



INSTALLATION, OPERATION & MAINTENANCE MANUAL

**MODEL
DP10LS1**

**DESCRIPTION
DP TRANSMITTER**

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GENERAL DESCRIPTION

When you monitor the operation of a Dust Collector, there are times when the operator will need to increase or decrease the pulse cleaning rate in order to maintain the system DP at an optimized level. This adjustment is usually done to accommodate variable work loads.

To continually monitor the dust collector operation is not economical, which means the cleaning rate will typically be set for the severest work load conditions. This causes the bags to be pulsed more than they are needed, which results in excessive air usage and can cause the filter bags to wear prematurely.

To overcome this issue, EDI designed a Linear Closed Loop System that provides the most accurate way of optimizing dust collector bag cleaning. Using this system, the filter bags are only pulsed when cleaning is needed. Thus saving air and prolonging bag life.

PRINCIPLES OF OPERATION

The operator pre-sets a fixed Differential Pressure (ΔP) via the control setting on the Model DP Timer. The DP unit generates a 4-20 mA signal that corresponds to a 0-10" water pressure (Model DP-10LS1) or 0-20" water pressure (DP20LS1). This signal is given to the timer and compared to the operator's pre-set ΔP . If the work load increases, the ΔP goes high and the 4-20 mA signal increases. This signal then increases the cleaning rate to maintain the operator's set point.

The increase in cleaning rate may be almost undetectable to the operator during small changes in ΔP . As a result, fast pulse rates are not necessary because the ΔP never gets far from its pre-set value.

The standard method of HI-LOW pre-set detection of other instruments works, but the dust collector must pulse at an overly fast rate in order to return the ΔP to the low setting. This requires the air supply to be sized to accommodate a fast pulse rate. Air and bags are expensive. The Linear Closed Loop System preserves both, to the highest efficiency level.

FEATURES:

- 120 VAC 50/60 Hz, 1 Ph
- One amp fuse protection
- All solid state industrial quality construction
- LED indicators for High and Low set point adjustments.
- LCD numeric indication of Differential Pressure (inches of water)
- Temperature Compensated signal (0°C to + 50°C)
- Isolated Outputs (rated 4 amps)
- UL Recognized to US and Canadian Standards under File E 60685
- One Year Factory warranty against parts or manufacturing defects.

GENERAL MOUNTING AND WIRING:

1. The DP Transmitter is to be mounted in a dust tight and water tight NEMA rated enclosure. These enclosures are available from EDI; please call for details.
2. Mount the NEMA enclosure in a vibration-free area.
3. Run 120 VAC 1/60 HZ Supply to the DP (TB 1)
4. Wire from DP terminal (TB 4) to the EDI E♦MH1 series of timer.
5. If using auxiliary alarm, run wiring from DP terminal (TB 3) for HI and LO contacts.
6. Use 1/4" flexible tubing from DP to pressure connections at dust collector, note HI and LOW ports.

TERMINAL BLOCK ID:

TB 1: INPUT POWER, 120 VAC/ 60 HZ

TB 2: 4-20 MA OUTPUT SIGNAL

TB 3: SWITCHED OUTPUTS, 4 AMP / 120 VAC

4-20 mA MODE OF OPERATION: (LINEAR CLOSED LOOP)

1. Connect input 120 VAC to TB 1.
2. TB 2 is the 4-20 output terminal block. Connect it to the timer (Plus to Plus) and (Minus to Minus)
3. Make D. air pressure connections, observe HI and LOW ports. Use 1/4" flexible tubing.
4. Apply power, DP will indicate differential pressure is applied and will generate corresponding 4 - 20 ma linear signal to the timer.

HOLD-OFF MODE OF OPERATION: (DUAL SET POINT)

1. Connect input 120 VAC to TB 1.
2. Connect the HI Sense N. O. contacts on TB 3. These contacts will close when the HI set-point is reached and remain closed until Differential Pressure decreases to the LOW set-point.

PRE-SET POINTS:

Presets are adjustable set points. As inches H₂O changes in range, the operator can pre-select two points (HI and LOW) to activate output contacts. This is done by simulating ΔP using the ADJUST switch and the H₂O Meter Adjust potentiometer.

PROCEDURE FOR PRE-SET POINTS:

LOW:

Place Adjust/Operate Switch in UP position ↑. (Adjust)
Turn H₂O ADJUST pot to obtain desired LOW set point reading on LCD.
Adjust LOW PRESET until LOW indicating LED lights. LOW is now preset.

HIGH:

Place Adjust/Operate Switch in UP position ↑. (Adjust)
Turn H₂O ADJUST pot to obtain desired HIGH set point reading on LCD.
Adjust HIGH PRESET until HIGH indicating LED lights. Release switch, HIGH is now preset.

