

FEATURES

- 3 digit display
- An alarm detects a high or low static pressure or a power supply failure
- Pilot lights indicate the status of outputs and locked mode
- Cover is fastened to case by means of quarter-turn screws allowing quick access to internal adjustments
- Overload protection on outputs by means of fuses
- Static pressure range from 0 to 0.250 inches of water

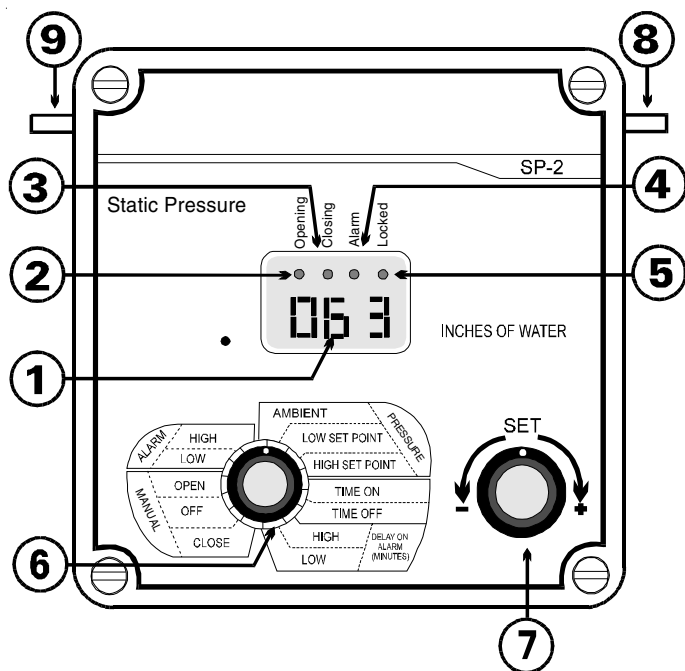


Figure 1 : Front cover

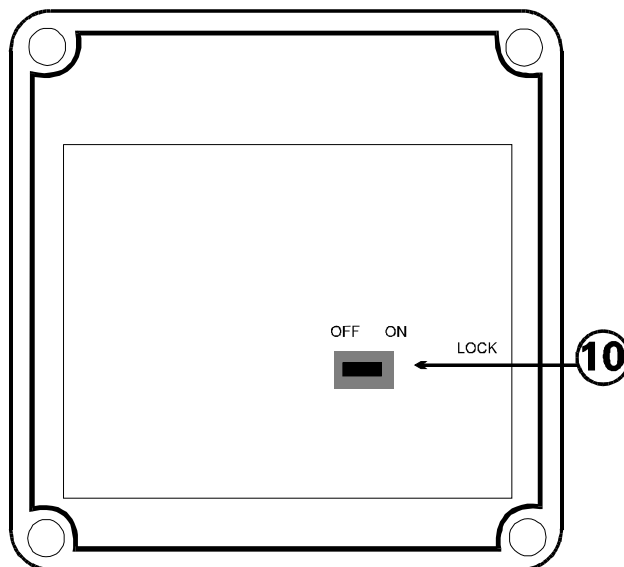


Figure 2 : Internal circuit

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| <p>1- Digital display (3 digits)
Displays ambient pressure and other parameters shown around selector 6.</p> <p>2- Opening cycle pilot light
Turns on during the opening cycle.</p> <p>3- Closing cycle pilot light
Turns on during the closing cycle.</p> <p>4- Alarm pilot light
Turns on when the alarm is activated.</p> <p>5- Locked mode pilot light
Turns on when the controller is in locked mode.</p> <p>6- Parameter selection knob
Use the parameter selection knob to select the parameter that requires an adjustment.</p> <p>7- Set knob
Use this knob to increase or decrease the value of the parameter being adjusted.</p> | <p>8- Air inlet - Reference
Air inlet for the static pressure sensor. This inlet must be linked by means of an air tube to a room that will serve as the reference (i.e. where the pressure is similar to the outdoor pressure). The attic is normally used for this purpose.</p> <p>9- Air outlet - Ambient
Air outlet for the static pressure sensor. This outlet must be linked by means of an air tube to the room where the pressure will be controlled.</p> <p>10- Locked mode switch
The controller is in locked mode when the locked mode switch is ON. In the locked mode, only the PRESSURE LOW SET POINT and HIGH SET POINT can be modified. The TIME ON and TIME OFF cannot be modified, though they may be displayed.</p> |
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INSTALLATION

