

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 currents and voltages, it can also act itself as current source. Here is an schematic of an typical current source using an Op-Amp:



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

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

Measure the values given in the table below.

Potentiometer	U_{R2}	U_{R3}	I_{OUT}	U_{OUT}	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 stable at the output of the Op-Amp?
 Give a brief explanation of the circuit's operating principle.

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Last update: **2026/04/28 13:55**

