Case Study: Mackie Transmission

Data Acquisition and Control Using PanelPilotACE Intuitive Display

files thru the air

Established 40 years ago, Glasgow-based Mackie Transmission specialises in the re-manufacturing of automatic and manual transmissions for cars and larger commercial vehicles. Quality bench marking and reducing product failure during remanufacture are key and so to help set and maintain these, the company developed its own hydraulic test machine to test the integrity of hydraulic circuits on an automatic transmission and programmed their own display using the PanelPilot ACE Design Studio, code free.

The machine allows the operator to compare the actual values of the transmission they are working on to the values it should be if in full working order. These readings indicate whether a hydraulic circuit in the automatic transmission is in a serviceable condition or if there is a potential leak in the circuit.

The company's first test machine was fitted with physical buttons and analogue gauges to show these values but realising technicians needed a faster and easier interface, the machine was recently re-designed using the 7 inch, capacitive, touchscreen display – the SGD 70-A.

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(Marc McCabe, Quality Test Engineer)

Large and easy to read, the SGD 70-A is used to switch various solenoids and a pump motor through solid state relays and then display data from a flow and pressure transducer, in turn allowing the user to compare those readings with known good values.

Clearer and more accurate data allows more precise diagnosis, which in turn leads to a higher product quality and a decreased use in warranty by the end customer.

Marc McCabe, Quality Test Engineer, explains how the device has also saved them a lot of development time. "This complete testing machine has taken only a few months to get from concept to prototype at less than £12,000 and a key reason for the speed of the project was the ease of display integration. Without the need for coding, app development on the display was really quick. We are developing an application specific controller and data acquisition device for a previously developed machine, this project has been ongoing for over a year and has so far cost us just under £100,000."