

Three Phase Relay Preliminary Design

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Outline

- Problem Identification
- Current Solutions
- What We're Doing
- Design Plan

Problem

Increase in alternative energy sources is causing a need for additional measurements in power grid technology

Unbalanced loading causes inefficiencies in the power grid - Need technology to detect

Current Solutions

Phasor Measurement Units (PMUs)

Measure phase at certain points in power grid

Allow operators to detect inefficiencies and alter power flow as necessary

What We're Doing

Nothing inherently wrong with current solutions

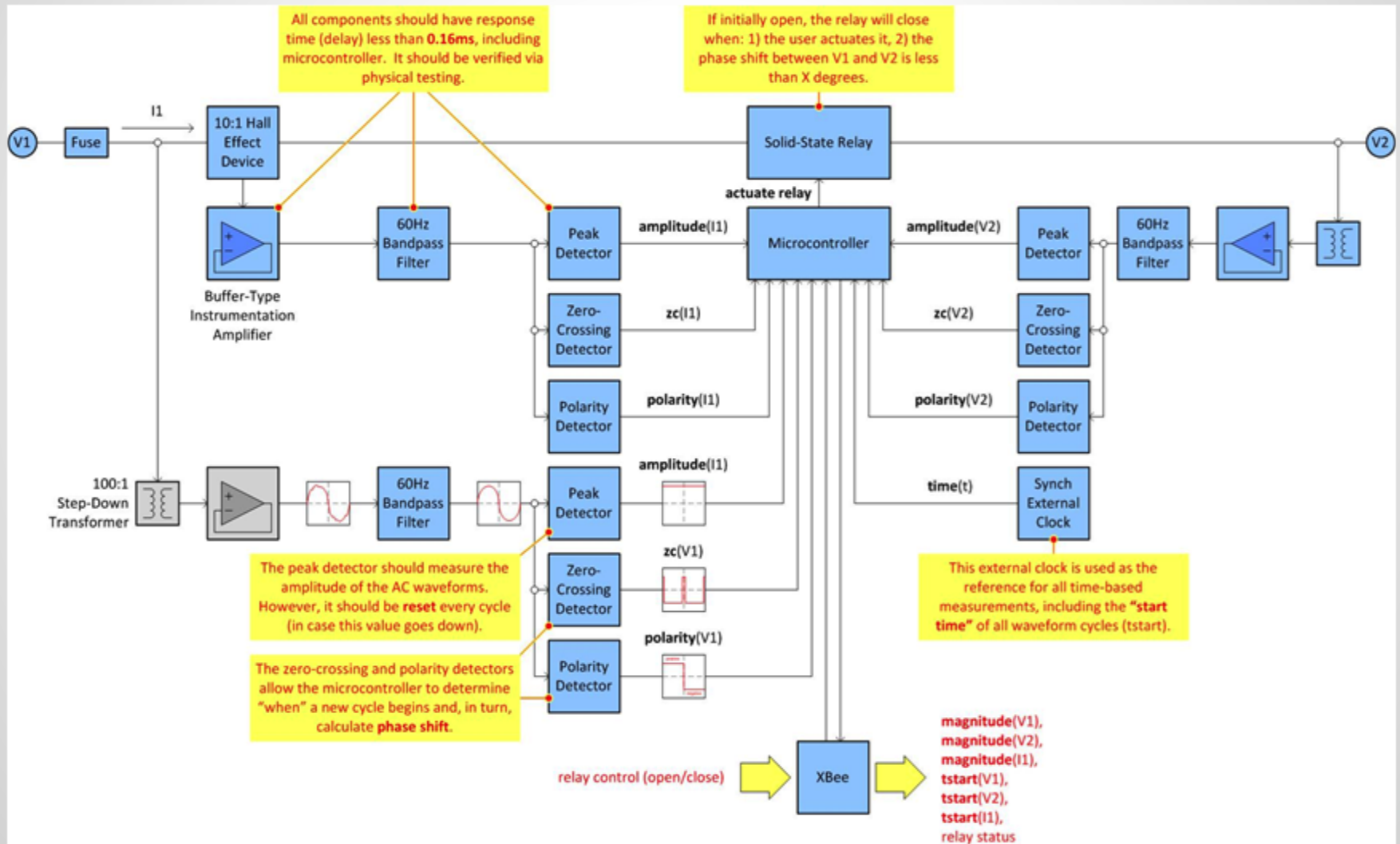
Building one for use in the TCNJ Power Lab

Cutting cost for Power Lab:

\$1000s to buy PMUs

We're building one for a couple hundred

Design Plan



Conclusion

Research finished for hardware and software

Website construction in the works

GitHub up and running for code

Finalized schedule completed

What's next:

Hardware simulations

Application layout and development

Microcontroller code

Links

Website:

In the works

Github: https://github.com/davehand/three_phase_relay