Installation & Maintenance Instructions

24 Series
Delta-Pro PFA Teflon®
Differential Pressure Switches

Discrete Input and Loop-Powered
Models: 2W2D, 2W4D, 2W3A, 2WLP

External Powered
Models: 4W3A, 8W2D

UNITED ELECTRIC CONTROLS

Reading Office
Cutbush Park, Danehill, Lower Earley,
Reading, Berkshire. RG6 4UT. UK.
Tel: +44 (0)118 9311188
Email: info@able.co.uk

Aberdeen Office
Unit 6 Airside Business Park, Kirkhill Industrial Estate,
Dyce, Aberdeen. AB21 0GT. UK.
Tel: +44 (0)1224 725999
Email: ab@able.co.uk

Internet: www.able.co.uk
e-procurement: www.247able.com
Registered in England No: 01851002
VAT No: GB 417 2481 61

24 Series Delta-Pro PFA Teflon® Differential Pressure Switches

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Installation and Maintenance Instructions

Please read all instructional literature carefully and thoroughly before starting. Refer to the final page for the listing of Recommended Practices, Liabilities and Warranties.

GENERAL

The 24 Series Teflon® differential pressure switch utilizes a diaphragm sensor to monitor pressure changes. The switch utilizes dual diaphragm sensors to monitor the difference in pressure between two sources. PFA Teflon® wetted ports insure corrosion resistance in highly corrosive applications and is well suited for high purity applications.

Part I - Installation

Tools Needed

Applicable Screwdriver
Flaretek® tubing cutter 213-14 or equal
Flaretek® flaring tool 213-58 or equal
Flaretek® tools may be ordered from
Flouroware, Inc., Phone (612) 448 - 3131

MOUNTING

LOCATE SWITCH WHERE VIBRATION, SHOCK, AND AMBIENT TEMPERATURE FLUCTUATIONS ARE MINIMAL.

The control can be mounted in any position. Locate where ambient temperature is above 30°F and below 160°F.

Surface Mounting
Insert two #6 screws through mounting ear holes on 2" centers (recommended mounting for maximum vibration resistance). Follow directions for making pressure connection.

Pipe Mounting
Mount unit from its port(s). Follow directions for making pressure connection.

Teflon® is a registered trademark of E.I. Dupont Company
Flaretek® is a registered trademark of Fluoroware, Inc.

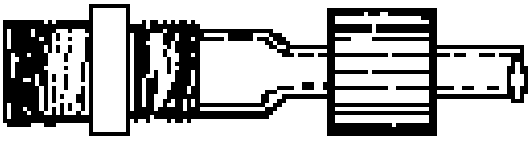


Figure 1

Making Pressure Connection
Use proper tools and prepare tubing per manufacturers recommendations. Cut tubing. Slip nut over tubing. Flare tubing. Press tubing onto pressure connection, making certain tubing is seated on pressure connection shoulder. Tighten nut, hand tight, onto pressure connection (see Figure 1).

Minimum torque requirement for 1⁄4" nut is 5 inch • pounds (0.57 Newton • Meters). Be sure to connect high pressure source to port labeled "HIGH." Connect low pressure source to "LOW."

NEVER TIGHTEN BY TURNING THE CONTROL INTO THE FITTING.

DO NOT USE A WRENCH. FITTING MUST BE HAND TIGHTENED ONLY, OVER TIGHTENING MAY DAMAGE THE PORT.

WIRING

ALL LIVE SUPPLY CIRCUITS MUST BE DISCONNECTED BEFORE WIRING THE CONTROL. CONNECT THE CONDUIT TO THE HOLE IN ACCORDANCE WITH NATIONAL AND LOCAL CODES. MAXIMUM RECOMMENDED WIRE SIZE IS 16 AWG.

Unscrew terminal just enough to put stripped wire under terminal block clamp. Nominal torque value for terminal block screws is 9.0 in-lbs.

Conduit hub is to be connected to conduit before conduit is connected to enclosure.

