# MASS6000 response time measurements

Test Setup:

The flow transient is generated by switching a flow simulator between 0% and 100% fs. Flow. The response from MASS6000 is recorded from the current output by an oscilloscope. The current output is in mode 0-20mA. The current loop is loaded by a 200 R resistor, giving 4V @ Io = 20 mA.
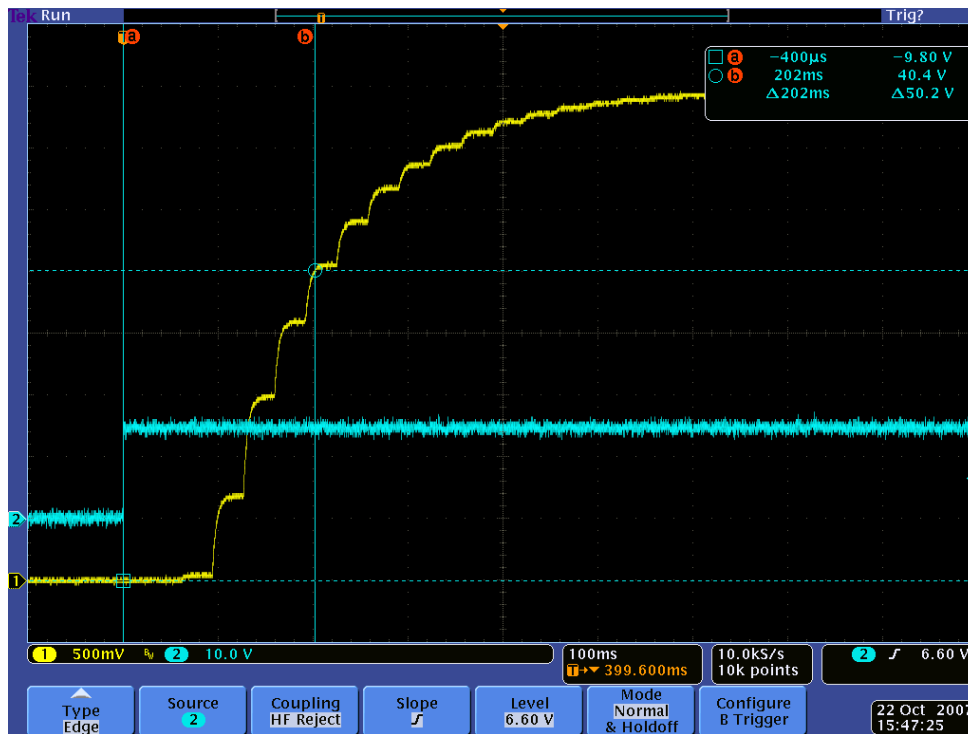
Variables:

Noise filter setting
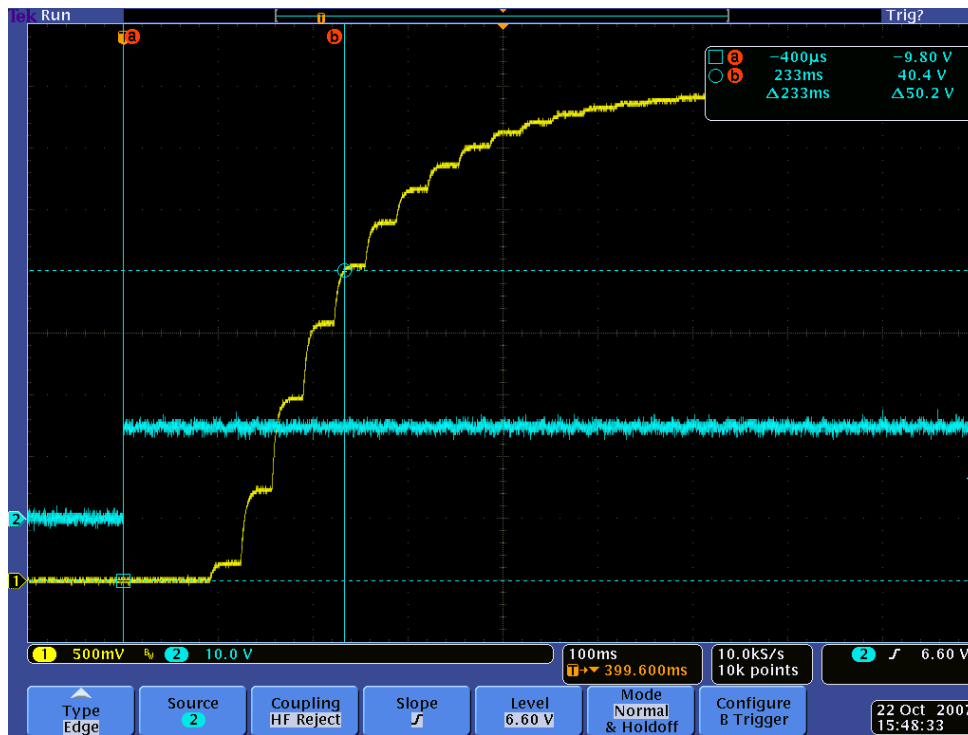Io time constant setting

