



# HEAD PRESSURE CONTROLS

## With Optional Heat Pump Bypass

**Totaline® P251-0083H, P251-0094H & P251-0095H Head Pressure Controls help prevent evaporator freeze-ups, liquid slugged compressors, low pressure cutouts and overshoots common to on/off and pressure switch controls...**

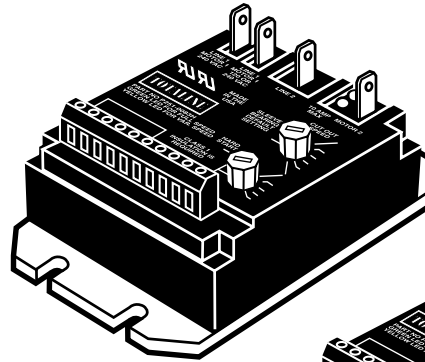
Totaline Head Pressure Controls operate as temperature sensitive motor fan speed controls. Head pressure is regulated during low ambient conditions by varying the amount of airflow through the condenser. This helps ensure sufficient pressure across the expansion valve, preventing costly downtime and/or loss of valuable perishable goods.

### Features:

- **Integral Heat Pump Bypass Circuitry...** allows you to electronically bypass the speed control during heat pump operation.
- **Solid state 10 amp load carrying capability...**
- **Single unit controls up to 3 refrigerant circuits...**
- **Multiple Voltage Ranges...** see specifications for details
- **Hard Start...** adjustable from .1-5 seconds. Provides full torque to the motor during start-up to help ensure proper fan rotation and lubrication of bearings.
- **Low Speed Cutoff...** field-adjustable. User may set the minimum RPM level at which the condenser fan should operate.
- **High Temperature Bypass...** applies full voltage to the condenser fan under normal conditions
- **Rugged, Epoxy-Encapsulated Package...** for greater reliability in harsh environmental conditions.
- **Integral Transformer\***... simplifies installation, reduces cost. Direct set up from the line voltage \*(P251-0094H and P251-0095H models)

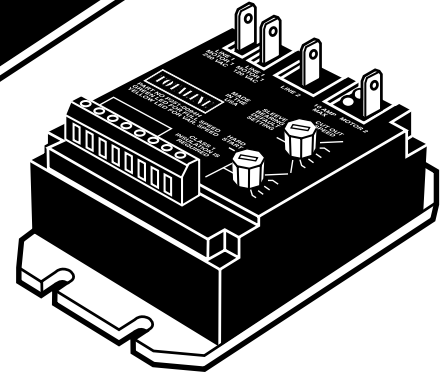
### Applications:

- **Ideal for "low ambient" conditions found in:**
- Supermarkets, frozen food storage
- Computer rooms, cooling tower fans
- Temperature/humidity-sensitive environments



**Model P251-0083H**  
Typical Application:  
Air Conditioning

**Models P251-0094H and P251-0095H**  
Typical Application:  
Line Voltage Air Conditioning and Refrigeration



### Specifications:

#### Input / Output Voltage

- P251-0083H (Input: 18-30 VAC/VDC) (Output: 120-480 VAC)
- P251-0094H (Input / Output: 120 or 240 VAC)
- P251-0095H (Input / Output: 480 VAC)
- **Frequency:** 50/60 Hz
- **Power Consumption:** 4VA @ 24 VAC

#### Output

- **Type:** Solid State **Form:** Triac
- **Output Current:** (Max.:10 amps) (Min.: 100mA)
- **Frequency:** 50/60 Hz
- **Voltage Drop:** 3.0 Volts Max., Leakage Current: 5 mA Max.

