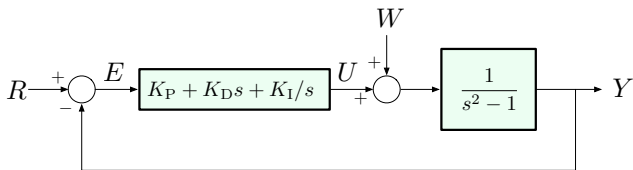


Proportional-Integral-Derivative (PID) Control

Let us try

$$U = \left(K_P + K_D s + \frac{K_I}{s} \right) E \quad - \text{the classic three-term controller}$$

In fact, let's also throw in a constant disturbance:



We will see that, with PID control, the goals of

- ▶ tracking a constant reference r
- ▶ rejecting a constant disturbance w

can be accomplished in one shot.