Measuring resistance using non-ideal devices

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1 Abstract

It tends to be pretty difficult and obviously not convenient to perform measurements using voltage and current sensors whose impedance is comparable with the impedance of resistor itself.
That's why it makes sense to apply optimization methods to improve accuracy.
So, we've constructed all of the possible schemes and proved, that there aren't any other reasonable schemes can be constructed using the given set of instruments.
Finally, we've extracted all the data from those schemes.
The task is to measure the impedance of the given resistor as precise as possible.
To achieve this aim, we decided to perform these operations:

1.

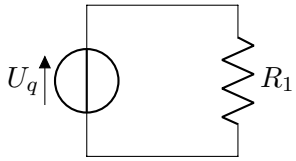

Figure 0.1: My first circuit.