

# Inverting Operational Amplifier

## Student Group

First Name	Surname	Matrikel Nr.

## Table of Contents

Inverting Operational Amplifier ..... 2  
Gain of Op-Amp ..... 2  
Investigation of inverting input ..... 3

## Inverting Operational Amplifier

### Gain of Op-Amp

Build the following circuit in [figure 1](#) with the power supply and a multimeter.



Fig. 1: Inverting Op-Amp

$U_{DD} = 10\text{ V}$ ,  $U_{SS} = -10\text{ V}$ ,  $R_1 = 10\text{ k}\Omega$

Calculate the necessary value for  $R_2$ , so that the Output  $U_{OUT}$  is +5 V. Use the supply voltage of the operational amplifier for  $U_{IN}$ .

$U_{IN} =$

$R_2$

**Investigation of inverting input**



Fig. 2: Inverting Op-Amp: Investigate inverting input

$U_{DD} = 10\text{V}$ ,  $U_{SS} = -10\text{V}$ ,  $R_1 = 10\text{k}\Omega$

For  $U_{IN}$ ,  $U_{OUT}$ ,  $R_2$  use the values from [figure 1](#).

Complete the arrows in the schematic of the circuit.

Determine the currents  $I_1$  and  $I_2$  indirectly through a voltage measurement.

Calculate the sum of the currents at node  $N_{12}$ .

$I_{\text{1}} \approx I_{\text{2}}$

$I_{\text{2}} \approx I_{\text{N12}}$

$I_{\text{N12}} \approx I_{\text{2}}$

- Virt masse messen
- r2 kurzschluss

From:

<https://mexle.te.hs-heilbronn.de/> - MEXLE Wiki

Permanent link:

[https://mexle.te.hs-heilbronn.de/lab05\\_en/inverting\\_op-amp\\_basics\\_amplification?rev=1775057419](https://mexle.te.hs-heilbronn.de/lab05_en/inverting_op-amp_basics_amplification?rev=1775057419)

Last update: **2026/04/01 17:30**

