Sequence of Operation

Occupancy Sensor: The occupancy sensor will define the occupancy mode of the zone. In case no occupancy is detected for 30 minutes, the sensor will send signal to DDC controller which will automatically increase the temperature set-point thereby modulating the motorised valve to reduce the fan speed. The system will then operate in unoccupied mode. The off-hour controls, setback controls, guest room HVAC set-point controls should be in compliance with Section 6.4.3.3 of ASHRAE 90.1 standard, for default controls during unoccupied mode.

Door/ Window interlock: When the door / window which are connected to outdoors are kept open for certain period of time, the DDC controller will send signal for motorised valve to close and fan to turn-off. DDC controller generates an alarm in CCMS, thereby preventing energy wastage.

Note: *The control sequence may vary based on the system selection. The given sequence is not be considered as a standard reference. Section 6.4.3.3 of ASHRAE 90.1 standard, provides additional guidance.*

COMPLIANCE DOCUMENTATION

Table 502.17(1) - Documents Required

Project Stages	Submittal Documents
Design Permit Application	1. Detailed description and specifications of the proposed control system. 2. Mechanical drawing indicating the location of thermostat and occupancy sensor.
Construction Completion Application	1. Final approved mechanical drawing showing the location of thermostat and occupancy sensor. 2. Control schematic layout to indicate the integration of door/ window interlock and occupancy sensor with air-conditioning. 3. Technical data sheet of thermostat with temperature and velocity control option.
After Completion	1. CCMS input and output point summary report highlighting the digital inputs of door/window interlock with air conditioning system.

REFERENCES AND ADDITIONAL INFORMATION

American Society of Heating, Refrigerating and Air-Conditioning Engineers. (2016). ASHRAE standard 90.1: Energy Standard for Buildings Except Low-Rise Residential Buildings, Section 6.4.3: Controls and Diagnostics.

American Society of Heating, Refrigerating and Air-Conditioning Engineers. (2016). ASHRAE 62.1-Ventilation for Acceptable Indoor Air Quality.

American Society of Heating, Refrigerating and Air-Conditioning Engineers. (2017). ASHRAE 189.1- Standard for the Design of High-Performance Green Buildings.