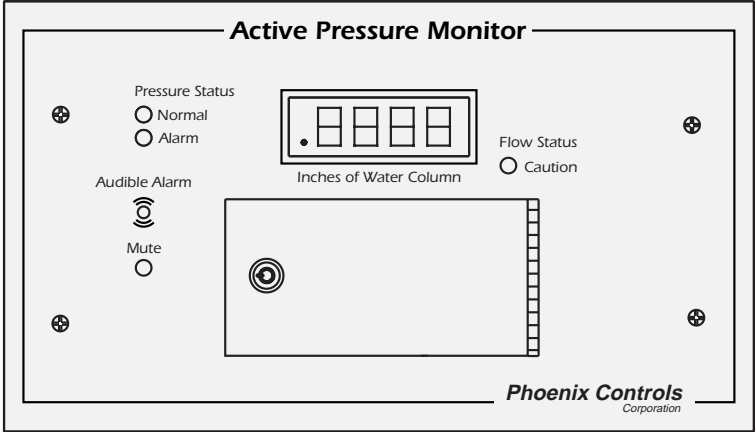


The Phoenix Controls Active Pressure Monitor accurately measures the pressure differential between two rooms or spaces in a building where pressurization is critical. Utilizing true differential pressure sensing, it is capable of measuring and alarming to within 0.5% of full scale and displaying the pressure to 0.0001 inches of water gauge (0.0249 Pa). It can meet the stringent requirements of laboratory animal facilities, hospital areas, research facility laboratories and clean rooms.

Each Active Pressure Monitor consists of a room sensor, a reference space sensor and a room pressure monitor panel.

Optional features include the ability to remotely switch the room pressure alarm setpoint from a dry contact and to provide flow alarming when used with Phoenix Controls Accel[®] airflow control valves, verifying both pressure and volumetric flow.



Active Pressure Monitor (English version).

SPECIFICATIONS

Dimensions Faceplate 9.5" (241.3 mm) W x 5.5" (139.7 mm) H	Analog Output Field selectable: 4-20 mA, 12 mA at zero pressure or 0-10 Vdc, 5 Vdc at zero pressure
Accuracy • ±0.5% FS Terminal Point • (±0.35% FS BFSL)	Alarm Output SPDT relay
Stability <±1.0% FS per year	Contact UL/CSA Rating 2.0 A @ 30 V AC/DC
Temperature Effects <±0.03% FS/°F (.05% FS/°C)	Alarm Dead Band 0.1% FS
Over-pressure 5 PSIG Proof (34.5 KPa)	Alarm Delay Range 0-30 seconds
Response <0.25 seconds for full span input	Power 22-26 VAC 50/60 Hz
Standard Range ±0.05" wc (12.45 Pa)	Power Consumption 4.0 VA
Optional Ranges ±0.1" wc (24.9 Pa) ±0.2" wc (49.8 Pa) ±0.5" wc (124.5 Pa) ±1.0" wc (249 Pa) ±2.0" wc (498 Pa) ±5.0" wc (1245 Pa)	Operating Temperature 32-160° F (0-70° C) Storage Temperature -40-180° F (-40-82° C)
Display 4 digit LED 0.5" height (12.7 mm)	Weight 2.1 pounds (0.95 Kg) CE (Pending)

FEATURES

FEATURE/OPTION		APM100	APM100-REM
FACEPLATES	Digital Display	x	x
	Pressure Alarm Status LEDs	x	x
	Audible Alarm	x	x
	Mute Button	x	x
	Flow Caution LED		x
MONITORING	Analog Output (4-20 mA or 0-10 Vdc)	x	x
	SPDT alarm relay	x	x
CONTROL	Adjustable alarm time delay (0-30 seconds)	x	x
	Field reversible pressurization alarm	x	x
	Remote reversible pressurization alarm		x
	Remote flow alarm input		x

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APPLICATIONS

The Active Pressure Monitor may be applied in many ways. Two examples are given below:

1. Constant Volume Room

Phoenix Controls' pressure independent valves maintain a constant supply and exhaust airflow. As a result, room volumetric offset remains constant. Pressure is monitored between the critical space and a relevant reference space. Local differential pressure alarming is based on a field configured pressure setpoint. A form C relay is available for remote alarm monitoring and an analog output is available for monitoring differential pressure remotely.

