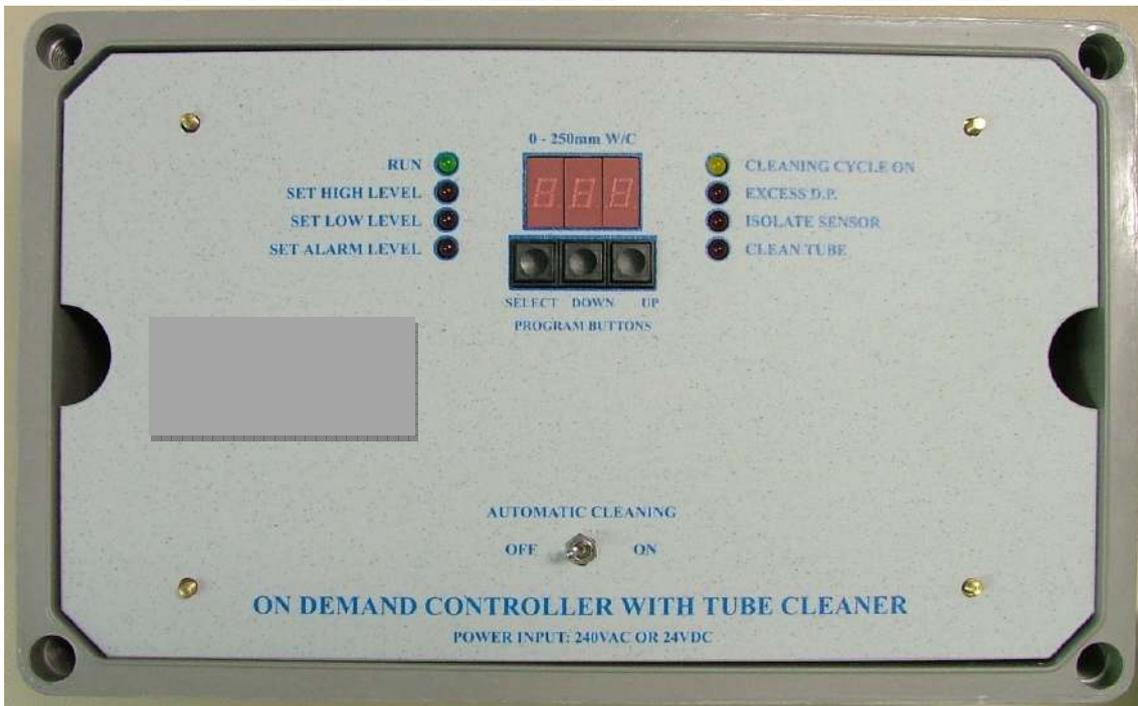


PULSE CLEANING CONTROLLER



with ON DEMAND CLEANING & TUBE CLEANER



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THE SYSTEM.

The system consists of 2 parts:

1. The PT10DCE sequential timer up to 10 outputs and extendable to 50 outputs. It drives the pilot solenoid valves.
2. The On Demand controller with Tube Cleaner (ODC TC). It measures differential pressure across the filters and has a built in tube cleaner to insure reliable measurements.

Both units are interlinked. The ODC TC controls the stop and start of the PT10DCE (refer to wiring diagram on page 4).

Operation

The controller consists of 10 outputs connected to up to 10 solenoid valves. It is designed to manage the pulse cleaning function of dust collectors.

