



Multifamily Facility Management Services

OUTDOOR CUTOUT CONTROL

Description:

In many multizone buildings, the boiler is started manually in the fall and turned off manually in the spring. Between the first and last dates that heat is needed, there are many mild periods when it is not; ranging from mild days with cold nights to mild stretches of several days interspersed with colder days. It is not practical for the owner or maintenance person to go to the building to turn the boiler on and off for each of these times, so it continues to cycle to satisfy the aquastat or reset. This can be very wasteful. An outdoor cutout is a device that automatically turns off the burners (and where applicable the circulating pump) when the outdoor temperature is warm enough that no heat is needed in the building. Because lighting, people, stoves, and the sun supply some heat, this cutoff temperature is usually between 50 and 60°F.

How to Implement:

Boiler controls should be installed by a licensed heating contractor. The cutout should be wired to control the burners and, where applicable, the circulating pump(s).

Outdoor cutoffs are available from a number of manufacturers and may either be electro-mechanical or electronic. Electro-mechanical controls are mechanically actuated and since they use a sensing bulb and capillary tube to measure outdoor temperatures, there is a limit to the distance from the control box the sensing bulb can be located. Electronic controls use electronic sensors attached to common thermostat wire, which eliminate restrictions on the distance between the sensor and the control.

The proper location of the outdoor sensor is an important consideration for outdoor cutout controls. In order to protect it from direct sun, the sensor should be protected by a shield and located in a shaded area, preferably on the north side of the building. Shielding of the sensor is especially important if a north side location is not possible. Otherwise outdoor temperatures may be measured inaccurately and the building will not be well controlled.