TEST SETUP
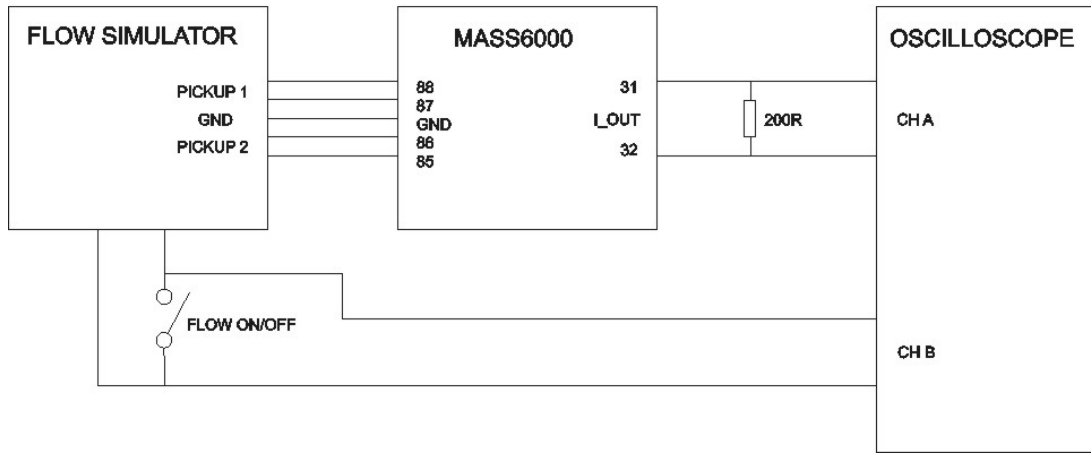
The response time is measured as the time elapsed from switching flow on and until the current output has reached 63% of final value (1 tau). The cursors are positioned at flow start and at the 63% value. Response time, Tr, can be read as the Δ a-b value.

Noise filter = 1, tau Io = 0,1s:

Tr = 202 mS

Noisefilter = 2, tau Io = 0,1s:

Tr = 233 mS

Noise filter = 3, tau Io = 0,1s:

