

CONTROL SYSTEMS ENGINEERING Mte - 328

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Assignment 1

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1. From your daily life give an example of an open loop control system. Explain the various components and function of this system with a block diagram.

Answer: -

Daily Life Example of open loop (Electrical Clothes Drier): -

One of the daily life example of open loop system is clothes drier, We operate the clothes drier depending upon the amount of clothes to make dry, the clothes drier is an open loop system, because it doesn't consider the condition of clothes before it stops working.

Component: -

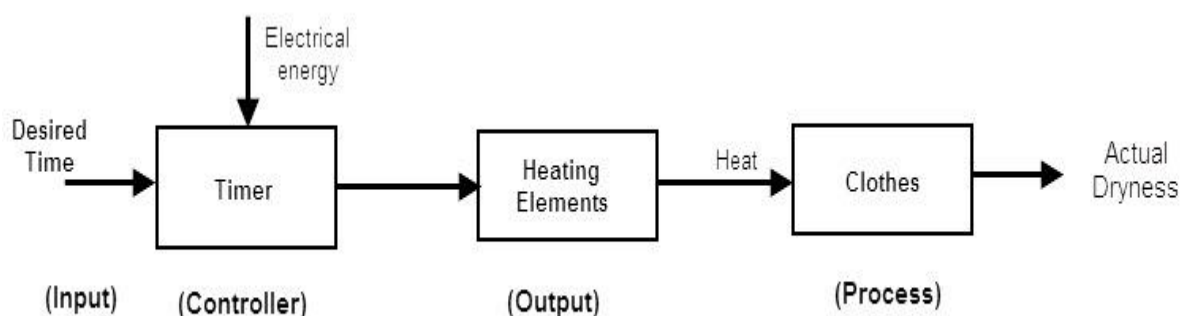
Here, the electric drier system has three blocks, timer, heating elements and clothes.

Primarily, the user sets the time for drying the clothes in the timer. And the timer control works in combination with the heating element, to produce heat and dry the clothes.

Function: -

The user can adjust the operating duration of the system by setting the timer controls as per his / her requirement. Observe the below block diagram for the open loop control system, electric drier. The output of the open loop control system is not compared with the input of the system for checking errors in the output. The output of non-feedback signal "faithfully" depends upon its input and doesn't depend on any other circumstances or parameters external to the system.

Block diagram: -



2. From your daily life give an example of a closed loop feedback control system. Explain the various components and function of this system with a block diagram.

Answer: -

Daily Life Example of close loop system (Current limit control): -

One of the daily life example of closed loop system is current limit control.

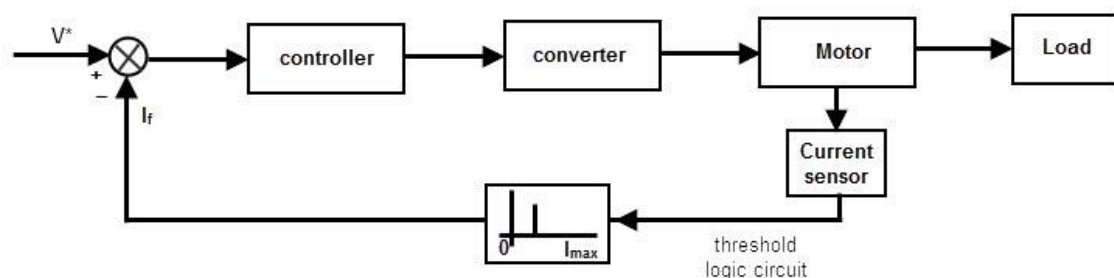
Component: -

In electronic devices, there will be a large amount of current flow by system faults and connection faults. If we doesn't control the current and unless make some precautionary actions, the electronic device will damage and lead to loss, economically and industrially. So to limit the current and to control the current flow, we instantiate a current limit controller in the electronic device or system. The current sensor will continuously monitor the current supplied to the motor.

Function: -

When the current flow in the motor exceeds the required safe level the sensor activates the feedback loop and some amount of current is negatively feed backed to the controller to set the current back to the limit.

Block diagram: -



When the current flow again reaches the safe limit, the feedback loop deactivates.