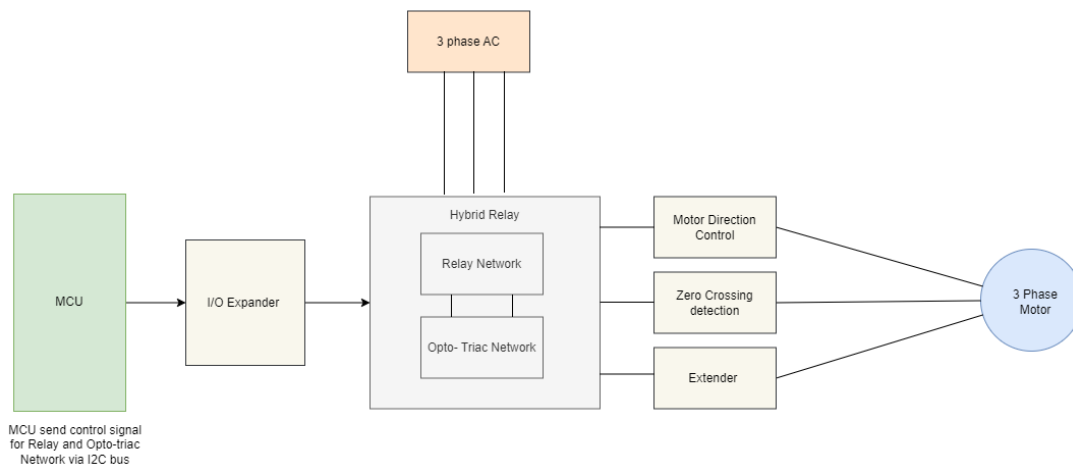


3 Phase SCR-Based Motor Control System for Industrial Vacuum Cleaner Manufacturer

The primary objective of this project was to design and develop a motor control hardware solution for an industrial vacuum cleaner. This system incorporates a hybrid motor starter, integrating various components such as Hybrid Relays, optocouplers, and a Raspberry Pi microcontroller for precise control.

- Utilized Raspberry Pi as the central controller for the motor control hardware, generating control signals and transmitting them to the hardware components via the I2C bus.
- The hardware includes triacs and a mechanical relay that are responsible for turning the motor on and off.
- Integrated a zero-crossing detection block for synchronization with the AC waveform, enabling smooth motor start-up and shut-down.



Applications:

- Industrial
- Automotive

Technologies Used:

- Raspberry Pi
- C programming language
- Altium