2. Switched Constant Volume with Flow Alarm Input

Pressure independent valves maintain a constant supply and exhaust airflow. One of these valves is constant volume and the other must be a two-position valve. A dry contact, supplied by others, triggers a DPDT relay, which switches the Active Pressure Monitor alarm setpoint to the equal and opposite polarity and switches the two-position valve, effectively changing the room from positive to negative pressurization and alarming or vice versa. Phoenix Controls Accel™ valves fitted with pressure switches provide a flow alarm input to the APM100. In the event of either a flow or differential pressure alarm, a form C relay is available for remote alarm monitoring. An analog output is also available for monitoring differential pressure remotely.

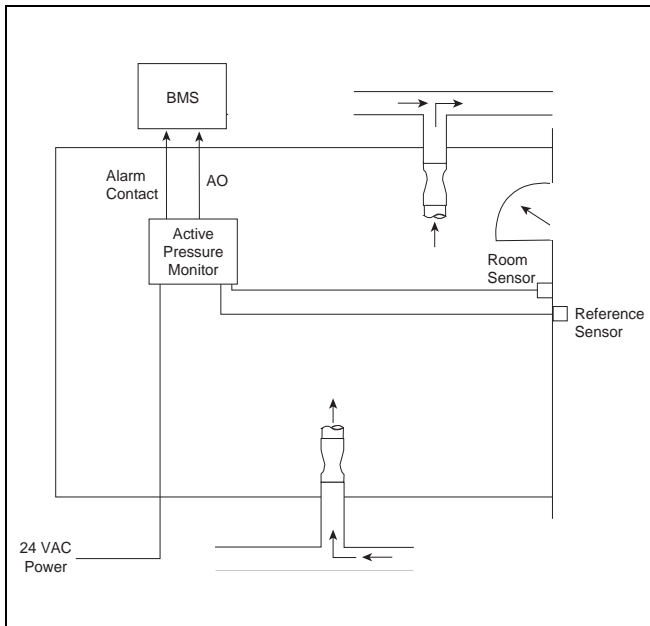


Fig. 1 Constant volume room application.

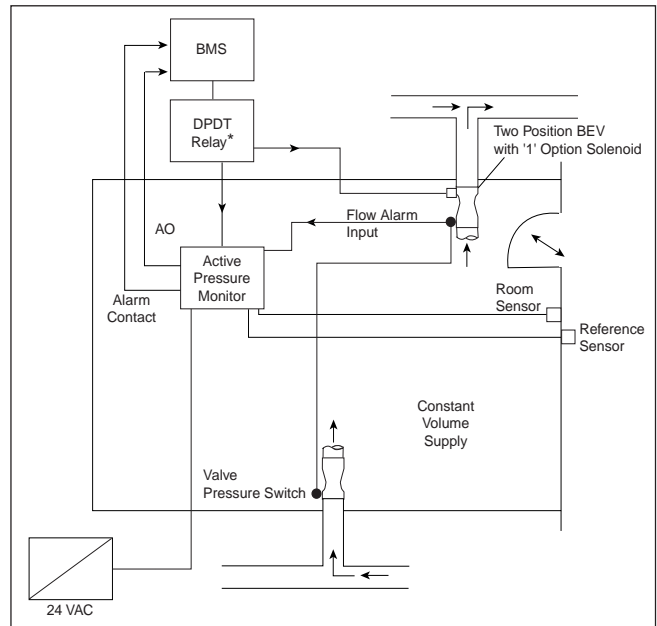
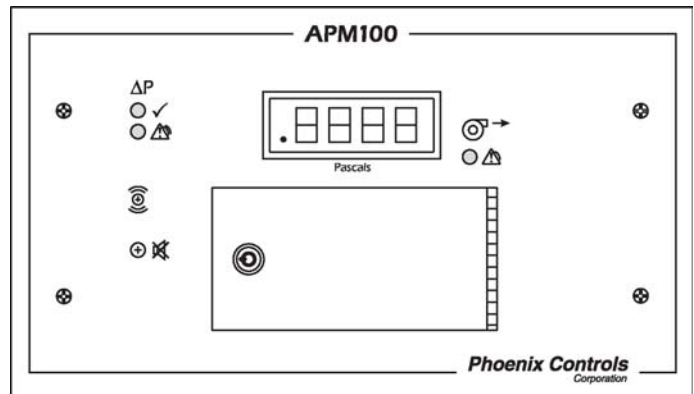


Fig 2 Switched constant volume with flow alarm input.

