C2000 PID Function

Drive execute PID control
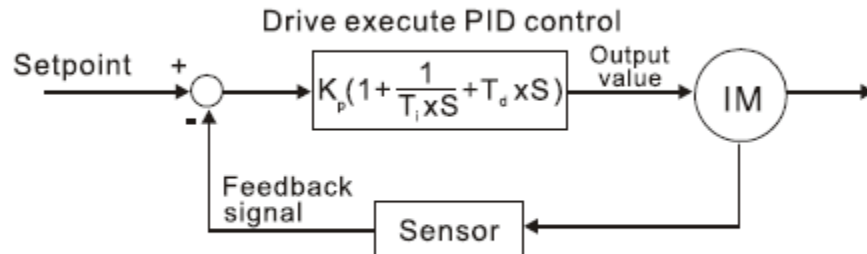
$$K_p\left(1+\frac{1}{T_i \times S}+T_d \times S\right)$$

K_p: Proportional gain(P) T_i: Integral time(I) T_d: Derivative control(D)   S: Operator

Feedback

4-20mA signal to the ACI terminal.

Common to the ACM terminal.

C2000 Programming:

08-00 = 1 for Negative PID Feedback.

03-01 = 5 for PID Feedback.

00-20 = 0 for Keypad (PID Setpoint).

00-21 = 1 for Ext Terminal for PID Run Command).

00-04= 10 for PID Feedback % Display

00-25= 0022h for % unit for Setpoint Display.

00-26= 100.00 Max Percentage.

08-01= Proportional Value Setting (Default).

08-02= Integral Value Setting (Default).

Keypad is the set point. Think of the set point percentage as the percentage of frequency reference to max speed. For example,

If the max output frequency (Parameter 01-00) is set for 60.00Hz, setting the keypad frequency reference to 60.00Hz is equivalent to a 100.00% setpoint (20mA). Setting the keypad frequency reference to 30.00Hz is equivalent to 50.00% setpoint (12mA). Setting the keypad frequency reference to 0.00Hz is equivalent to 0.00% setpoint (0mA).