THE PA404 IS A SERIES 40 (2-WIRE, SPST) PRESSURETROL CONTROLLER FOR USE IN 24, 120, 240 or 277 VOLT CONTROL CIRCUITS OR IN SELF-POWERED (MILLIVOLTAGE) APPLICATIONS.

☐ The PA404A is a pressure actuated high limit, safety control for steam heating boilers; it breaks an electrical circuit to shut down the burner if steam pressure rises above a safe level.

☐ The PA404B is used with suspension-type unit heaters to make the fan circuit when a pressure rise indicates the presence of steam.

☐ Each model contains an spst MICRO SWITCH snap-acting switch.

☐ Sensitive pressure-actuated diaphragm expands or contracts with pressure variations, moving a lever mechanism which operates the snap switch.

☐ A screw on top of the case allows set point adjustment without removing the cover.

☐ Differential is adjusted by means of a dial located inside the case.
SPECIFICATIONS

MODELS:
PA404A Pressuretrol Controller. Pressure-actuated safety control. Available with additive or subtractive differentials.

MAXIMUM OPERATING PRESSURE: 20 psi.
MAXIMUM AMBIENT TEMPERATURE: 150 F.

ELECTRICAL RATING (amperes):

<table>
<thead>
<tr>
<th></th>
<th>120V AC</th>
<th>240V AC</th>
<th>277V AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Load</td>
<td>8.0</td>
<td>5.1</td>
<td>–</td>
</tr>
<tr>
<td>Locked Rotor</td>
<td>48.0</td>
<td>30.6</td>
<td>–</td>
</tr>
<tr>
<td>Resistance Load</td>
<td>8.3</td>
<td>8.3</td>
<td>7.2</td>
</tr>
</tbody>
</table>

2.0 amp at 24V ac; 0.25 amp at 1/4 to 12V dc.

TABLE I—OPERATING CHARACTERISTICS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>ADJUSTABLE OPERATING RANGE (PSI)</th>
<th>ADJUSTABLE DIFFERENTIAL (PSI)</th>
<th>SWITCH ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>ON PRESSURE FALL</td>
</tr>
<tr>
<td>PA404A (Subtractive differential)</td>
<td>3.0 to 15</td>
<td>1 to 5</td>
<td>Makes at set pointa minus differential</td>
</tr>
<tr>
<td>PA404A (Additive differential)</td>
<td>0.5 to 9</td>
<td>1 to 5</td>
<td>Makes at set point</td>
</tr>
<tr>
<td>PA404B (Additive differential)</td>
<td>0.5 to 9</td>
<td>1 to 5</td>
<td>Breaks at set point</td>
</tr>
</tbody>
</table>

aRecommended minimum set point is differential setting plus 1-1/2 psi.

INSTALLATION

CAUTION
1. Installer must be a trained, experienced serviceman.
2. Disconnect power supply before making wiring connections to prevent electrical shock and equipment damage.
3. All wiring must comply with applicable codes and ordinances.
4. Do not exceed the ratings given in the Specifications section.
5. Always conduct a thorough checkout when installation is complete.

ORDERING INFORMATION

WHEN ORDERING REFER TO THE TRADELINE CATALOG OR PRICE SHEETS FOR COMPLETE ORDERING SPECIFICATION NUMBER, OR...

SPECIFY—
1. MODEL NUMBER.
2. ADDITIVE OR SUBTRACTION DIFFERENTIAL (PA404A) SEE TABLE I.
3. ACCESSORY, IF DESIRED.

ORDER FROM—
1. YOUR USUAL SOURCE, OR
2. HONEYWELL
   1885 DOUGLAS DRIVE, NORTH MINNEAPOLIS, MINNESOTA 55422
   (IN CANADA—HONEYWELL CONTROLS LIMITED 740 ELLESMERE ROAD SCARBOROUGH, ONTARIO)
   INTERNATIONAL SALES AND SERVICE OFFICES IN ALL PRINCIPAL CITIES OF THE WORLD.
MOUNTING

The PA404A must be located above the water line in a steam boiler, either adjacent to a pressure gauge or in another location recommended by the boiler manufacturer. See Fig. 1.

![Diagram of PA404A mounted on a boiler](image)

**Fig. 1—Typical Installation of the PA404A, Mounted with a Gauge on a Boiler.**

The PA404B must be mounted in the steam line ahead of the unit heater. See Fig. 2.

![Diagram of PA404B mounted on a supply line](image)

**Fig. 2—Typical Installation of the PA404B, Mounted on the Supply Line of a Unit Heater.**

A siphon must always be connected between the unit and the boiler or steam line. The siphon acts as a trap to prevent corrosive vapors or scale, resulting from the use of boiler compounds, from damaging the control.

WIRING

**CAUTION**

Disconnect power supply before making wiring connections to avoid electrical shock or equipment damage.

All models are equipped with 2 terminals located on the switch, inside the cover. A wiring hole is provided for 1/2-inch rigid or flexible conduit. All wiring must comply with local electrical codes. See Figs. 3, 4, and 5 for typical wiring connections.

![Diagram of PA404A high limit in an oil-fired steam system](image)

**Fig. 3—Typical Connections for a PA404A Used as a High Limit in an Oil-Fired Steam System.**

![Diagram of PA404A high limit in a gas-fired steam system](image)

**Fig. 4—Typical Connections for a PA404A Used as a High Limit in a Gas-Fired Steam System.**

![Diagram of PA404B used in a unit heater installation](image)

**Fig. 5—Typical Connections for a PA404B Used in a Unit Heater Installation.**
SETTINGS

TO SET THE PA404A WITH SUBTRACTIVE DIFFERENTIAL
1. Set main scale indicator at desired cutout point by turning main scale set point screw until indicator (see Fig. 6) corresponds to pressure at which electric circuit should break. The recommended minimum set point is the differential setting plus 1-1/2 psi.
2. Set the differential adjustment dial to the number of pounds that pressure should fall below the main scale cutout point before the circuit makes.

TO SET THE PA404A WITH ADDITIVE DIFFERENTIAL
1. Set main scale indicator at desired cut-in point by turning main scale set point screw until indicator (see Fig. 6) corresponds to pressure at which electric circuit should make.
2. Set differential adjustment dial to number of pounds that pressure should rise above main scale cut-in point before the electric circuit makes.

CHECKOUT

Operate equipment through at least 1 complete cycle to make certain equipment is controlled as intended.