

Alarm System

Watchman has PC board mounted microprocessor based system with programmed set points and alarm sequence. Unit is factory set to initiate alarm at 2.0 VDC representing 0.020" WC minimum DP.

Power Required: 17 to 32 VDC, 40 ma

Input signal: 0 - 10 VDC from Dwyer DP Transmitter

Alarm set points: 0.020" WC (2.0 VDC) Factory selected
0.010" WC (1.0 VDC) Available by order

Alarm delay: 15 seconds - programmed

Output: 5 VDC to energize buzzer and the Alarm LED light

Options

Optional sensors: Watchman can be ordered with optional Dwyer Magnesense DP transmitter which have ranges:

1; 2; 5; 10; 25" WC

250; 500; 1250 Pa

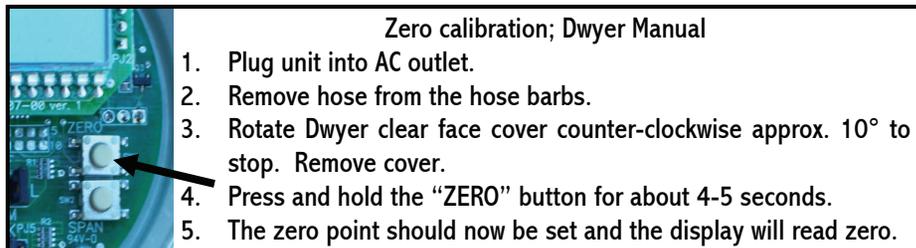
2; 3; 5 KPa

Power supply option: Watchman could operate directly on 17 to 32 VDC from battery pack. Refer to Dwyer instruction manual for connections.

Alarm system options:

Alarm set points could be custom programmed in range of 0.5 to 9.5 VDC input signal.

Alarms and outputs could be programmed to a special sequence.



WATCHMAN Differential Pressure Monitor



Watchman is a versatile instrument for monitoring air differential pressure between two areas and to generate audible/visual alarm when the differential pressure (DP) set point is exceeded.

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Operation Setup

Watchman DP indicator is factory set to monitor DP range of 0 to .1000" WC. The DP reading is dampened to eliminate quick display changes and alarms caused by pressure spikes. DP pressure signal is also monitored by an alarm unit which has a factory set alarm at .0200" WC. DP lower than the set point will initiate an alarm after 15 second delay.

Starting

1. **WATCHMAN DP SENSOR MUST OPERATE IN VERTICAL POSITION. THE CASE CAN BE HANGING OR SITTING UPRIGHT ON A WORK SURFACE.** The tubing has been factory attached to the negative air port (NEG). Insure that the tubing is not bent or blocked and that it is loosely coiled next to the Watchman.
2. Plug power supply into 115 VAC outlet. At this point the alarm light will flash and 15 seconds later the audible alarm will sound. Press the **SILENCE** button to silence the buzzer and the light should change from flashing to steady.
3. Check the LCD indicator which should settle at about .000X" WC (the fourth digit is insignificant). If the reading is higher than +/- .002X follow instructions on Zero Calibration. (See Dwyer manual for ZERO Calibration).
4. Connect the loose end of the tubing to negative pressure containment and the meter will start in indicate DP in reference to ambient pressure. To monitor positively pressured containment, switch tubing to POS air connection on the meter. DP reading will always be shown as positive number and the connection of the tubing to POS or NEG indicates monitoring of positive or negative pressure containment.
5. When DP reading reaches normal operating conditions above .0200" WC, the alarm system resets, alarm light turns off and the system is ready for actual alarm condition.

Alarm System

Alarm sequence will be initiated when the measured DP drops below the set point which is factory set at .0200" WC. To minimize alarms caused by quick pressure spikes, the signal from DP transmitter is delayed by 15 seconds. The buzzer will sound and the orange ALARM light will flash. By pushing the SILENCE button the buzzer will stop and the ALARM light will change from flashing to normal. When operating DP returns to normal, the ALARM light will turn off and the alarm system will reset to be ready for the next alarm condition.

Watchman Specifications

Dwyer DP Indication Transmitter MS 312

(See included Dwyer Instruction Manual for details).

Process Input: 0 to 0.1000" WC, Air

Display: 4 digits LCD

Output Signal: 0-10 VDC to alarm system

Accuracy: +/- 2% of 0.100" WC

Zero & Span Adjustment: Digital push button

Response Time: Adjustable 0.5 to 15 seconds, time constant is set at 15 seconds. (Set to display 95% of full reading with response time of 45 seconds).

Process connections: High and Low pressure ports for 3/16" ID tubing (10 ft included with the instrument).

Power Requirements: 17-32 VDC, 40 ma max. (from wall power supply).

Wall power supply

Input: 115 VAC/60 Hz

Output: 18 VDC@250 ma

Power cord: 6 ft. long

UL Listed