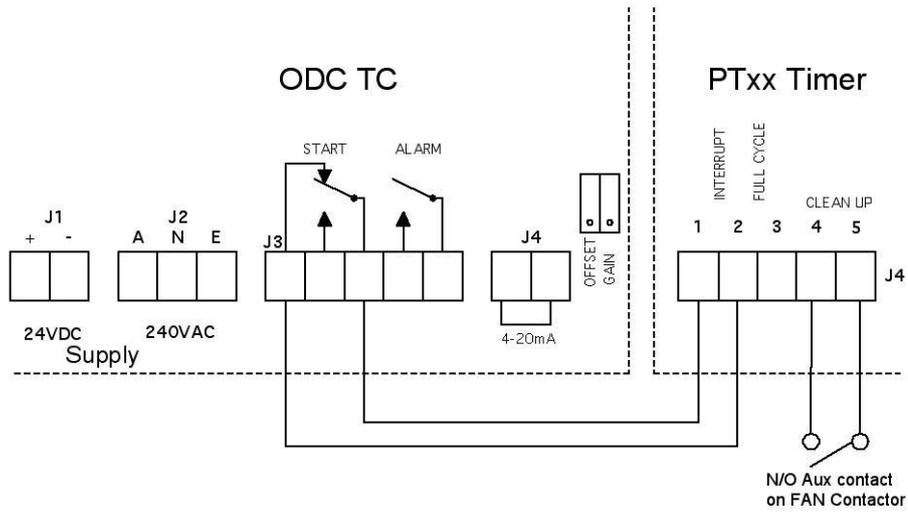
A 2 position switch is located on the ON DEMAND CLEANING panel. The left position is the OFF mode the right position is the ON as described below:

Two modes are available

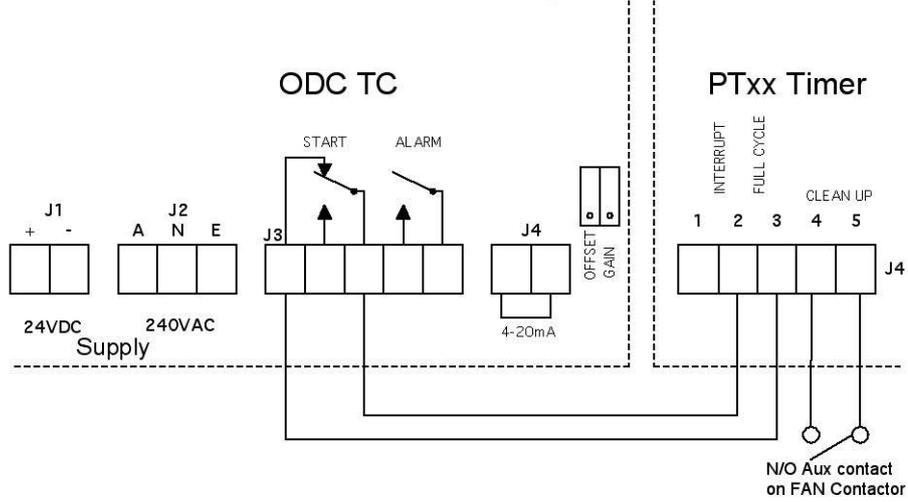
- ON mode - The controller is driven by the On Demand Cleaner and starts pulsing when the DP (differential pressure) reaches a preset "HIGH LEVEL" (usually around 160mm H₂O). The controller will stop pulsing when the DP falls to a preset "LOW LEVEL" (around 100mm H₂O).
- OFF mode – The controller will continuously pulse independently from the DP reading.

