PID Optimization Results

Generated on **2025-12-10_15-27-08**

Information

PRELIMINARY – results have not been fully validated and the application is still under development

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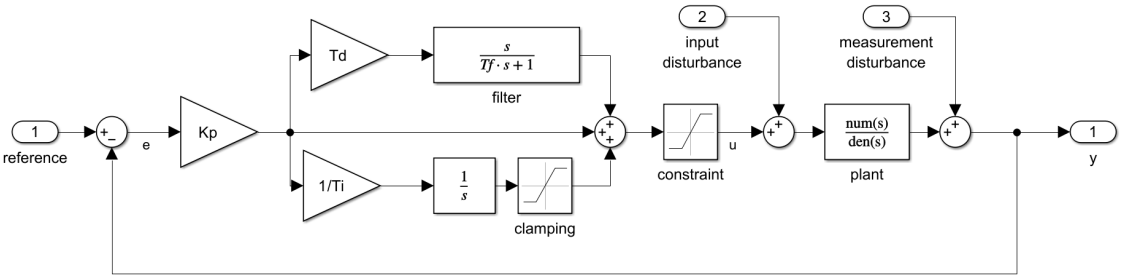


Plant Model

Numerator: [23040]

Denominator: [1, 9.6, 2304]

Best Found Parameters

K_p = 9.7892

T_i = 0.4894

T_d = 0.0051

Best ITAE = 0.000023

Recommended Filter Time Constant (T_f)

$T_{f,max}$ = 1.2107e-05 s (upper limit imposed by the crossover frequency)

To implement this filter digitally, the sampling frequency f_s should be at least 262924 Hz.

For the generated plots, the filter time constant was set to $T_{f,max}$.

Simulation Settings

Start time: 0

End time: 0.2

Mode: fixed

Time step: 0.0001

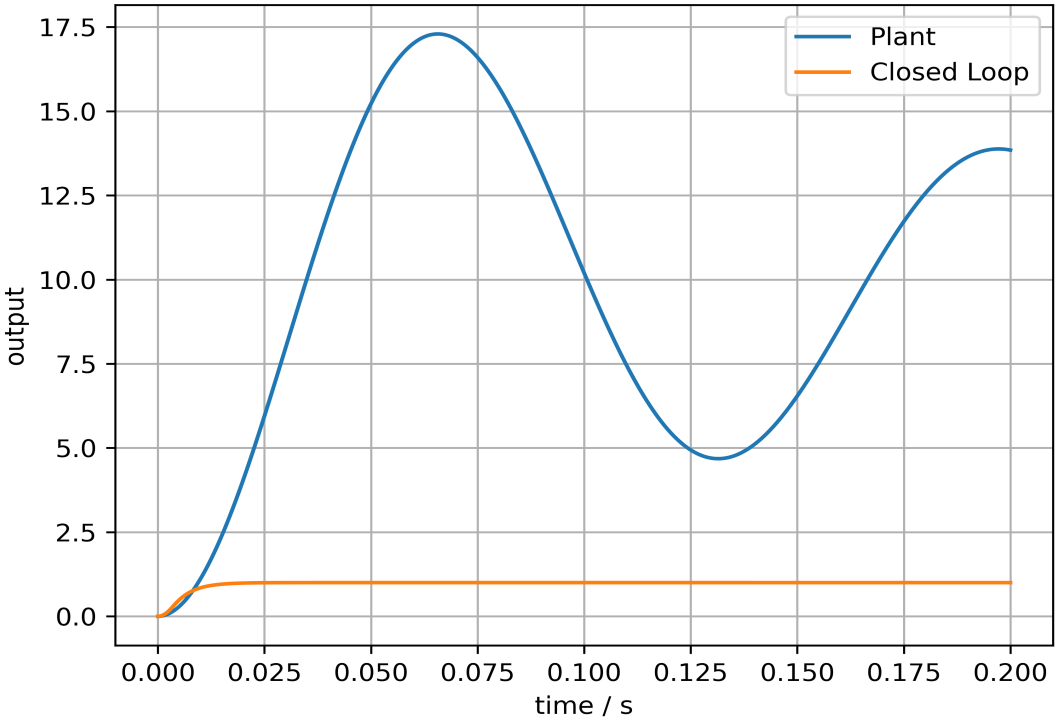
Excitation target: reference

Anti-windup-method: clamping

Control output upper limit: 2

Control output lower limit: -2

Step Response



Bode Diagramm