

A two-position controller, also called an ON/OFF controller, is the most basic type of process controller. As the name implies, it provides an ON/OFF signal to the process's control element see Fig (2-1). Ideally, if the set point temperature is 70°F, the heater will turn ON when the temperature is less than 70°F and turn OFF when it is greater than 70°F, as the heater tries to keep the error ($SP - PV$) at zero. The heater turns ON when the temperature is below the set point and turns OFF when the temperature reaches an acceptable level.