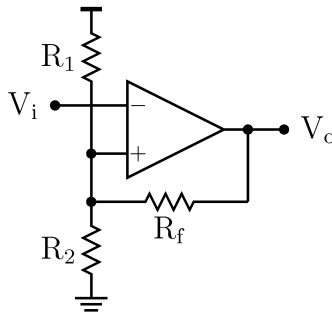


# Electronic Instrumentation Problem sheet: Hysteresis

2010/2011 module 2

P. Stallinga

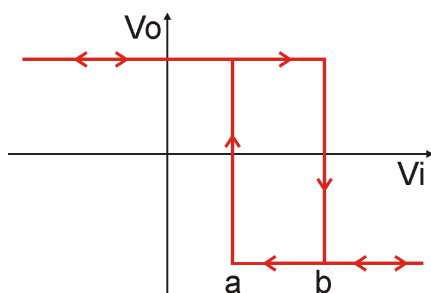
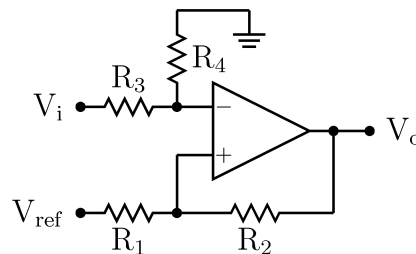
1)



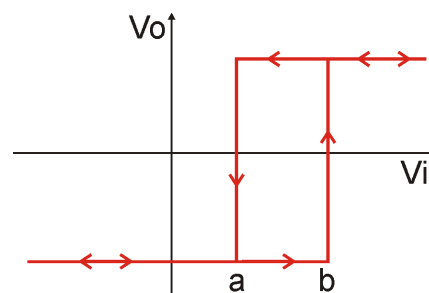
For the above circuit  $R_1 = R_2 = 10 \text{ k}\Omega$ ,  $R_f = 100 \text{ k}\Omega$ , power supply of the circuit including op-amp: +10 V and ground (0 V).

Draw the output voltage  $V_o$  as a function of input voltage  $V_i$ .

2)



Type I



Type II

- a) The circuit shown above implements hysteresis of type I (left) or type II (right)? Explain why.

- b) Give values for the components and voltages to get hysteresis with  $a = 1 \text{ V}$  and  $b = 2 \text{ V}$ .
- c) What is the application of this circuit?