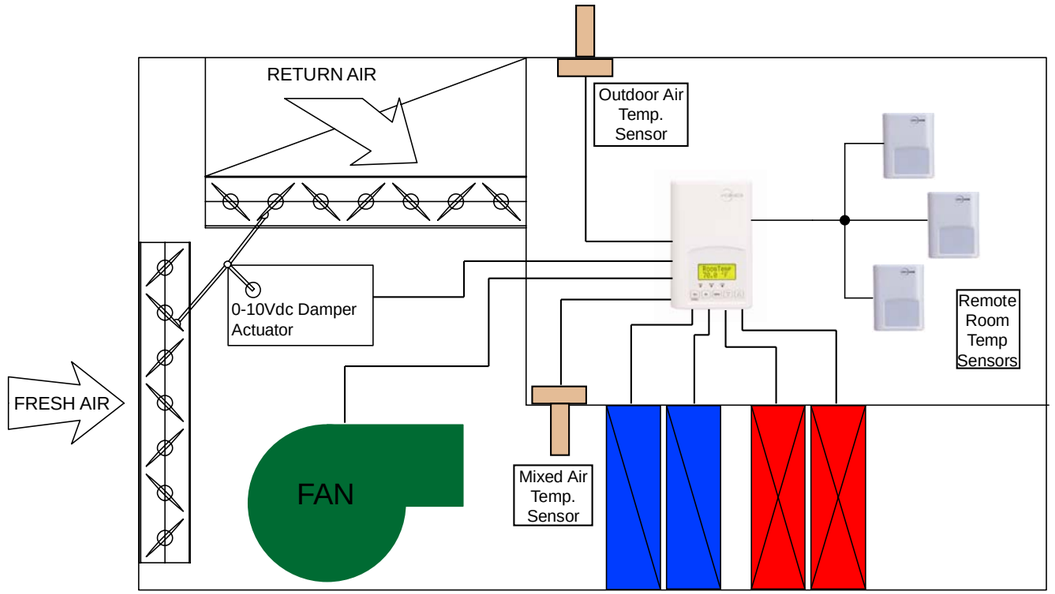
VT7656B1000 Application: Large Single Zone with Sensor Averaging Capability: Programmable occupancy schedule with 2 stages of heating, 2 stages of cooling, economizer, and 3 averaging sensors.

Application Examples:

- Theaters
- Cinemas
- Warehouses
- Concert Halls
- Factories
- Dining Halls
- Auditoriums
- Etc…



