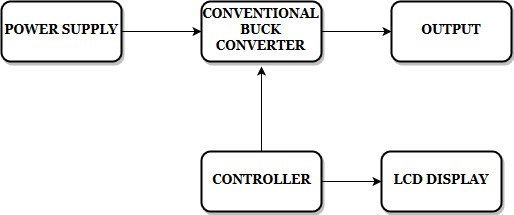
**CONVENTIONAL BUCK CONVERTER**

**ABSTRACT:**

The dc-dc power converters are gaining more attention in the power electronic research field. To cross the voltage demand, single input and multiple output topologies (SIMO) are developed. So many converters are available under this category. Integrated Dual Output Converter (IDOC) is one of the single input multi output topologies. IDOC is a DC-DC power converter which performs both buck and boost operations. The single power supply is used both simultaneously. The both of the switches in the IDOC can be connected in series. And operated to obtain the boost and buck voltages. In this project, the basic operation of IDOC is presented and compared with conventional buck converter. The hardware of IDOC with 100W is developed and tested. Also the experimental results are compared with the simulation results. Also the performance comparison among buck, boost and IDOC converters are tested.

**PROPOSED BLOCK DIAGRAM:**

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**PROPOSED SYSTEM:**

In this conventional buck converter is used to step down the dc voltage from the input voltage. This converter has one switching device, inductor and capacitor. In this buck converter switching device is not operates, the voltage is not produced in the output. When switch gets on, diode is reverse biased and the supply voltage is equal to the addition of inductor and capacitor voltages. When switch gets turned off, inductor makes the diode on. Both the inductor and capacitor feed the load.

**HARDWARE & SOFTWARE REQUIREMENTS**

**HARDWARE DETAILS**

* PIC microcontroller(PIC16F877A)
* Driver Board

**SOFTWARE DETAILS**

* Matlab/Simulink

**ADVANTAGES:**

* Soft switching
* Low cost
* High efficient

**APPLICATIONS:**

* Where multiple output voltages are needed with a single input source.
* Soft switching applications
* Projectors

**CONCLUSION:**

In this project, performance of conventional buck converter is designed and simulated by using Matlab software. And the result of buck converter is verified. In this project is used to step down or decrease the input voltage of DC. The hardware output will be compared with the simulation output. A small deviation in the hardware results from the simulation results are due to the non-idealities present in the passive elements.

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**Demo video:**

<https://youtu.be/CNjWkpqs1Rc>