WIRING DETAILS

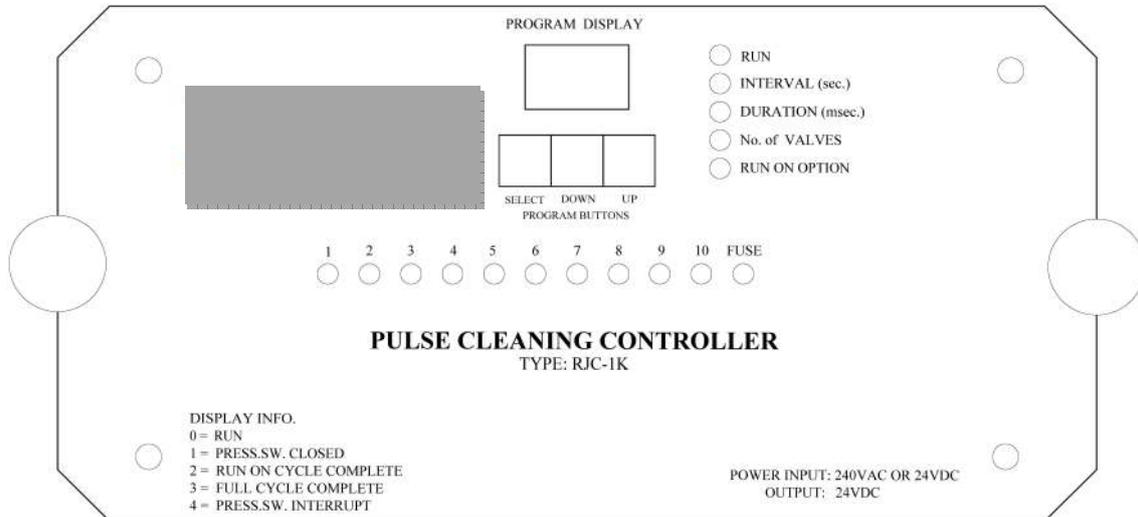
ON DEMAND CLEANING using the INTERRUPT CYCLE



ON DEMAND CLEANING using the FULL CYCLE



PROGRAMMABLE SEQUENCER - PT10DCE



DESCRIPTION:

The PT10DC is a solid state sequencer designed to provide an adjustable pulse to control the pulse valves on reverse jet dust collectors. The number of outputs, ON TIME, OFF TIME and CLEAN UP cycle are programmed by the program buttons and displayed on the program display.

Up to 4 extender boards PT10DCEXT (10 outputs ea.) can be connected to the connector CON3.

Two pressure switch control inputs are provided to control the operation of the timer. If connected to D.P.SWITCH interrupt terminal (1) the timer will remember the last solenoid energised and continue with the next output. If connected to the full cycle terminal (2) the timer will complete the sequence and stop at the last output.

The CLEAN UP feature will run the timer for a programmed number of complete cycles (0-255) after the baghouse fan is turned off. The CLEAN UP cycle is initiated by the opening of the auxiliary contact of the fan contactor. A jumper wire must be fitted if clean up cycle is not used.

PROGRAMMING INSTRUCTIONS:

1. Press the "SELECT" button to illuminate the RED LED indicator to the left of the program
2. Display. Each time the select button is pressed the next specific function LED will illuminate.
3. Once a function has been selected, press the "UP or DOWN" push button to set the desired No. of valves, on time (Pulse duration), off time (Pulse interval) and clean up cycle (run on time).
4. When all functions are set press the select button to illuminate LED indicator " RUN ".

Now as all setting are locked in, the program display will indicate 0 and the timer will go through the sequence. To check or change a specific function, push the "SELECT" button and illuminate the desired LED. The program display will display the current setting. In that position a change can be made and when completed push the select button to illuminate LED indicator " RUN ".

SEVEN SEGMENT PROGRAM DISPLAY:

The program display will provide you with the following information:

- Display reads 0 = Sequencer is running
- Display reads 1 = Check pressure switch
- Display reads 2 = Clean up cycle complete
- Display reads 3 = Full cycle complete
- Display reads 4 = Pressure switch interrupt

