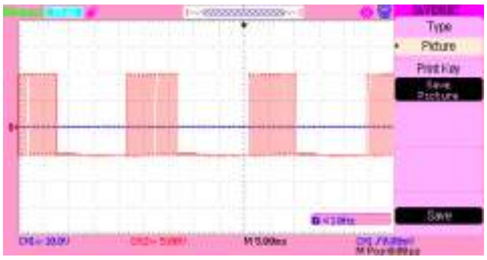

Figure 7.2: Output waveform of the switch s2 in the inverter

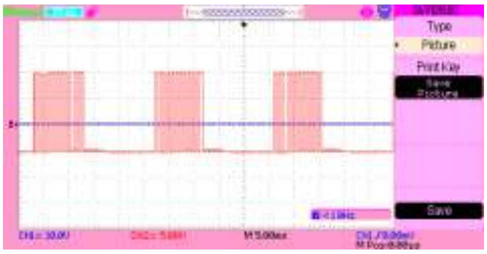

Figure 7.3: Output waveform of the switch s3 in the inverter

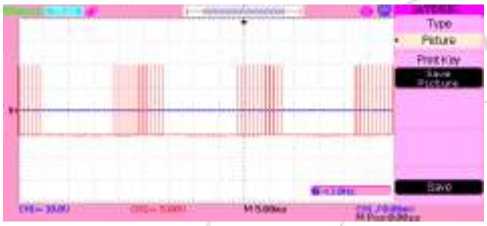

Figure 7.4: Output waveform of the switch s4 in the inverter

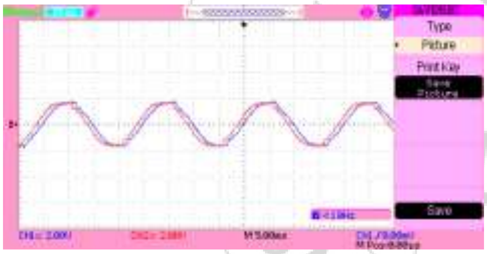

Figure 7.5: Input voltage and set voltage in PIC controller, normal voltage

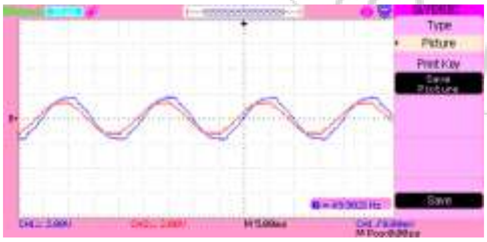

Figure 7.6: Input voltage and set voltage in pic controller, sag voltage

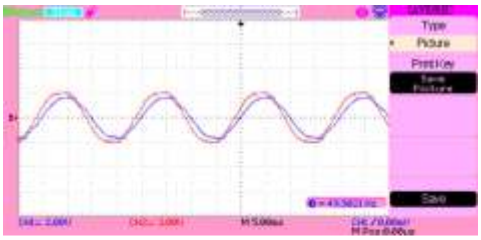

Figure 7.7: Input voltage &set voltage in PIC controller, swell voltage

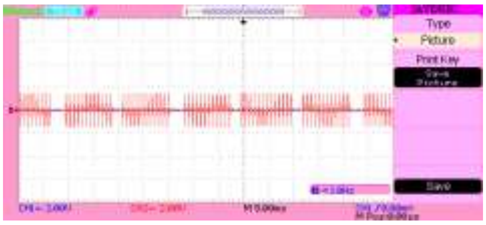

Figure 7.8: Inverter output at normal voltage

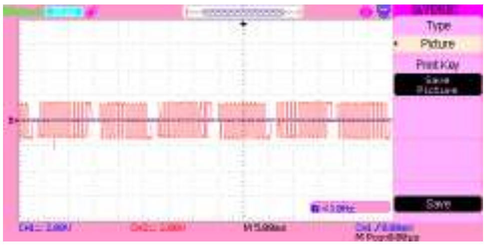

Figure 7.9: Inverter injection output at sag voltage

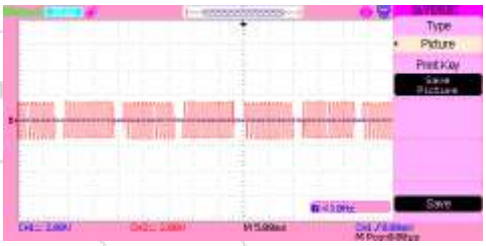

Figure 7.10: Inverter injection output at swell voltage.

7.1 Applications of the proposed system

1)LED lighting
2)Hybrid vehicle
3)Battery charging
4)Telecommunications
5)Power factor improvement

8. Conclusions and Future scope

8.1 Conclusion

In today's world, electric power plays a vital role. The world is unimaginable without electric power. How far it is used, the risk of electric power gets increases due to voltage sag and swell. Hence this project paves a better way to mitigate the risk due to sag and swell voltage. The Dynamic Voltage Restorer (DVR) is an effective device for power quality enhancement due to its quick response and high reliability. The conclusion is that it is an effective apparatus to protect sensitive load from short duration of voltage sag and swell. The effectiveness of the DVR depends upon rating of energy storage device and loads. In this project, Magnitude tracking is the method to mitigate the voltage sag and swell.The main advantage of this project is there low switching power loss, low cost and its control is simple. It can mitigate long duration voltage sags/swells efficiently. Future work will include a comparison with a laboratory experiments in order to compare simulation and experimental results.

8.2 Future scope

In future the proposed circuit diagram can be implemented in,.

- Solar energy system.
- Wind energy system.
- Power factor correction.
- Telecommunication system(the voltage is 48V dc.)

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