1. PLACE THE REQUIRED NUMBER OF CABLE HOLDERS IN THE HOLES PROVIDED ON THE BOTTOM OF THE CONTROLLER. IF THE CONTROLLER IS INSTALLED IN A DUSTY OR HUMID ENVIRONMENT, USE WATERTIGHT CABLE HOLDERS.
2. MOUNT THE CONTROLLER ON THE WALL WITH SCREWS THROUGH THE MOUNTING HOLES PROVIDED IN THE BACK OF THE CASE.
3. FASTEN THE BLACK CAPS SUPPLIED ON EACH OF THE MOUNTING HOLES.
4. INSTALL THE AIR INLET AND OUTLET TUBES:

THE END OF THE OUTLET TUBE (ROOM) MUST BE PLACED IN THE VENTILATED ROOM WITH THE PLASTIC FILTER PROVIDED.

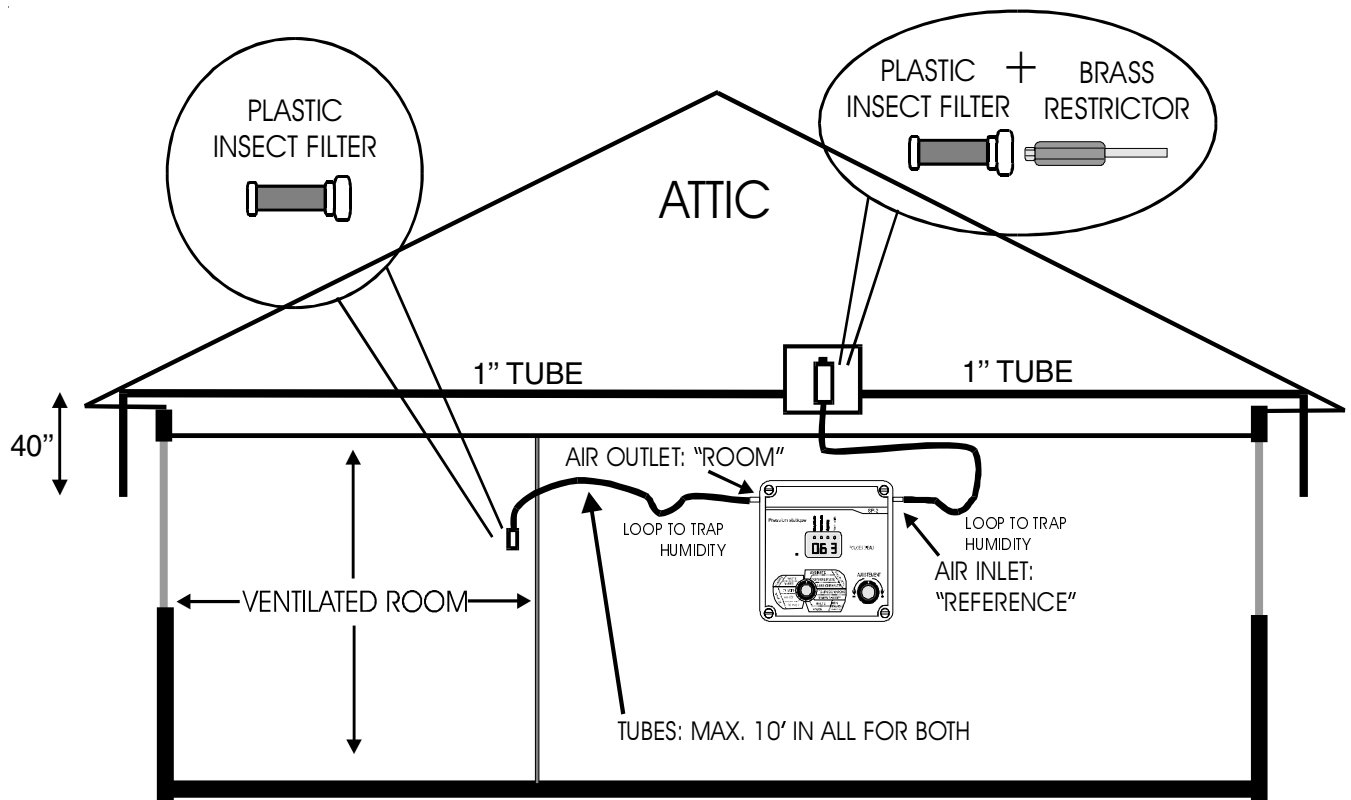
THE END OF THE INLET TUBE MUST BE INSTALLED WITH THE BRASS RESTRICTOR AND THE INSECT FILTER AWAY FROM DRAFTS. AN AIR-TIGHT BOX WITH 1" TUBING LEADING OUTSIDE CAN BE USED TO ELIMINATE PRESSURE VARIATIONS DUE TO DRAFTS. THE ATTIC CAN GENERALLY BE USED AS A REFERENCE. TO DETERMINE IF THE ATTIC IS AN ADEQUATE REFERENCE, READ THE PRESSURE DIFFERENCE BETWEEN THE ATTIC AND OUTSIDE. THE PRESSURE DIFFERENCE SHOULD BE CLOSE TO ZERO.