#### Protection

- **Dielectric Breakdown:** 2,500 Volts Max.
- **Insulation Resistance:** 100 M

#### Control Operating Temperature

- **Operating Temperature:** -40 to +75°C (-40° to +176°F)
- **Storage Temperature:** -40 to +85°C (-40° to +185°F)

#### Ordering Information

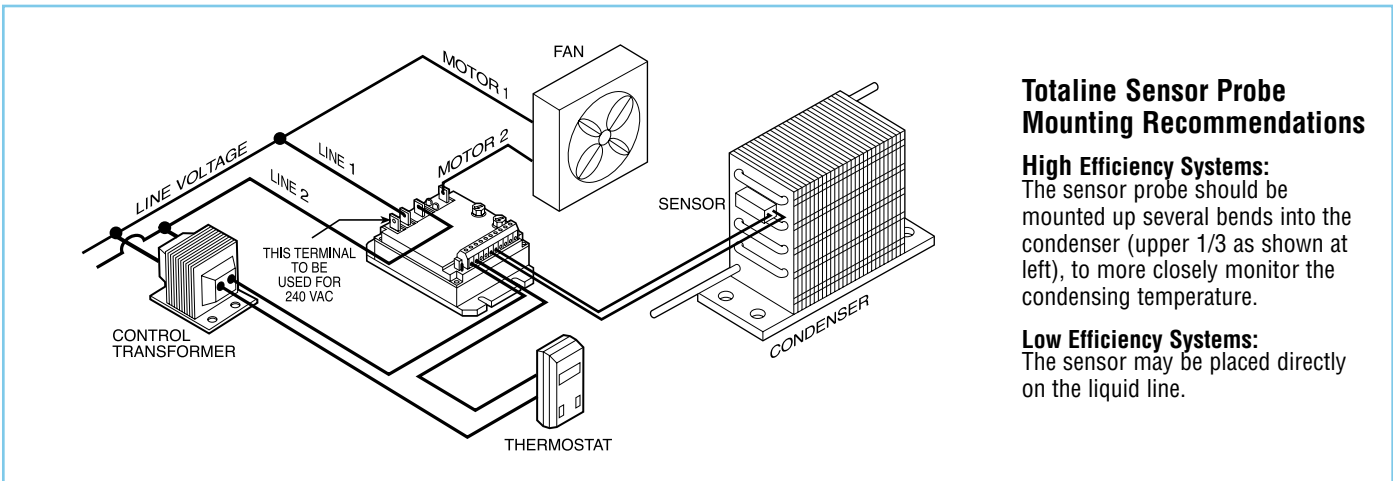
- Standard Model P251-0083H: 120-480 VAC
- Models with Integral Transformers:
  - P251-0094H: 120 or 240 VAC
  - P251-0095H: 480 VAC





# HEAD PRESSURE CONTROLS With Optional Heat Pump Bypass

## P251-0083H Typical Diagram For Systems Without A Contactor



### Totaline Sensor Probe Mounting Recommendations

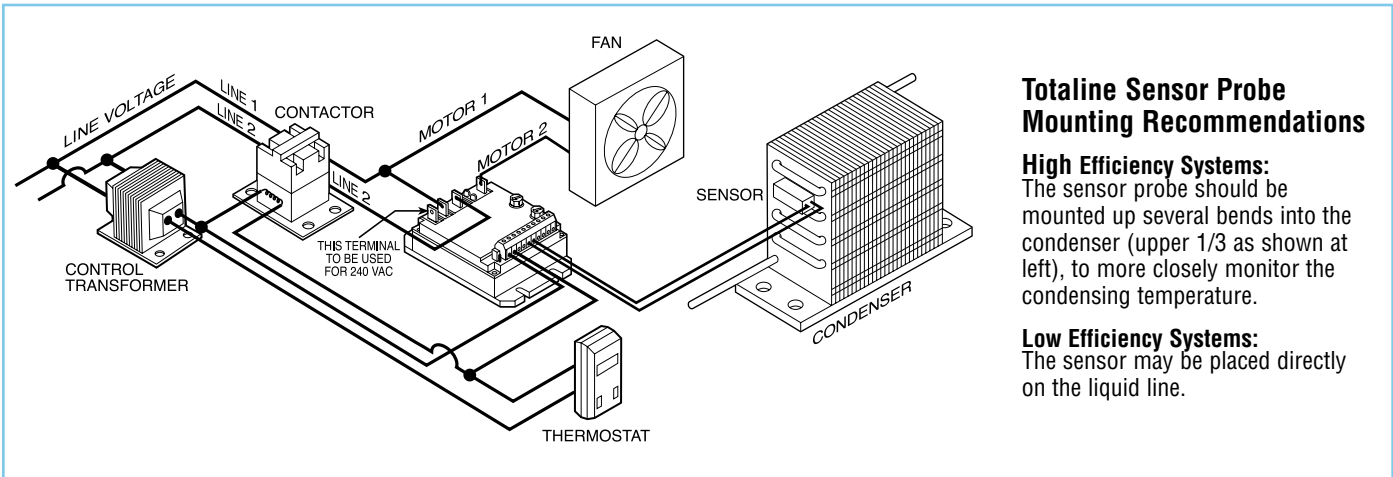
#### High Efficiency Systems:

The sensor probe should be mounted up several bends into the condenser (upper 1/3 as shown at left), to more closely monitor the condensing temperature.

#### Low Efficiency Systems:

The sensor may be placed directly on the liquid line.

## P251-0083H Typical System Diagram For Systems With A Contactor



### Totaline Sensor Probe Mounting Recommendations

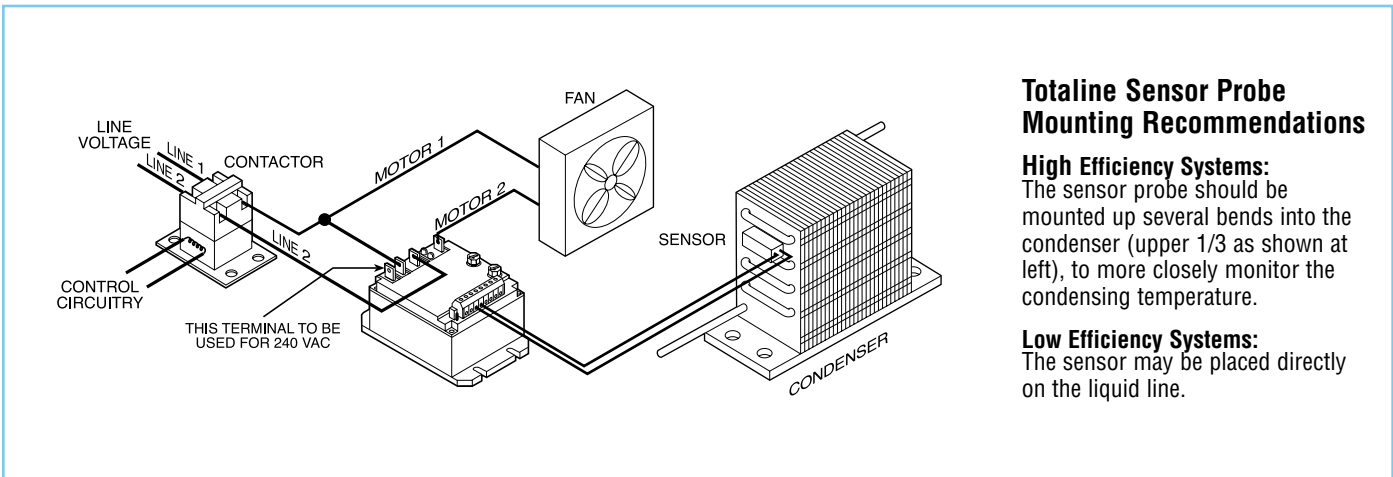
#### High Efficiency Systems:

The sensor probe should be mounted up several bends into the condenser (upper 1/3 as shown at left), to more closely monitor the condensing temperature.

#### Low Efficiency Systems:

The sensor may be placed directly on the liquid line.

## P251-0094H Typical System Diagram



### Totaline Sensor Probe Mounting Recommendations

#### High Efficiency Systems:

The sensor probe should be mounted up several bends into the condenser (upper 1/3 as shown at left), to more closely monitor the condensing temperature.

#### Low Efficiency Systems:

The sensor may be placed directly on the liquid line.

