

Instrumentation Amplifiers

An instrumentation amplifier (in-amp) is defined as an amplifier having a closed loop gain block that have a differential input and a single-ended output with respect to a reference terminal. The impedances of the 2 input terminals are balanced and have high value.

The following figure details the main differences between op-amps and in-amps:

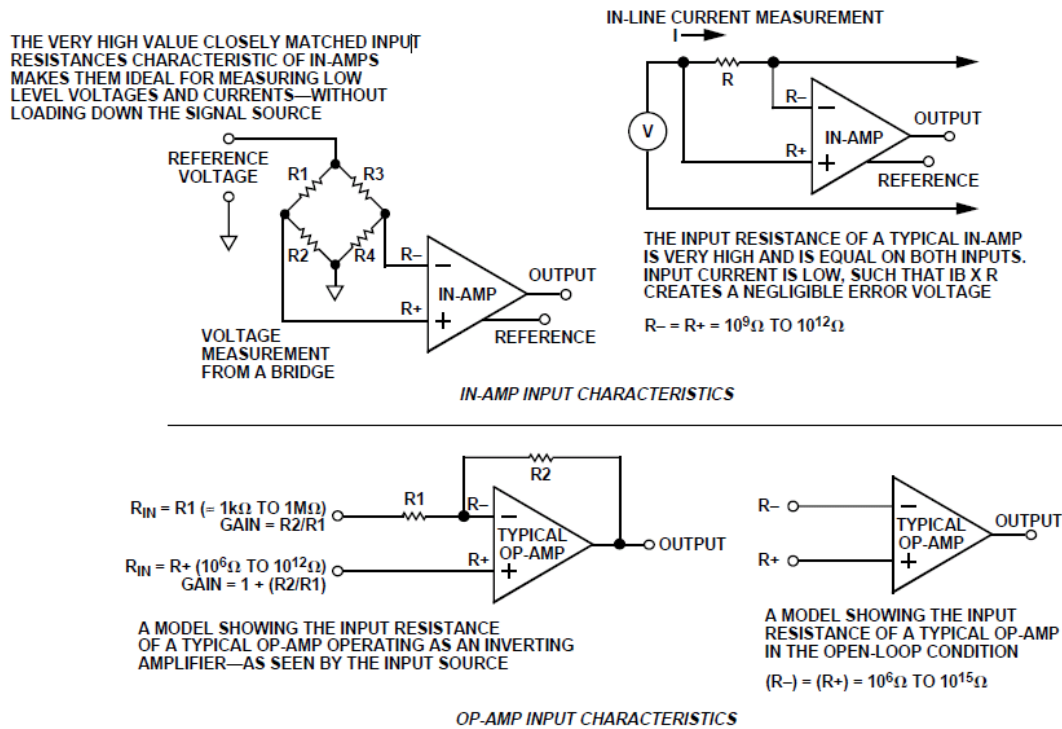


Figure 1. Op-Amp vs. In-Amp Input Characteristics

In in-amps the closed-loop components are isolated from the input terminals.

The main advantage of the in-amp is its common-mode rejection as this configuration takes 2 opamps and drives them differentially (ideally).