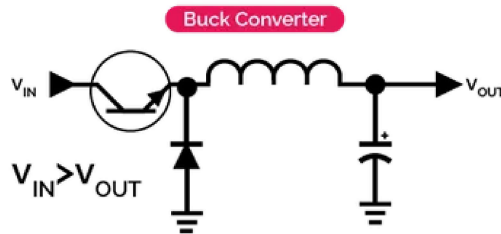


Linear and switching voltage regulator diagrams

The following diagrams help us better perceive step-up and step-down converters.

Buck converters: Reduce voltage.

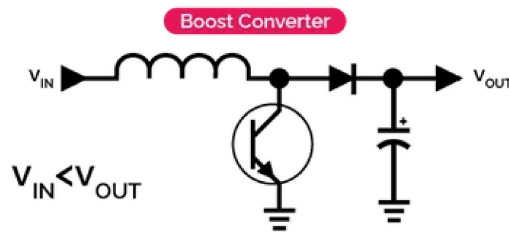
$$V_{\text{input}} > V_{\text{output}}$$



Buck converter

Boost converters: Increase voltage.

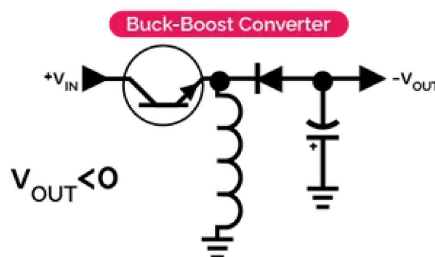
$$V_{\text{input}} < V_{\text{output}}$$



Boost converter

Buck-boost converters: Increase or decrease voltage but reverse the polarity.

$$V_{\text{output}} < 0$$



Buck-boost converter