* RIB2401D or equivalent—Call Functional Devices, Inc. at (800) 888-5538 for your nearest RIB distributor.

ORDERING GUIDE

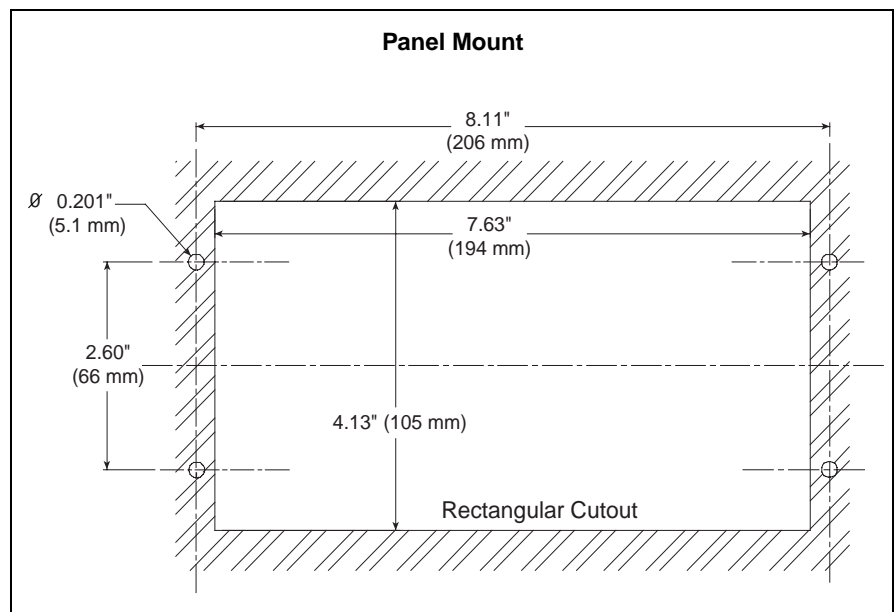
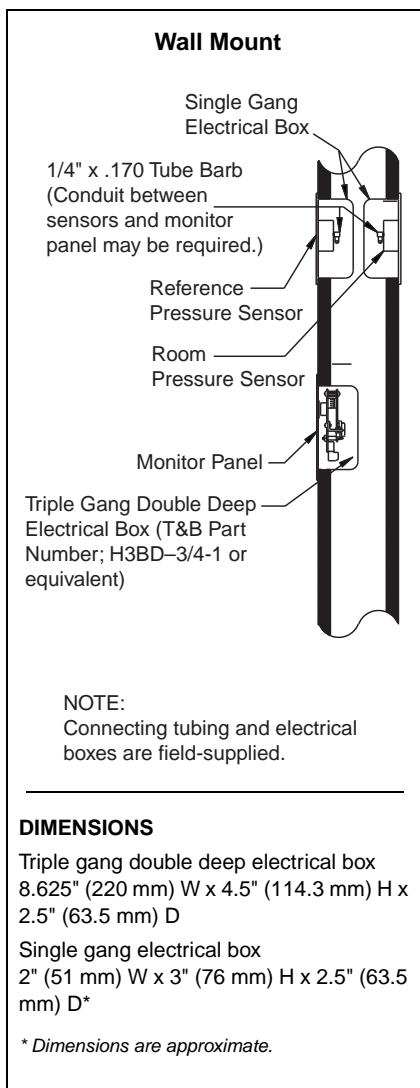
APM1 00-ENG-WC-REM	
BASE NUMBER	OPTIONS
OPTIONAL RANGES	REM = REMOTE
00 = ±0.05" wc (12.45 Pa) (standard range)	Reversible pressurization alarm setpoint from a dry contact and remote flow alarm input from a dry contact.
01 = ±0.1" wc (24.9 Pa)	
02 = ±0.2" wc (49.8 Pa)	
05 = ±0.5" wc (124.5 Pa)	
10 = ±1.0" wc (249 Pa)	UNITS OF MEASUREMENT
20 = ±2.0" wc (498 Pa)	WC = Inches of water column*
50 = ±5.0" wc (1245 Pa)	PA = Pascals
FACEPLATE LANGUAGE	* Available only on English faceplate.
ENG = English	
INT = International, textless faceplate with graphical symbols	



