

# GATORADE AUTOMATION

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## OPPORTUNITY/PURPOSE

Explore concepts of digital design and embedded system through the creation of a unique project designed to take in-class concepts and apply them to a real-life manufacturing context.

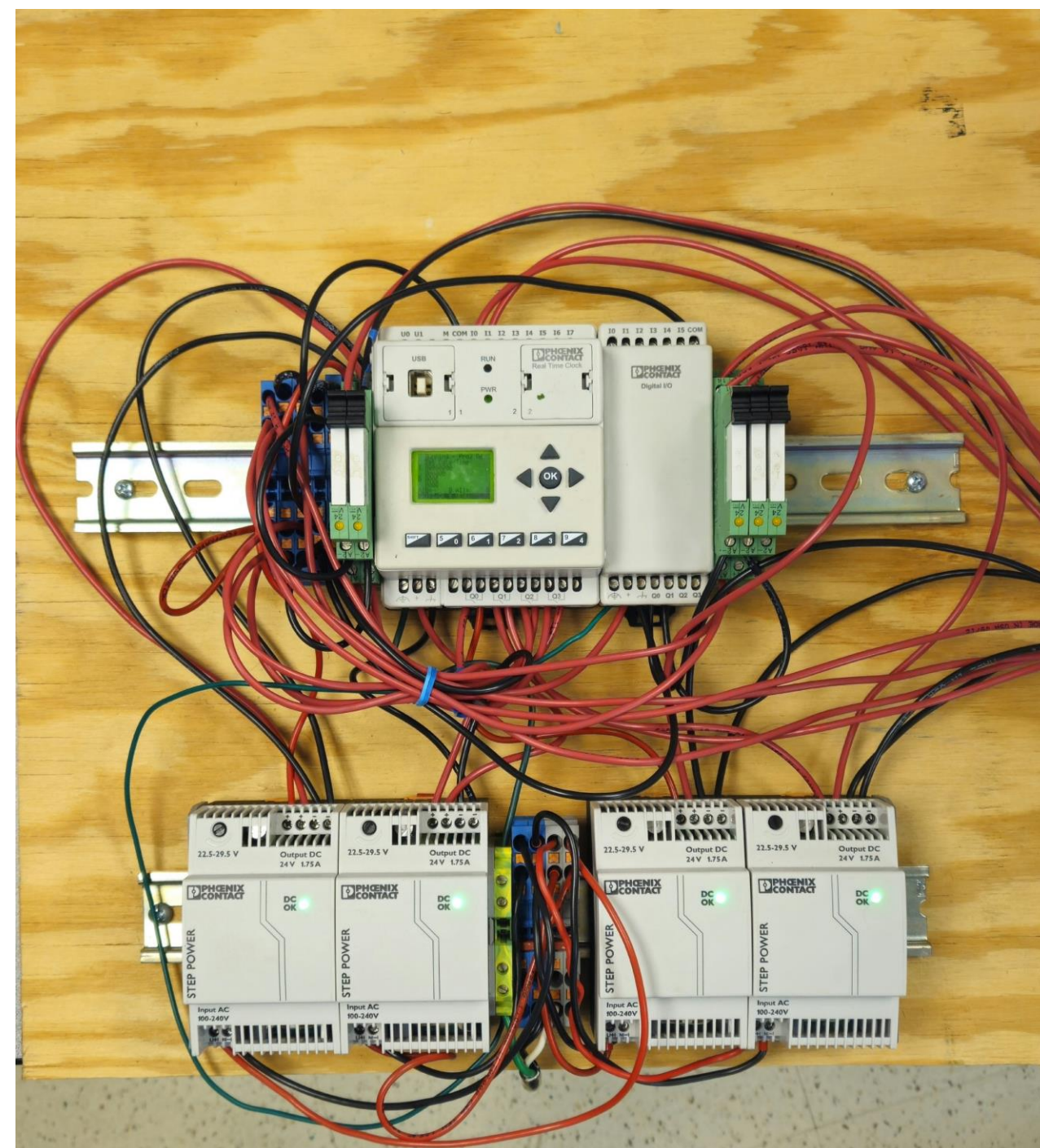
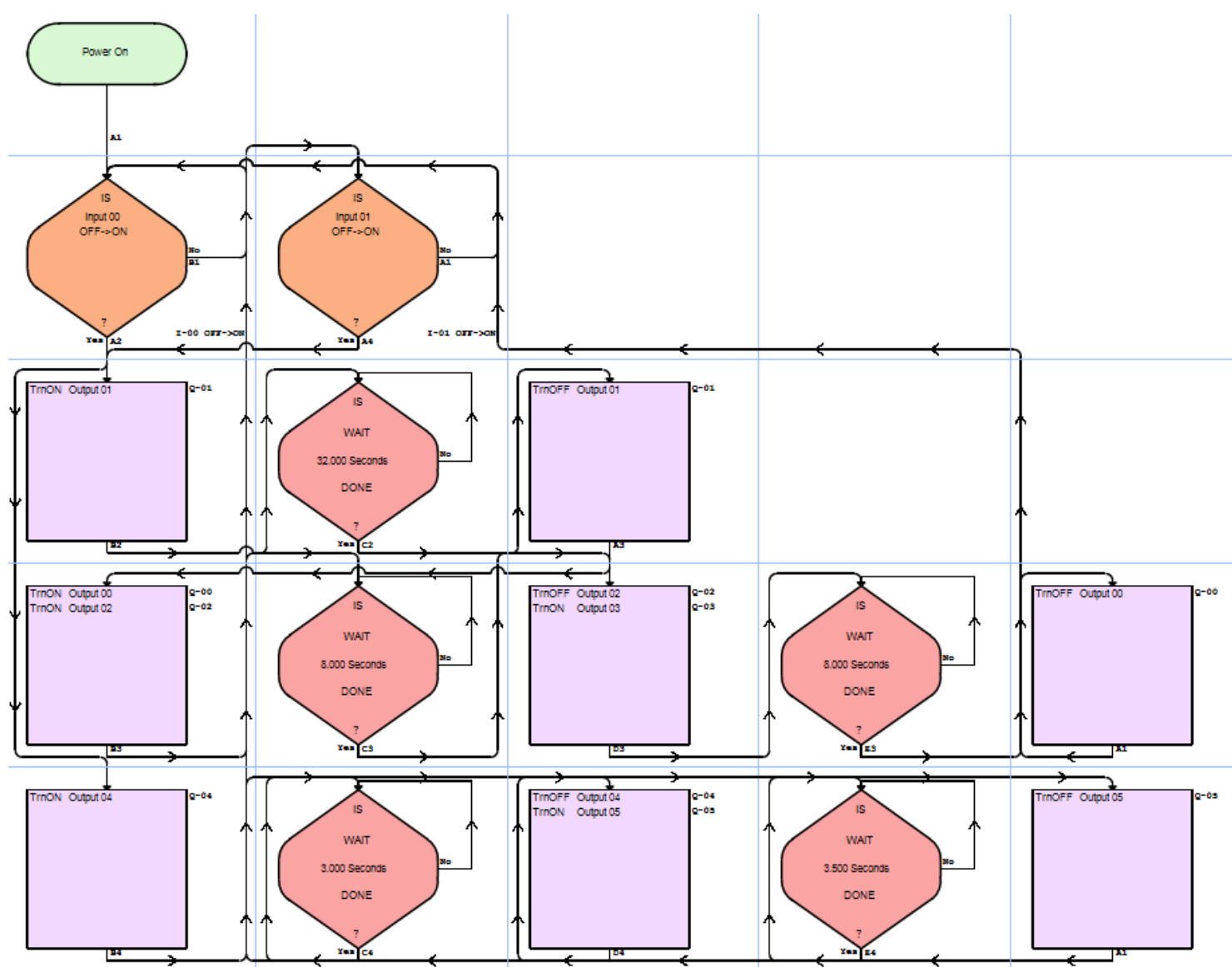
## DESIGN SPECIFICATIONS & SYSTEM REQUIREMENTS

- System must autonomously mix Gatorade from two separate ingredients (water and powder)
- System must autonomously dispense mixed Gatorade
  - Bring cup to dispensing location
  - Dispense Gatorade through a tube
  - Remove filled cup from filling location

## Mixing & Dispensing



## Flowchart & Wiring



## LESSONS LEARNED

- Learned how to program PLC's using ladder logic
- Learned how to program PLC's using flow charts
- Learned how to wire a polarity swap
- Learned to troubleshoot PLC's systems using connection debugger

## REFERENCES & ACKNOWLEDGEMENTS

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- Dr. Joseph Wunderlich for funding the project
- Pheonix Contact Solutions for providing the PLC and Relays