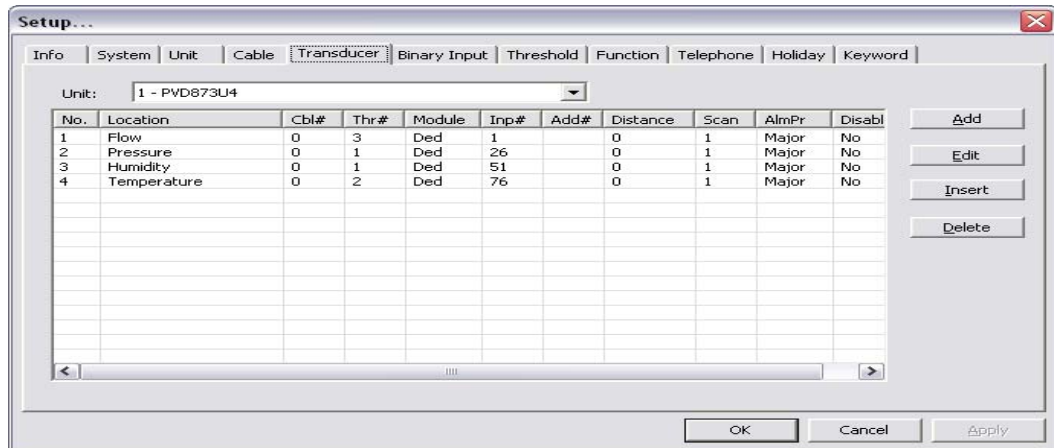
* PVD873U4 ONLY

** For PUREGAS PVD800v monitoring systems please refer to the Input Number Conversion Table specific to your system to determine the “actual” input number for the frame block location used.

3. Add each of the transducer points to the system.
 - a. Use the appropriate Threshold for each (Step 1 of this section)
 - b. Use the appropriate Input Number for each (Step 2 of this section)
 - c. Each point should be identified as Dedicated (Ded) for Module type
 - d. Name each point accordingly (Flow, Pressure, *Humidity, *Temperature)

* PVD873U4 ONLY

Transducer Detail



Detail 1 - Transducers in PGEditor Program

9. Calibrating the Transducer

This section describes the processes for calibrating the PVD873U Series Transducer as necessary only when inaccurate readings are present due to installation at elevations more than 2,500 feet above sea level.

1. Connect the test pair of the PVD860D Transducer Calibrator / Tester to the wire pair of the PVD873U Series Transducer.
2. Power on the PVD860D Transducer Calibrator / Tester.
3. Press **↑+R** to power the transducer.

Calibrate the Pressure and Flow zero points

- a. Turn off the air flow going to the PVD873U Series Transducer.
- b. Press **W+2+W** to set the zero points.

If “WARNING...” appears on the display, press the **ENT** key.

When “Finished! ZeroP=123” appears on the display, the calibration was successful.

- c. Press the **ESC** key twice to get back to the main screen.