

Non-inverting Operational Amplifier

Student Group

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Non-inverting Operational Amplifier

Op-Amp as current source

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



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

$U_{DD} \approx 10\text{V}$, $U_{SS} \approx -10\text{V}$, $R_1 \approx 100\text{k}\Omega$, $R_2 \approx 10\text{k}\Omega$, $R_3 \approx 100\Omega$, $C_1 \approx 100\text{nF}$, $C_2 \approx 100\text{nF}$

Measure the values given in the table below.

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

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

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

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