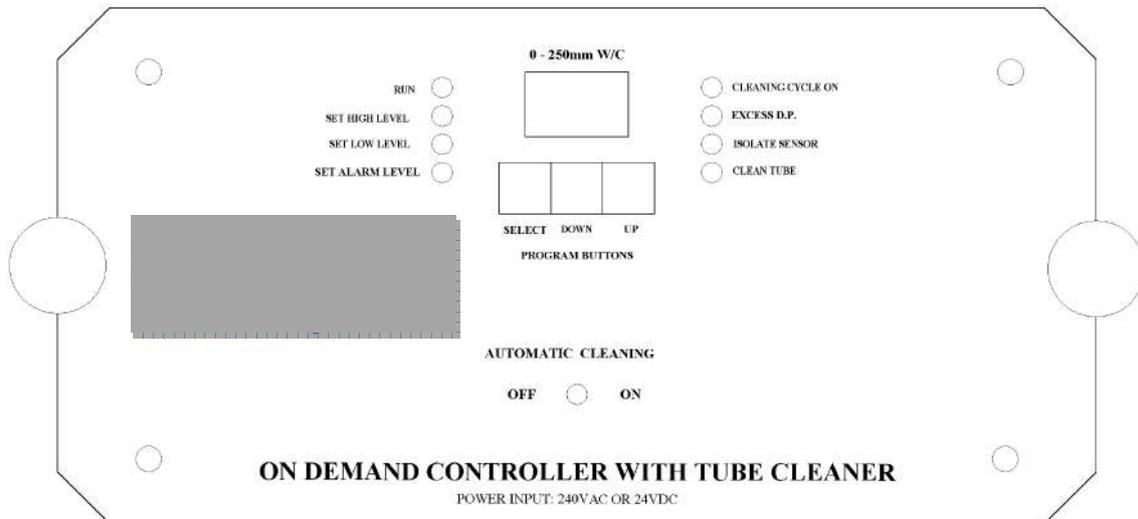
SPECIFICATIONS:

<u>Input voltage</u>	<u>240VAC</u>
<u>Fuse</u>	<u>2Amp slow 5x20mm</u>
<u>No. of Outputs</u>	<u>10</u>
<u>Off Time</u>	<u>1 to 999 seconds (in 1 second steps)</u>
<u>On Time</u>	<u>10 to 990 milliseconds (in 10 ms steps)</u>
<u>Clean up cycle</u>	<u>0 to 255</u>
<u>Output voltage</u>	<u>24VDC</u>
<u>Load output</u>	<u>2 Amp</u>
<u>Operating temp.</u>	<u>-10 to + 55 degree centigrade</u>

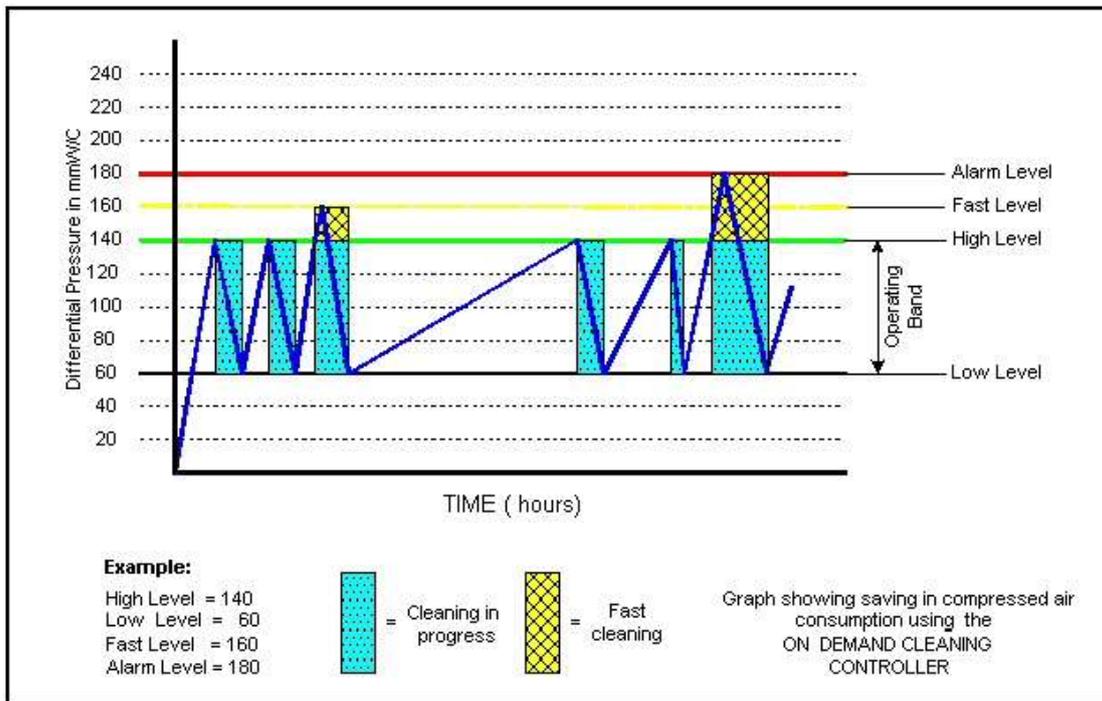
DIMENSIONS:

