Practical Applications of an Engineering Degree

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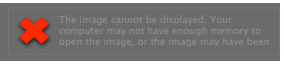
January 2009

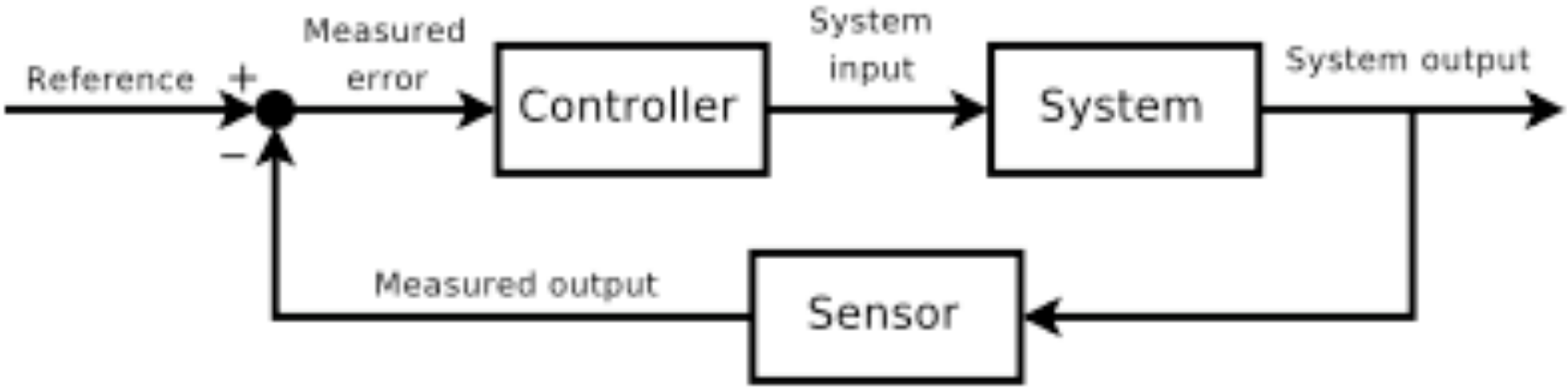


Business as a System

1. Understand Your Boundary Constraints

$$\frac{dQ}{dt} = h \cdot A(T_0 - T_{env})$$

2. Model “Processes” as “Systems”



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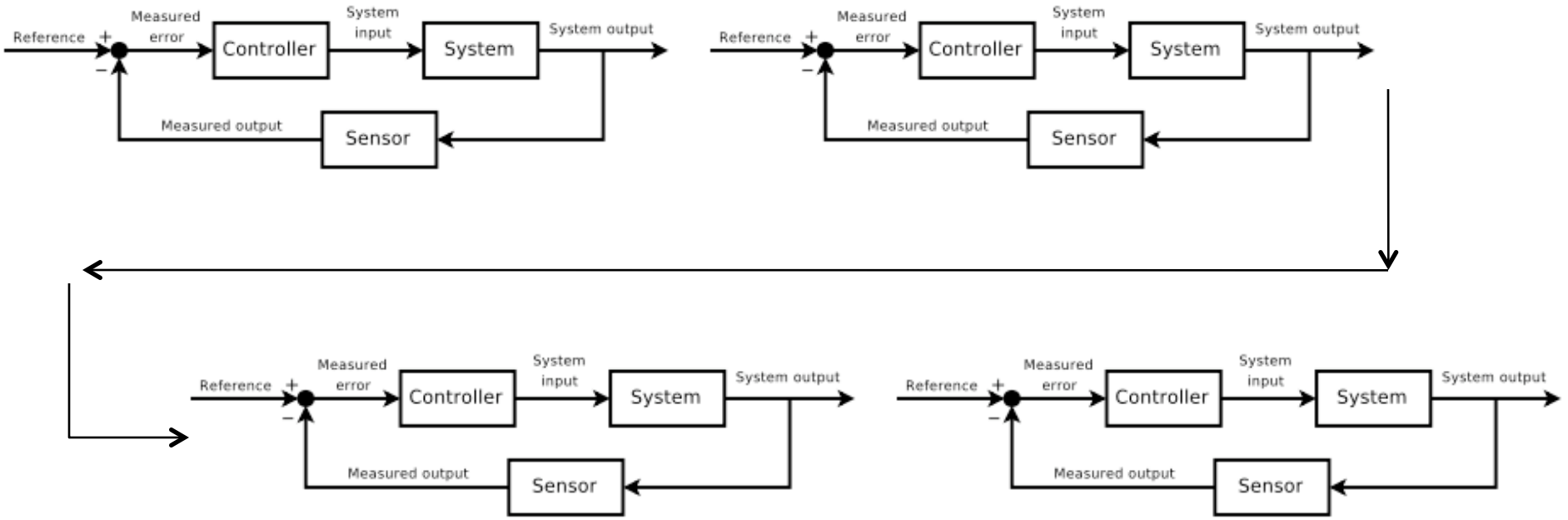

3. The Path Matters

$$W_C = \int_C \boldsymbol{F} \cdot d\boldsymbol{s}$$

4. Know The Limits… or Lack Thereof

$$\sum_{n=1}^{\infty} \frac{1}{2^n} = [\,?\,]$$

$$\sum_{n=1}^{\infty} \frac{1}{2^n} = 2$$

$$\sum_{n=1}^{\infty} \frac{1}{n} = [\,?\,]$$

$$\sum_{n=1}^{\infty} \frac{1}{n} = \infty$$

5. Understand Interactions and Optimize

$$\begin{bmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \beta \begin{bmatrix} x \\ y \end{bmatrix}$$

6. Some Things Just "Are What They Are"

$$\mathrm{Re} = \frac{\rho V D}{\mu}$$

Conclusion

Q/A

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