MAKE A LOOP IN BOTH TUBES (ROOM AND REFERENCE) TO TRAP THE HUMIDITY.

DO NOT INSTALL ENDS OF INLET (REFERENCE) AND OUTLET (ROOM) TUBES IN WALLS, IN INSULATION, IN A HUMID ENVIRONMENT OR NEAR WALLS AFFECTED BY DRAFTS.

DO NOT USE MORE THAN 10 FEET OF TUBING FOR BOTH THE AIR INLET AND THE AIR OUTLET TUBES.

THE ROOM TEMPERATURE WHERE THE CONTROLLER IS INSTALLED MUST ALWAYS REMAIN BETWEEN 32° AND 104°F (0° AND 40°C).



DO NOT UNDER ANY CIRCUMSTANCES CHANGE THE SETTINGS OF THE TWO POTENTIOMETERS (TP1, TP2) ON THE ELECTRONIC CARD INSIDE THE ENCLOSURE. THIS WILL DECALIBRATE THE PRESSURE GAUGE.

WIRING

CAUTION

DISCONNECT THE POWER SUPPLY BEFORE MAKING WIRING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE. ALL WIRING MUST COMPLY WITH APPLICABLE CODES, ORDINANCES AND REGULATIONS. INSTALLATION MUST BE DONE BY AN AUTHORIZED ELECTRICIAN. Set the line voltage selector switch according to the line voltage being used. If metal cable holders are used to secure cables entering the SP-2 case, use the furnished ground plate. The ground wire must be connected to the screw on the ground plate.

