

# Non-inverting Operational Amplifier

## Student Group

First Name	Surname	Matrikel Nr.

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## Non-inverting Operational Amplifier

### Op-Amp as current source

An Op-Amp can not only amplify currents and voltages, it can also act itself as current source. Here is an scematic of an typical current source using an Op-Amp:



Fig. 1: Non-inverting Op-Amp: current source

$U_{DD} \approx 10\text{V}$ ,  $U_{SS} \approx -10\text{V}$ ,  $R_1 \approx 100\text{k}\Omega$ ,  $R_2 \approx 10\text{k}\Omega$ ,  $R_3 \approx 100\Omega$

Measure the values given in the table below.

Potentiometer	$(U_{\text{R2}})$	$(U_{\text{R3}})$	$(I_{\text{OUT}})$	$(U_{\text{OUT}})$	$(I_{\text{OUT}})$	$(U_{\text{OUT}})$
0%						
50%		...				

Tab. 1: Op-Amp as current source: measured and calculated values

Why does the current remain stable at the output of the Op-Amp?  
Give a brief explanation of the circuit's operating principle.

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