Bill Of materials

Thermostat: VT7656B1000

Outdoor sensor: S2020E1000

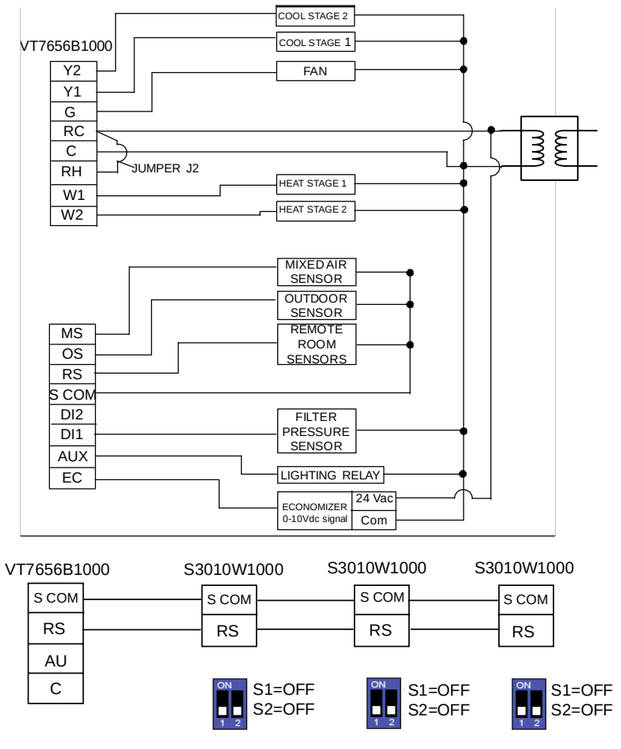
Mixed air sensor: S2000D1000

Room sensor: S3010W1000

➢ **To Enter Configuration Menu Press and Hold Menu Key for 8 Seconds**

User Parameter Name	**Local settings**
Occupied Cooling and Heating setpoints	As per user
Unoccupied Cooling and Heating setpoints	As per user
System Mode	As per user: Off, auto, heat, cool (auto set as factory default)
Temperature scale	As per user: °F or °C
Fan Mode	As per user: On, Auto, Smart (smart set as default for programmable model)
Configuration Parameter Name	
DI1	**Filter**
DI2	**None**
Lockout	**As per user**: (see manual for details) set to "0" for full access
pwr del	**10 seconds** is factory set, range is: 10 to 120 seconds
Frost pr	**ON**
Heat max	**90 °F (32 °C)** is factory set, range is: 40 to 90 °F (4.5 to 32.0 °C)
Cool min	**54 °F (12 °C)** is factory set, range is: 54 to 100 °F (12.0 to 37.5 °C)
anticycle	**2 minutes** is factory set range is: 0,1,2,3,4 & 5 minutes
Heat cph	**4 C.P.H** is factory set, range is: 3, 4, 5, 6,7 & 8 C.P.H.
Cool cph	**4 C.P.H.** is factory set, range is: 3 or 4 C.P.H.
deadband	**2.0 °F (1.1 °C)** is factory set, range is: 2, 3 or 4 °F (1.0 to 2.0 °C)
fan cont	**ON, Auto or Smart** (see manual for details)
Fan del	**OFF**
Com Addr	Found on BACnet models only
ToccTime	**3 hours** is factory default, range is: 0 to 12 in one hour increments
cal RS	**0.0 °F or °C**
cal OS	**0.0 °F or °C**
H stage	**2 stages**
C stage	**2 stages**
H lock	**120 °F (49 °C)** is factory default, range is: **-15 °F up to 120 °F (-26 °C up to 49 °C)**
C lock	**-40 °F (-40 °C)** is factory default, range is: **From -40 °F up to 95 °F (-40 °C up to 35 °C)**
2/4event	**2 events** is factory default, can also be set to 4 event
Aux cont	**N.O. normally open**
Prog rec	**ON**
chngst pt	**55 °F (13.0 °C)** is default value, range is:**14 to 70 °F (-10.0 to 21.0 °C)**
Min pos	**0%** is factory default, range is: 0 to 100%
C mech	**ON**
mix stpt	**55 °F (13.0 °C)** is factory default, range is: **50 to 90 °F (10.0 to 32.0 °C)**

Wiring Diagram



General Operation:

- The thermostat will receive the average temperature from 3 sensors.
- The digital input DI1 will monitor filter status by the use of a differential pressure switch.

Occupied Mode:

- The setpoints will revert to those defined by occupied cool and heat.
- The progressive recovery function will bring the room to the occupied temperature at the beginning of the occupied period.
- The auxiliary output will energize the lighting system.
- The economizer will open if outdoor temperature conditions are adequate for free cooling and will maintain minimum position if desired.
- The mixed air sensor located before the mechanical cooling will maintain minimum mixed air temperature.

Unoccupied Mode:

- Setpoints will revert to those defined by unoccupied heat and cool.
- The auxiliary output will de-energize the lighting system.
- The economizer fresh air damper will close completely overriding the minimum position setting. Free cooling will still be enabled if outdoor temperature is adequate.

Occupied Override Mode:

- The system will revert to occupied mode for the duration determined by the "ToccTime" parameter.

On a call for Heat:

- The first stage of heating will be enabled and the second stage will only be activated if the first can not maintain room temperature.

On a call for Cool:

- The first stage of cooling will be enabled and the second stage will only be activated if the first stage can not maintain room temperature.

Fan Mode:

ON: Fan remains on at all times.
Auto: Fan turns on a demand for heating or cooling.
Smart: In occupied mode the fan is in ON mode , in unoccupied mode the fan is in Auto mode.

Application: VAP-76001-E01
Large Single Zone with Sensor Averaging Capability.
Controlling: Rooftop Unit 2H/2C with economizer
Drawing By: Nicolas Sovran
Viconics Electronics Inc.