Tr = 316 mS
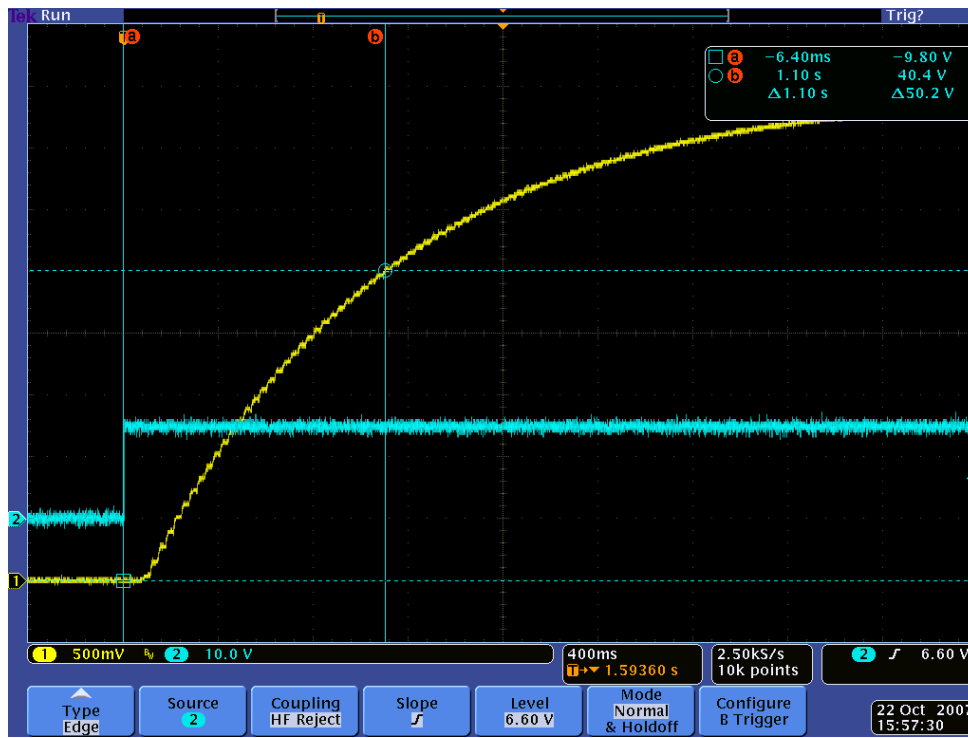
Noise filter = 4, tau Io = 0,1s:

Tr = 473 mS

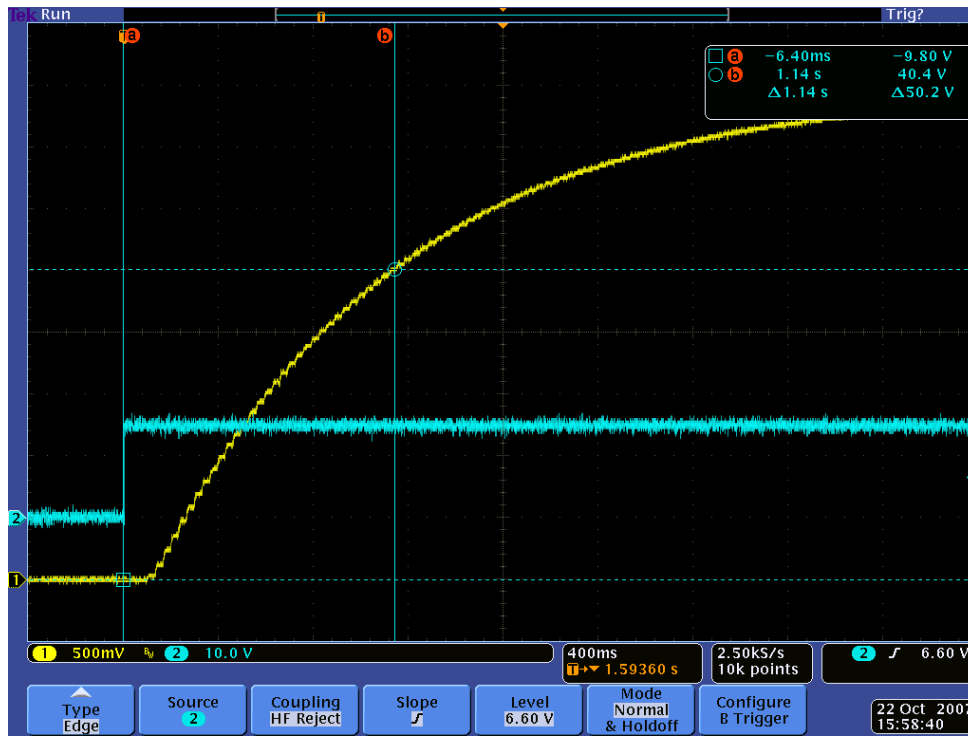Noise filter = 5, tau Io = 0,1s:

Tr = 770 mS
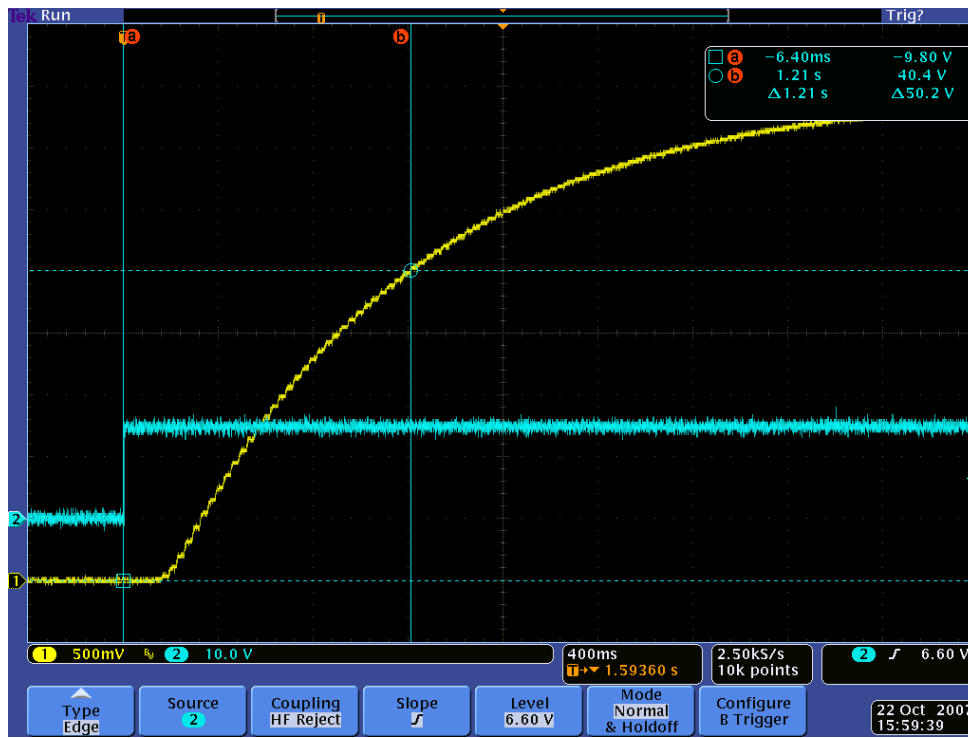
Noise filter = 1, tau Io = 1,0s:

Tr = 1.1 s

Noise filter = 2, tau Io = 1,0s:
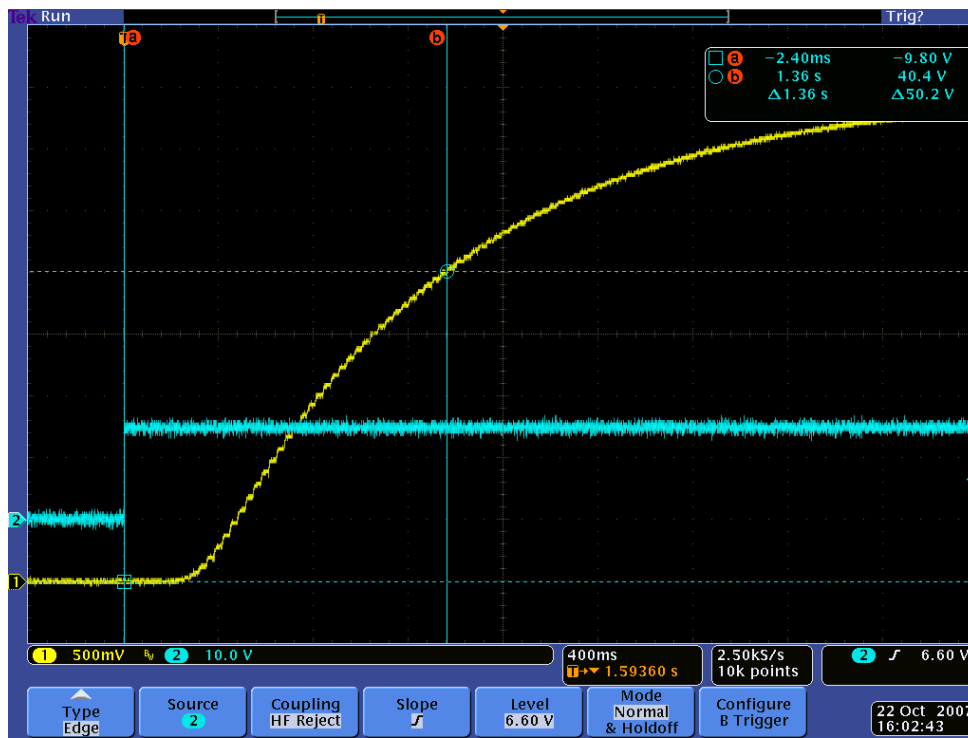

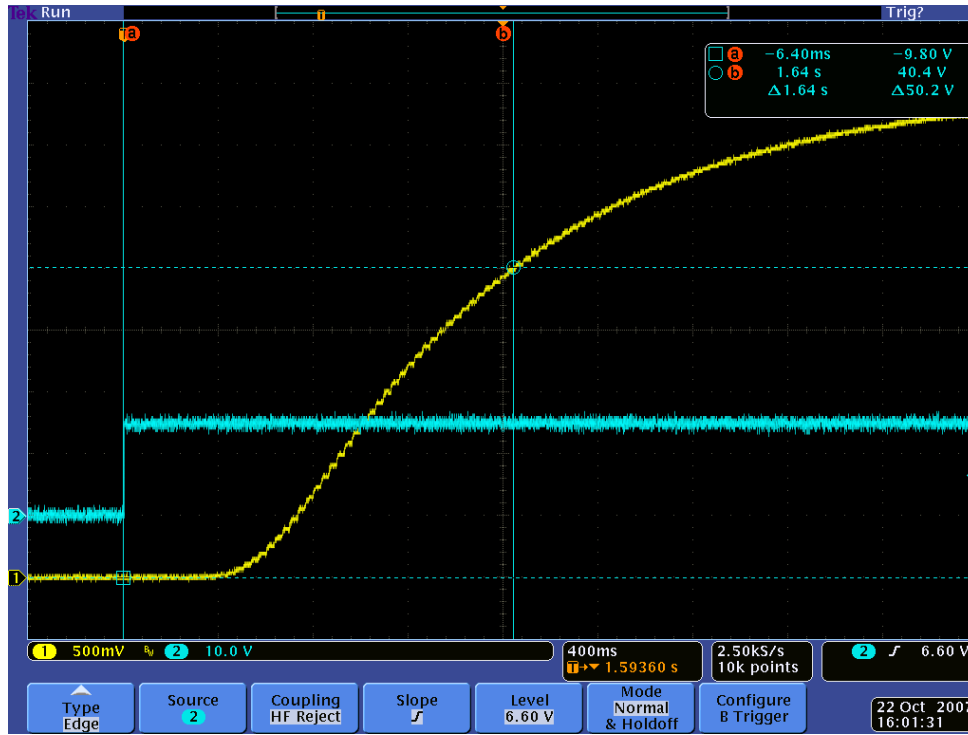Tr = 1.14 s

Noise filter = 3, tau Io = 1,0s:

Tr = 1.21 s

Noise filter = 4, tau Io = 1,0s:

Tr = 1.36 s

Noise filter = 5, tau Io = 1,0s:

Tr = 1.64 s

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