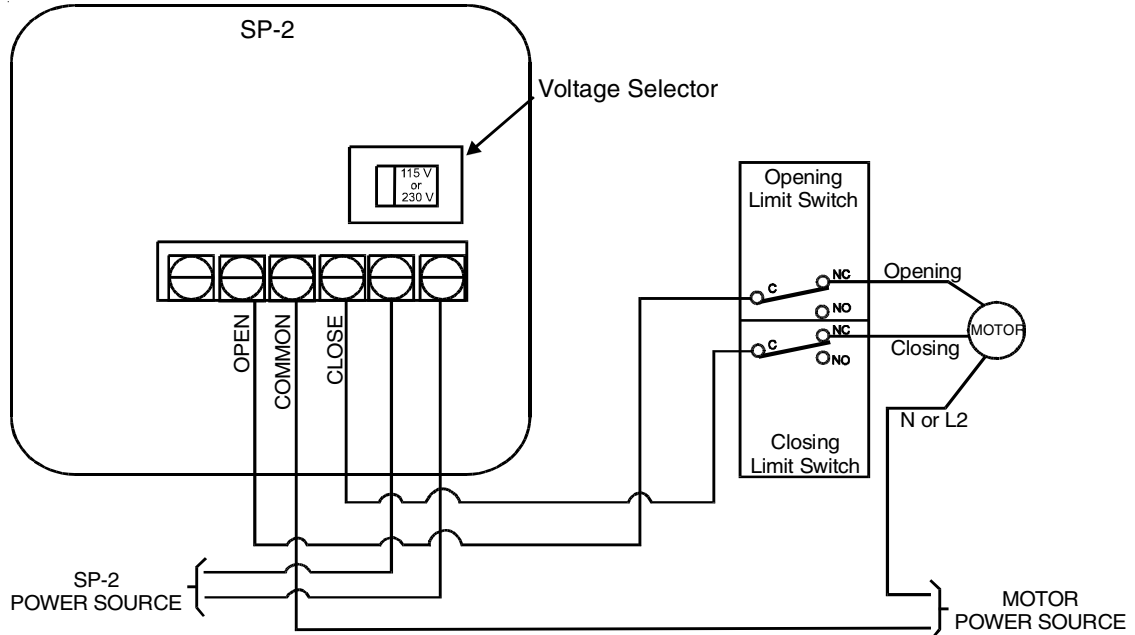


Figure 4: Wiring when the SP-2 and the motor have different power sources

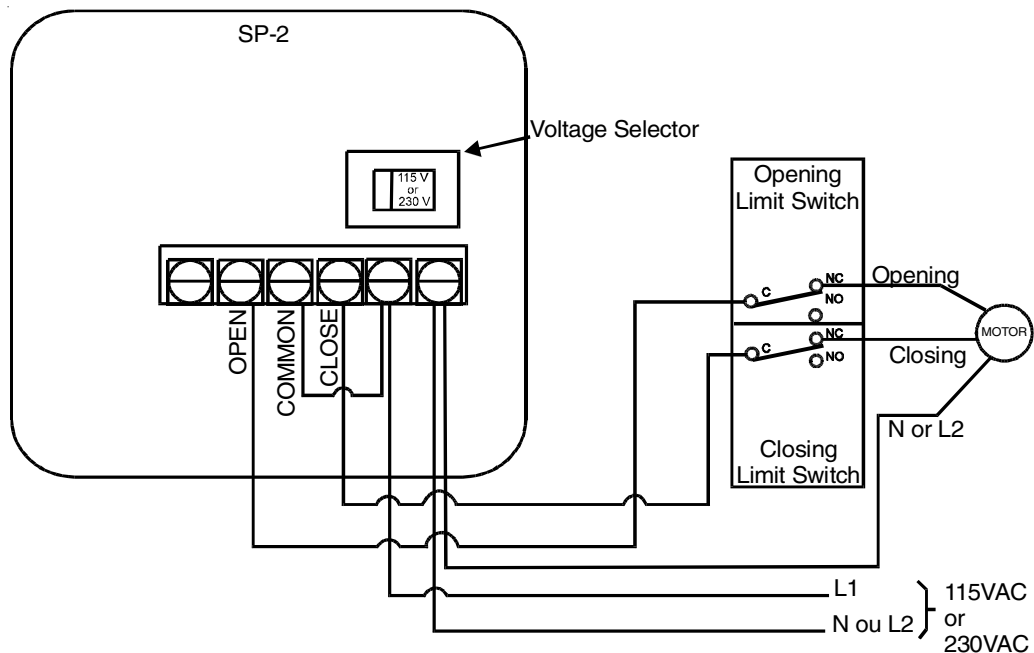


Figure 5: Wiring when the SP-2 and the motor use the same power source

ALARM

- For alarm hook-up, refer to Figure 6.

