

Figure 4.4: Basic Irrigation System Simulation in Reverse Direction

Lab View package is used to monitor the temperature degree and the status of both motor and pump using LEDs. Figure 4.5 represents Lab View Front Panel.

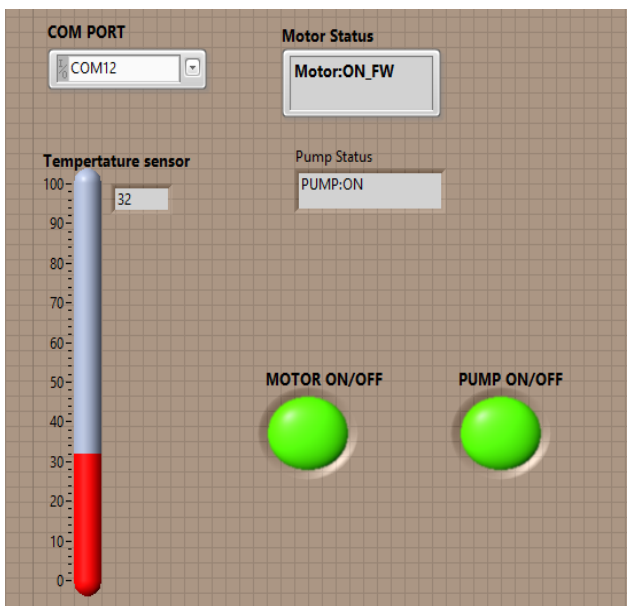


Figure 4.5: Lab View Front Panel

4.3.2 Hardware Part

Once the program has been loaded into microcontroller, the overall hardware design has been tested as different temperature degrees and it found work correctly and probably as scheduled as shown in Figure 4.6.



Figure 4.6: Hardware Circuit Testing

5. Conclusion

The center pivot irrigation system has been controlled automatically through microcontroller by building a system of two separated parts, the flexible part counts on high level languages and the solid part relies on an electronic and mechanical parts. And then connect the solid part with the graphical part using serial port (Rs232) so as to show the information you needed to know from the field, which is electronically controlled using push buttons and find out the status of each of the motor, pump and the temperature.

6. Future Recommendation

- 1) Using PLC instead of microcontroller.
- 2) Using wireless communication.

References

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