Part II - Adjustments

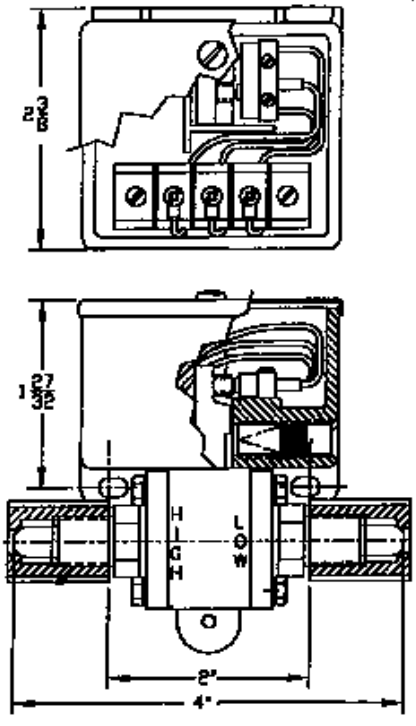
Tools Needed
Flat blade screwdriver

Use screwdriver to turn external adjusting screw on the side. Turn “in” (clockwise) to increase pressure setting. For best setting accuracy, set the switch using the actual working pressures encountered in the application.

Part III - Replacements

Snap Switch Assembly Kit
To order, specify part number SD6259-633 for 5 AMP switch and lead wires. Five assemblies per kit. Consult factory for installation instructions.

Dimensions



All dimensions are stated in inches unless noted.

RECOMMENDED PRACTICES

United Electric Controls Company recommends careful consideration of the following factors when specifying and installing UE pressure and temperature units. Before installing a unit, the Installation and Maintenance instructions provided with unit must be read and understood.

- To avoid damaging unit, proof pressure and max temperature limits stated in literature and on nameplates must never be exceeded, even by surges in the system. Operation of the unit up to proof pressure or max temperature is acceptable on a limited basis (i.e.start-up, testing) but continuous operation must be restricted to the designated adjustable range. Excessive cycling at proof pressure or maximum temperature limits could reduce sensor life.
- A back-up unit is necessary for applications where damage to a primary unit could endanger life, limb or property. A high or low limit switch is necessary for applications where dangerous runaway condition could result.
- The adjustable range must be selected so that incorrect, inadvertent or malicious setting at any range point can not result in an unsafe system condition.
- Install unit where shock, vibration and ambient temperature fluctuations will not damage unit or affect operation. Orient unit so that moisture does not enter the enclosure via the electrical connection.
- Unit must not be altered or modified after shipment. Consult UE if modification is necessary.
- Monitor operation to observe warning signs of possible damage to unit, such as drift in set point. Check unit immediately.
- Preventative maintenance/periodic testing is necessary for critical applications where damage could endanger property/ personnel.
- For all applications, a factory set unit should be tested before use.

Electrical ratings stated in literature and on nameplate must not be exceeded. Overload on a switch can cause damage, possible on the first cycle. Wire unit according to local and national electrical codes, using wire size recommended in installation sheet.

- Use only factory authorized replacement parts and procedures.
- Do not mount unit in ambient temp. exceeding published limits.
- For remote mounted temperature units, capillary lengths beyond 10 feet can increase chance of error, and may require re-calibration of set point and indication.

LIMIT WARRANTY

UE warrants that the product thereby purchased is, upon delivery, free from defects in material and workmanship and that any such product which is found to be defective in such workmanship or material will be repaired or replaced by UE (F.O.B. UE); provided, however, that this warranty applies only to equipment found to be so defective within a period of 12 months after installation by buyer but not to exceed 18 months after delivery by the seller. **Except for the limited warranty of repair and replacement stated above, UE disclaims all warranties whatsoever with respect to the product, including all implied warranties of merchantability or fitness for any particular purpose.**

LIABILITY LIMITATION

The sole and exclusive remedy of buyer for any liability or seller for any claim, including incurred in connection with (I) breach of any warranty whatsoever expressed or implied, (II) a breach of contract, (III) a negligent act or acts (or negligent failure to act) committed by seller, or (IV) an act for which strict liability will be imputed to seller, is limited to the limited warranty or repair and replacement stated herein. **In no event shall the seller be liable for any special, indirect, consequential or other damages or like general nature, including, without limitation, loss of profits or production, or loss or expenses of any nature, incurred by the buyer or any third party.**

U N I T E D E L E C T R I C C O N T R O L S

180 Dexter Avenue, P.O. Box 9143
Watertown, MA 02471-9143 USA
Telephone: 617 926-1000 FAX: 617 926-2568
http://www.ueonline.com