The PT10DCE consists of a P.C. card 240 mm long, 150 mm wide and 65 mm high. A suitable dustproof plastic or metal enclosure is available.

ON DEMAND CLEANING with TUBE CLEANER



Operation Graph



DESCRIPTION:

The DP CONTROLLER will monitor and display the differential pressure across your dust collectors clean and dirty sides. This will achieve effective on demand cleaning for extended bag or cartridge life as well as reduced compressed air consumption and improved filter efficiency. The sensor will identify a pre-set high level limit and start the timer/sequencer (a yellow LED will illuminate) until the pre-set low level has been

reached and then stop the sequence. When the diff.pressure increases and reaches the pre-set alarm level, a relay will energize and a red LED indicate DP to high. To operate the timer manually and bypass the differential control, a switch has been fitted on the front panel to select ON or OFF for the on demand cleaning.

The DP CONTROLLER has three programmable presets from 0-250mmW/C

High level - will start sequence

Low level - will stop sequence

Alarm level - will activate a relay output

There is also a 4 - 20 mA current loop for external monitoring. The sensor is a true two-wire device and delivers a 4 to 20 mA output signal proportional to differential pressure. The unit is calibrated at the factory. However, the offset and gain adjustments are accessible.

The zero may be adjusted with pressure ports open to atmosphere. Adjust the offset to 4mA and display will read 00.

For full scale adjustment connect accurate pressure standard of 250mmW/C to high pressure port and low pressure port open to atmosphere, adjust the gain potentiometer to 20mA display will read 250.

Tube Cleaner

To ensure the **on demand cleaning** function, a tube cleaner has been incorporated consisting of three air valves controlled by the processor. At power on and every hour there after two valves will close the air flow to the high and low inputs of the pressure sensor and after a short delay the third valve will open for a short time and release high pressure through the air hoses to remove any blockage. The operation of the valves are indicated by LED's on the front panel.

PROGRAMMING INSTRUCTIONS:

Press the select button to illuminate the RED LED indicator to the left of the program display. Each time the select button is pressed the next specific function LED will illuminate. Once a function has been selected, press the UP or DOWN push button to set the desired operation levels displayed on the program display. After completion press the select button to illuminate the GREEN LED indicator " RUN ".

Now as all settings are locked in and the differential pressure hoses are connected, the program display will indicate the differential pressure. To check or change a specific function just push the select button and illuminate the desired LED function. The program display will display the current value setting. In that position a change can be made and when completed push the select button to illuminate LED indicator " RUN ".

SPECIFICATIONS:

<u>Supply Voltage:</u>	<u>24VDC or 240VAC</u>
<u>Relay Contacts</u>	<u>10A-250VAC/10A-30VDC</u>
<u>Pressure Range</u>	<u>0 - 250mmW/C (approx. 0 - 2.5 KPA)</u>
<u>Overpressure</u>	<u>20 psi</u>

<u>Output Signal</u>	<u>4 - 20 mA 2 wire</u>
<u>Accuracy</u>	<u>0.1% at 25deg.C</u>
<u>Additional Temp.Error</u>	<u>0.1% per deg.C deviation from 25deg.C</u>
<u>Pressure Connections</u>	<u>3 Bulkhead Fittings suitable for 4mm ID and 6mm OD hose</u>