Independent Thermal Controller: The thermal controller should be installed for each thermal zone with the provision to control both air temperature and air speed independently.

Occupant Sensor: HVAC systems for all individual zones must be integrated with occupant sensor that shall be capable of automatically raise the temperature set-points and reduce air speed when no occupant is sensed for a predefined period of time. It shall also detect occupants and automatically modulate the cooling system to maintain zone default set-point temperature as per thermal load.

The automatic control operation of HVAC must be such that it shall not affect the compliance of *Regulation 502.15: Control of airflow*, which requires the space humidity level is maintained below 80% overall, regardless of occupancy of space. The occupant sensor can be integrated with HVAC system through independent controller or via through Central Control Monitoring System (CCMS).

Window / Door Interlock: Conditioned spaces that consist of operable window or door openings to the outdoors shall be provided with interlock controls capable of shutting down the air conditioning system when such openings are kept open for certain amount of time e.g.10 min.

The interlocks are not required for doors and windows with automatic closing devices and for those spaces, which are not controlled by independent temperature controller (thermostat).

The window/door contact mounted on the operable window or external door should be integrated with CCMS. Alarm should be generated when operable window or external door is kept open for prolonged period, in order to avoid loss of cooling energy.

A typical control schematic of occupancy sensor / window / door integrated controlled air conditioning zone is shown in fig. 502.17(1).

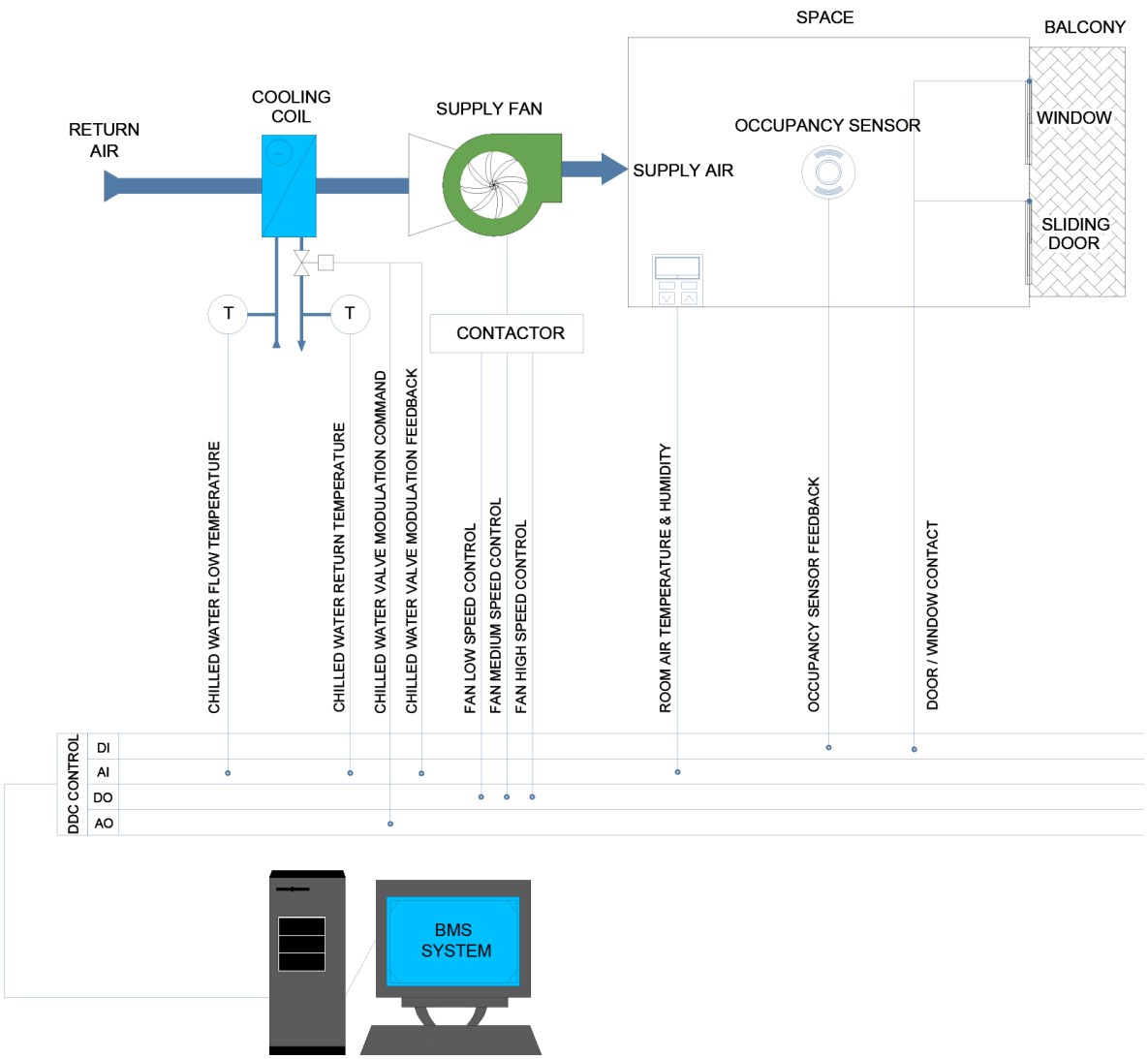

Fig. 502.17(1): Control Schematic of AC Zone