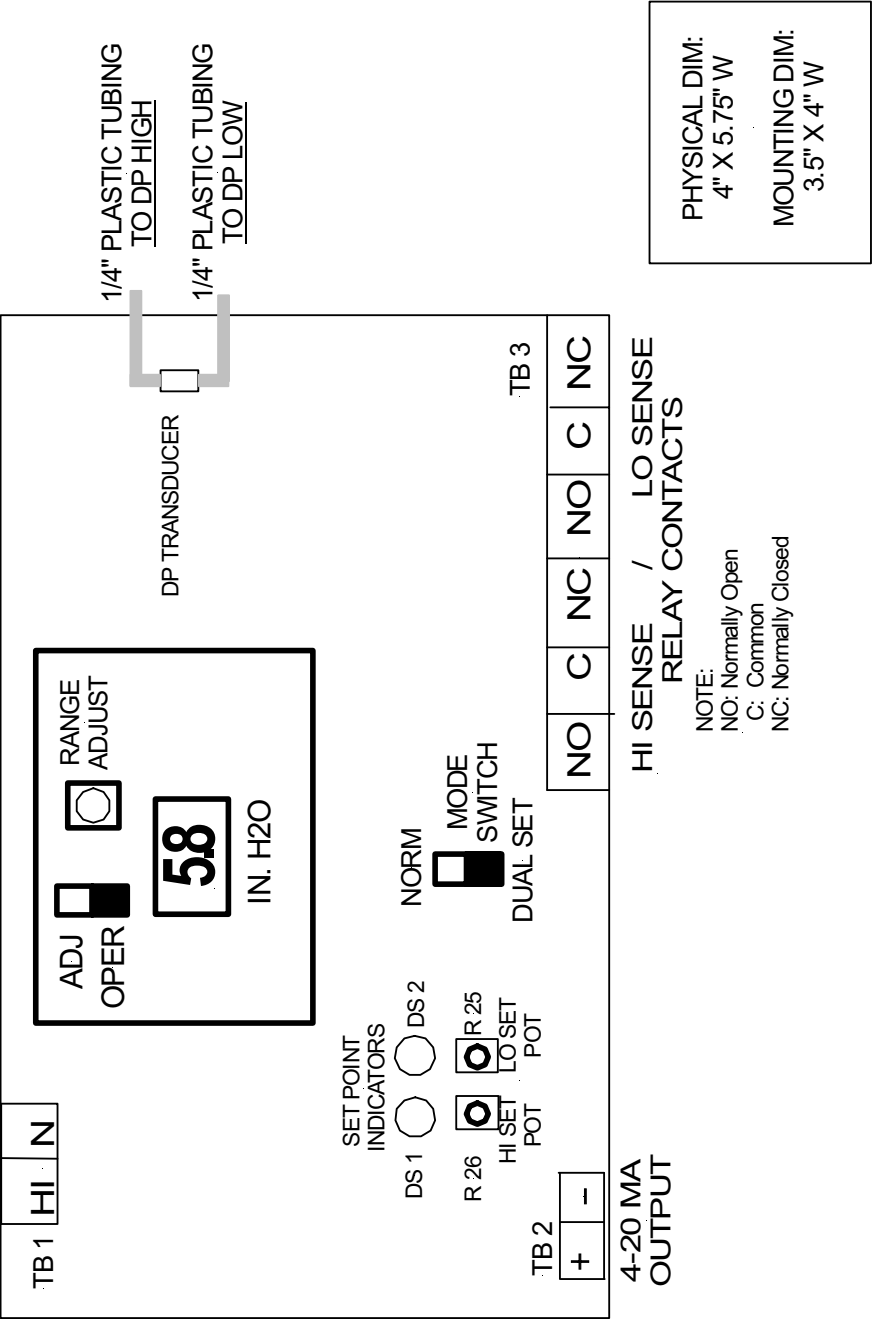
Return switch to operate position DOWN ↓.

Place the Mode Switch in the Dual set-point position. DOWN ↓

WARRANTY & REPAIR:

All EDI products come with a one year warranty against parts and/or manufacturing defects. Please see our terms & conditions or contact us for additional details.

On all products that are over a year old, EDI offers a full test and repair facility at our Lancaster, SC facility. Once we receive a board, it will be logged in, tested, evaluated and then the customer will be advised of the cost to repair or replace. Please contact EDI for additional details on our repair services.



DP10LS1, DIFFERENTIAL PRESSURE TRANSMITTER

HI SENSE / LO SENSE
RELAY CONTACTS

NOTE:
NO: Normally Open
C: Common
NC: Normally Closed