Project Title: Electrical Cable Harness Tester

Sponsored by: Parker Hannifin Precision Cooling Business Unit

Areas: Electrical Engineering, Mechanical Engineering,

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The Parker Hannifin Precision Cooling Business Unit uses custom-designed cable harnesses in their product line. The quality of these harnesses must be monitored. In particular, the continuity of a harness between two corresponding terminals must be verified. Currently, the tests of harnesses are conducted manually, which (1) take an extremely long time and (2) partially depend on visual inspection and subjective judgment. The company requests the senior design group to come up with a semi-automated testing system so that the problems with manual tests are removed from the process.

The senior design project is to solve the aforementioned problems by developing a semi-automated testing workstation. The continuity of a cable harness will be tested automatically and an operator will be notified of any irregularities. The device should be designed so wear on harnesses, connectors, and the tooling involved is minimized. Parker also requires the construction and programming of the system to be completed. The harness testing system will be applied in the production of their Precision Cooling products and systems.