Title: MultiFlex ETH 1000 Series IIR Filter Designer
Products(s): All MultiFlex ETH 1000 Series motion controllers
Keywords: MultiFlex, IIR Filter, Error Signal, Embedded Web Browser
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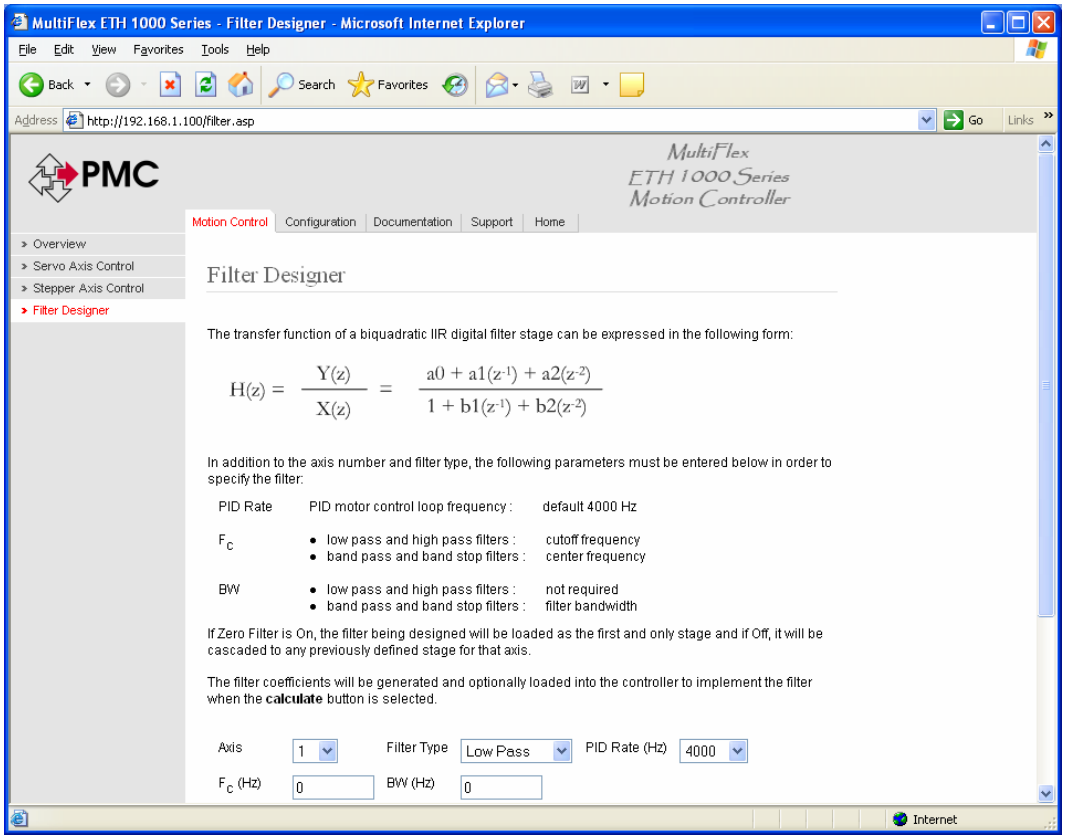
Summary

MultiFlex ETH 1000 series motion controllers provide a convenient interface through its embedded web browser to design and implement PID loop IIR filters.

More Information

Tuning a closed-loop servo motor frequently involves incorporating a digital filter in the position error feedback signal to the PID loop. The MultiFlex ETH 1000 series controllers support up to 6 cascaded bi-quadratic IIR filter stages and these can be calculated and implemented easily using the embedded Filter Designer, shown below.



The user simply specifies the axis, PID loop rate, cutoff frequency and bandwidth in addition to the type of filter desired which can be combination of

- Low pass
- High pass
- Band pass
- Band reject (notch)

Once the data is entered and the Calculate button is chosen, the filter coefficients are generated and displayed, as shown below. The user then has the option of implementing the filter in the controller for testing. The filter will only be stored in volatile memory and will not be present after the system is restarted. The command mnemonics are displayed, however, allowing the user to cut-and-paste the filter definition into an MCCL macro file that can be made non-volatile after suitable performance is achieved.