There are two types of alarms in the industry : one type is activated when its input current is cut off whereas the other type is activated when it receives current at its input. For an alarm of the first type, use the NO terminal. For an alarm of the second type, use the NC terminal as shown in Figure 6.

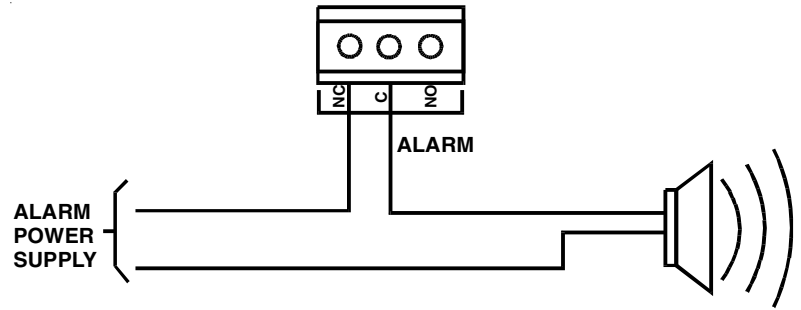


Figure 6: Alarm Connection

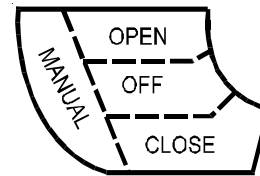
NOTES

If the alarm voltage is the same as the SP-2's power source, the wiring can be simplified as shown in Figure 5.

OPERATION

MANUAL MODE

The controller is in **MANUAL MODE** when the parameter selection knob 6 is in one of the 3 positions shown above. When the knob is in any other position, the controller is in automatic mode. The **MANUAL MODE** is used to open, close or stop the unit being controlled (e.g. panel, damper, curtain, etc). The controller waits 5 seconds before activating any output.

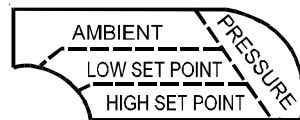


NOTE

IN MANUAL MODE, THE VALUE APPEARING ON THE DISPLAY IS THE AMBIENT PRESSURE. THE MANUAL MODE TAKES PRECEDENCE OVER ALL AUTOMATIC OPERATIONS.

AUTOMATIC MODE

PRESSURE PARAMETERS



AMBIENT PRESSURE: Use this position to display the ambient pressure. Note that the value appearing on the display does not flash meaning it cannot be adjusted. This allows the user to distinguish between an adjustable parameter and the ambient pressure. The ambient pressure is displayed in inches of water.

LOW PRESSURE SET POINT: Set the parameter selection knob to this position and use the set knob to set the desired minimum pressure. The low pressure set point ranges from 0 to 0.245 inches of water. The factory setting is 0.095 inches of water.

HIGH PRESSURE SET POINT: Set the parameter selection knob to this position and use the set knob to set the desired maximum pressure. The high pressure set point ranges from 0.005 to 0.250 inches of water. The factory setting is 0.105 inches of water. Figure 3 below shows how the controller operates.

If **AMBIENT** is less than **LOW SET POINT**, the closing cycle is activated.

If **AMBIENT** is greater than **HIGH SET POINT**, the opening cycle is activated.

If **AMBIENT** is within **LOW SET POINT** and **HIGH SET POINT**, the controlled unit is stopped.

