

| Variable Name | Description | Default Value |
|----------------|---|--------------------|
| ATSF | Temperature rise across the supply fan | 1°C (2°F) |
| ATmin | Minimum difference between OAT and RAT to evaluate economizer error conditions | 6°C (10°F) |
| ESAT | Temperature error threshold for SAT sensor | 1°C (2°F) |
| ERAT | Temperature error threshold for RAT sensor | 1°C (2°F) |
| EMAT | Temperature error threshold for MAT sensor | 3°C (5°F) |
| EOAT | Temperature error threshold for OAT sensor: 1°C (2°F) if local sensor @ unit, 3°C (5°F) if global OAT sensor | |
| F | Airflow error threshold | 30% |
| EVFDSPD | Variable-speed drive (VSD) speed error threshold | 5% |
| £DSP | Duct static pressure (DSP) error threshold | 25 Pa (0.17 inH2O) |
| Delta OSmax | Maximum number of changes in operating state (OS) during the previous 60 minutes (moving window) to flag PID hunting issues | 7 state changes |

Five-minute Rolling Averages with 1-Minute Sampling Time

- **SATavg**: Rolling average of supply air temperature.
- **MATavg**: Rolling average of mixed air temperature.
- **RATavg**: Rolling average of return air temperature.
- **OATavg**: Rolling average of outdoor air temperature.
- **DSPavg**: Rolling average of duct static pressure.
- **CCETavg**: Rolling average of cooling-coil entering temperature.
- **CCLTavg**: Rolling average of cooling-coil leaving temperature.
- **HCETavg**: Rolling average of heating-coil entering temperature.
- **HCLTavg**: Rolling average of heating-coil leaving temperature.

- **%OA**: Actual outdoor air fraction as a percentage, calculated as $(MAT - RAT)/(OAT - RAT)$, or per airflow measurement station if available.
- **%OA_{min}**: Active minimum outdoor air set point (**MinOA_{sp}**) divided by actual total airflow (from sum of VAV box flows or by airflow measurement station) as a percentage.
- **Os**: Number of changes in operating state during the previous 60 minutes (moving window) for an AHU (Air Handling Unit) in heating, economizing, economizing plus mechanical cooling, or mechanical cooling modes.

AHU operating states defined by ASHRAE G36