Active Pressure Monitor (international version).

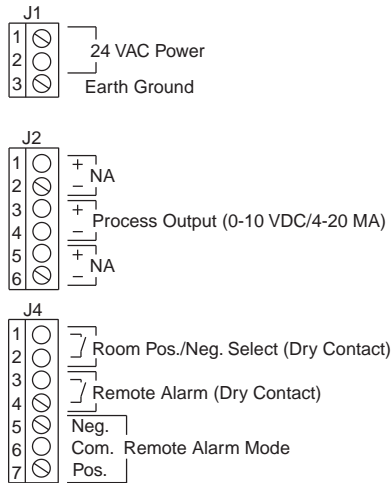
INSTALLATION

- Each Active Pressure Monitor consists of a room space sensor, a reference space sensor and a room pressure monitor panel.
 - The two space sensors are installed in standard single gang electrical boxes, which are usually placed in the room walls.
 - Standard 0.25" (6mm) control tubing is run within the wall from the sensors to the monitor panel. In some code jurisdictions, the tubing must be in EMT conduit.
 - There are two installation methods for the monitor panel:
 - In the wall of either room in a standard triple gang-double deep electrical box (Thomas & Betts part number H3BD-3/4-1 or equivalent)
 - In a panel with the four screws and nuts provided.
- Both of these installation methods are shown below.

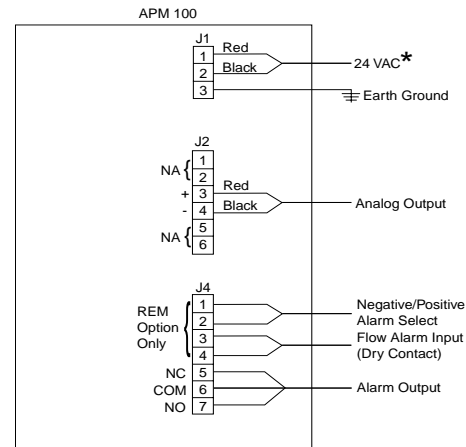


POINTS & WIRING

Points



Wiring



* An external service switch is recommended.

MAINTENANCE

Active Pressure Monitors require no ongoing preventative maintenance. Once the field engineer has completed the field start-up, the monitors will provide years of continuous operation.

Replacement Parts	Part Number
Fuse, slow blow, .375 amp	441-000-009
IC, LF44ACN OP-AMP	351-000-032

TROUBLESHOOTING

Use this chart as a guide.

Problem	Possible Cause	Solution
1. LED display not lit	A. No input power B. Blown fuse C. Sensor lines blocked D. Full-scale calibration exceeded	A. Verify power and wiring are available B. Check Fuse F1 C. Check on whether sensor lines are clear D. Disconnect sensor lines from bulkhead fittings and verify that display reading is zero
2. Display and analog output not responding	A. Sensor tubing not connected B. Sensor tubing blocked	A. Connect tubing B. Unblock tubing
3. Analog output incorrect	A. Wrong jumper selected B. Wiring polarity incorrect	A. Check jumper H5 B. Verify wiring polarity
4. Alarm and alarm relay does not function	A. Alarm setpoint incorrect B. Positive/negative jumper settings incorrect	A. Verify alarm setpoint B. Check jumpers H3 and H4
5. Audible alarm does not function	Jumper setting incorrect	Check H11 jumper setting
6. Alarm output relay does not function	Open circuit in wiring	Verify wiring