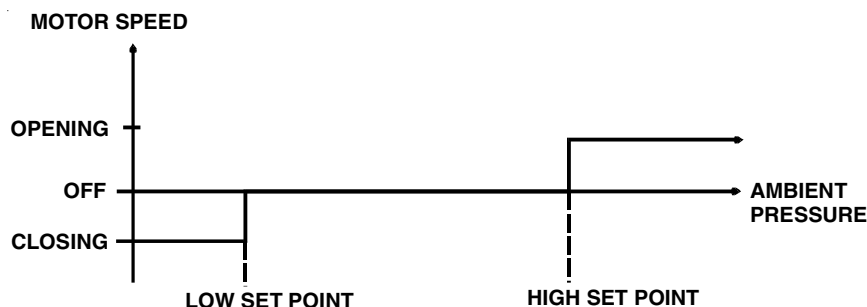
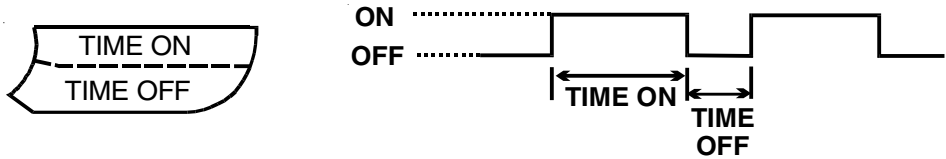


Figure 3 : Operation of Pressure Parameters

OPENING AND CLOSING CYCLES :



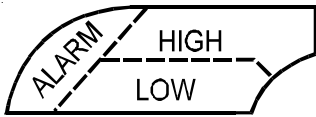
- To adjust the on time, set the parameter selection knob to **TIME ON** and use the set knob. The on time is displayed in seconds and can be adjusted between 0 and 900 seconds. The factory setting is 45 seconds.
- To adjust the off time, set the parameter selection knob to **TIME OFF** and use the set knob. The off time is displayed in seconds and can be adjusted between 0 and 900 seconds. The factory setting is 15 seconds.

NOTE

When an opening or closing cycle is activated, the off time is executed first. This prevents frequent opening and closing of panels on days when the winds are strong. If the current pressure is more than 0.040 inches of water from the dead band (between the high and low set points) for at least 10 seconds, time off is set to zero and the opening or closing of the panels is non-stop. Time off is reset to its normal value when the pressure is within 0.020 inches of water from the dead band for at least 10 seconds.

ALARM PARAMETERS

To set the **HIGH ALARM** or **LOW ALARM** to the desired value, set the selector knob to the respective position and use the set knob. The high and low alarm values range from 0 to 0.250 inches of water. The factory settings are 0.150 and 0.010 inches of water respectively.



HIGH ALARM

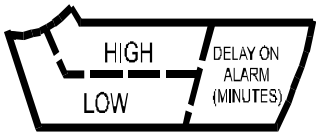
- The alarm is activated when the ambient pressure remains above the high alarm value for a time exceeding the high alarm delay (see below).

LOW ALARM

- Alarm is activated when the ambient pressure remains below the low alarm value for a time exceeding the low alarm delay (see below).

ALARM IS ALSO ACTIVATED IN THE EVENT OF A POWER SOURCE FAILURE OR A DEFECT IN THE CONTROLLER'S SUPPLY CIRCUIT.

To set the **HIGH ALARM DELAY** or **LOW ALARM DELAY** to the desired value, set the selector knob to the respective position and use the set knob. The high and low alarm delay values range from 0 to 16 minutes. The factory setting is 5 minutes.



HIGH ALARM DELAY

- This is the time the pressure must remain above the high alarm value to set off an alarm.

LOW ALARM

- This is the time the pressure must remain below the low alarm value to set off an alarm.

ELECTRICAL RATINGS

- Power source:** 115 VAC or 230 VAC, 50/60 Hz
- Motor output:** 250 VAC or 30 VDC MAX, 5A MAX., *Fuses:* 5A, slow blow
- Alarm output:** 250 VAC or 30 VDC MAX, 3A MAX., *Fuses:* 3A, slow blow
- Operating temperature range:** 0° to 40°C (32° to 104°F)
- Casing:** ABS, moisture and dust tight.

DO NOT SPLASH WATER ON CONTROLLER