In residential spaces, multiple zones can be considered based on the space type, occupancy pattern or thermal demand. For example, having independent controls for living room and bedroom as shown in fig. 502.08(2) can help in maintaining different temperature for both the areas. This prevents energy loss due to unnecessary cooling when it is not required.

Fig. 502.08(2): Zoning Layout of a Sample Apartment

Similarly, in open office space, multiple zones can be created based on the exposure to sun, space type or thermal demand.

Controlling the zone

A zone may have its dedicated HVAC system or centralised HVAC system. Most commonly used zone control device is thermostat. As per this regulation, thermostats need to control the temperature of each zones independently and should have provision to turn-off the system when the zones are not occupied (fig. 502.08(3)).

Where centralised systems are provided, thermostats must indirectly control the operation of central plant through return air temperature sensors, differential pressure sensors etc.

Fig. 502.08(3): Independent Temperature Controller (Thermostat)