

Smart Sensor temperature control

The smartsensor controller can be configured in 2 ways.

1. Timer control
2. Temperature control + Timer control

1. Timer control

Timer control mode can be configured when the user goes to Temperature control menu and disables/deletes all control related to the related controller UID. Thereby if temperature control for a controller is not set in the temperature control menu, the controller will only follow the timetable (set in controller menu).

2. Temperature control + Timer control

This mode can be configured when the controller UID is set in temperature control menu. It works as follows

If Sensor Temperature is less than Recovery Temperature (Tr) -----> Follow the timetable (Normal state)

If Sensor Temperature is more than High Temperature (Th) -----> Turn ON the controller (High temperature state)

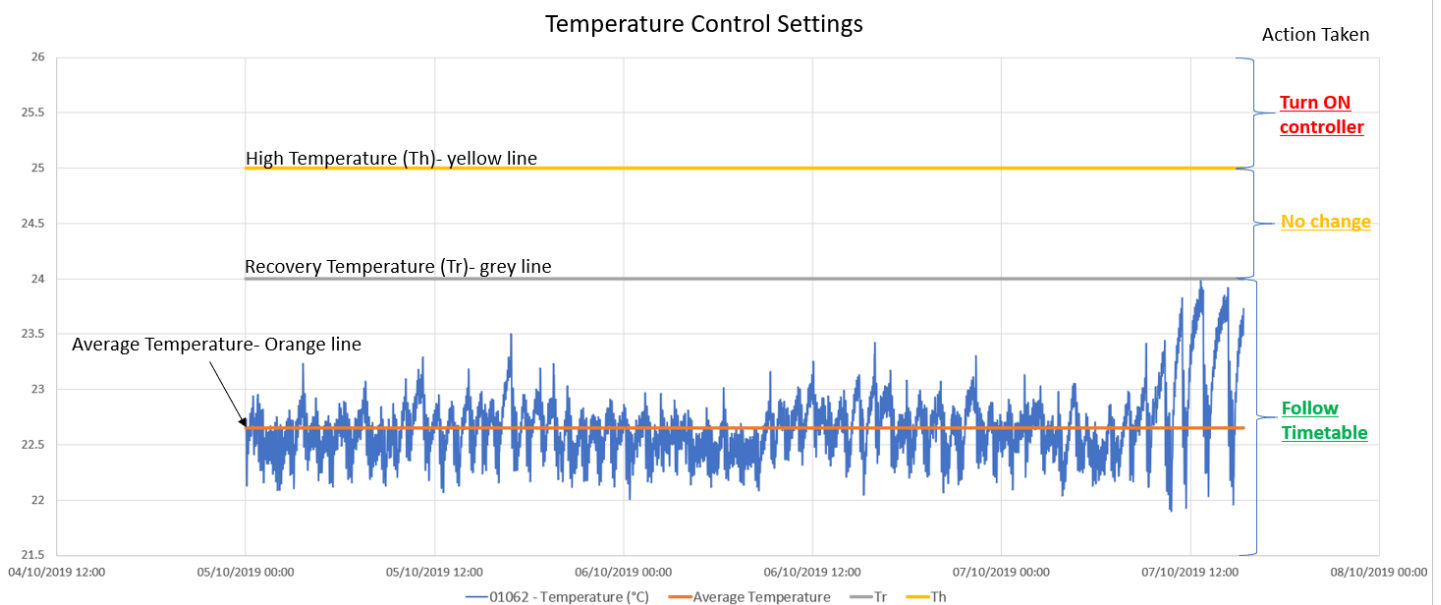
If Sensor Temperature is between Tr and Th -----> No change done

Correctly setting the Th and Tr values are crucial in order for the system to work as expected.

How to determine Th and Tr values? (Please see graph below)

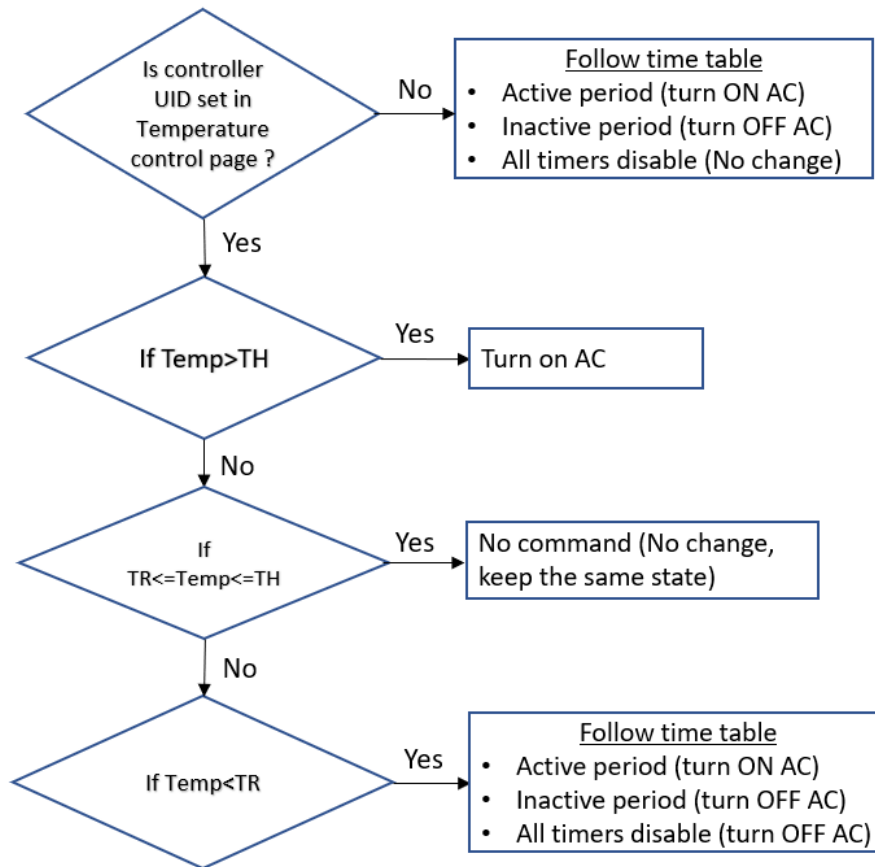
First monitor temperatures recorded by the sensors in normal conditions (when the controllers are working according to the timetable). Therefore if the average normal temperature is about 23°C, please set the Tr to 24°C, this will ensure that if temperature is less than 24°C the timetable is always followed.

Next determine the desired Th value, this value should always be higher than Tr and recommended to have at least 1°C of separation from Tr, the reason for the separation is to prevent the controller from fluctuating from Normal state and High temperature state (to prevent fluctuating ON/OFF signals sent to controller).



Please refer Flowchart below for a more detailed explanation on the control logic used.

Controller algorithm



Legend

Temp= Temperature record by sensor
 TH = High temp condition
 TR = Recovery temp condition

Note

If UID's of 2 temperature sensors are assigned to 1 controller, For ex: [1068,1069] for controller [8005]

First 1068 temperature is checked, as shown in flowchart and action is taken, however If $TR < Temp < TH$ then 1069 temperature is checked and action is taken.

Also note if 1068 Sensor is offline then 1069 is checked to get temperature and logic in flow chart is followed

Files

controller_algorithm.png.PNG	84.8 KB	07 Oct 2019	Pramod Wickramatilake (ปราวน์มท)
graph.PNG	162 KB	07 Oct 2019	Pramod Wickramatilake (ปราวน์มท)