

## TSA and TOA Sensors

The Temperature Supply Air (TSA) and Temperature Outdoor Air (TOA) sensors are 10K ohm thermistors mounted on either a gang plate (TOA) or duct probe (TSA).



**Figure 2.10** TSA and TOA Sensors

### TSA

The TSA sensor is included with the Master Control panel and is used to monitor the supply air temperature of the system. Accurate monitoring of the supply air in a bypass system is critical because as zone dampers become satisfied they close down thereby increasing the amount of bypass air back to the return. This in turn will cause a dramatic decrease in supply air temperature during cooling demands, and an increase in supply air temperature during heating demands. The Master control panel uses the TSA to turn off the 1st or 2nd stages of heating or cooling to maintain a supply air temperature that is within the AHU's specifications.

### TOA

The TOA is optional and is used to expand the control of the heating functions and the maximum damper position during cooling demands.

When a TOA is installed, the user can select different outdoor air temperatures to disable either Master or auxiliary heat functions. The sensor can also be used to allow each zone damper to have an individual maximum cool position which only takes effect based the outdoor temperature.