

Application Notes...



Hydraulic power packs

Hydraulically driven tools typically work with a given power pack. If you need a different tool, you use a different powerpack. But one user asked the manufacturer of the tools and power packs if it was possible to supply a universal power pack.

Brief given

The manufacturer's customer wanted a system where the operator could input variables such as the tool type and the range and the power pack would then automatically configure itself to supply the correct pressure. This was a challenge for the manufacturer, which had more than 20 different tools in its range, including torque wrenches, cutters and jacks. The manufacturer gave Sensor-Technik a catalogue detailing all the tools and options, explained their principles of operations, and outlined what information an operator would require on the HMI display.

The solution

Whilst the requirements were very new to the power pack manufacturer, the issues were very familiar to Sensor-Technik, who recommended the use of a local, small CANBus system. This would provide both flexibility and reliability and would be easy to modify subsequently as the range of tools evolved or the customer's requirements changed.

A Model AT3 HMI from Graf together with a 5000 psi CANBus pressure transducer were suggested as the hardware.

Implementation

Sensor-Technik generated a standard screen on the HMI that would put the operator's choice of tools in a drop down menu and allow the operator to choose the required engineering units for the reading. The display also provided the interface for inputting set-points and targets. As well as providing a precise digital readout, the display also provided a bar-graph for guiding the operator to his target setting. A key issue was to design for an immediate feeling of familiarity and ease of use for operators who would previously never have used such automation products.

The hardware was developed to the specification and the software written using the standard Graf package. Customer logos and images of the tools were all downloaded to the display as JPEGs.

Conclusion

This was a big step for an industry not used to such levels of automation, so there were elements of mistrust of the technology to be overcome. However, now proven, the solution has quickly become recognised within the power tools industry and has been widely praised.

Sensor-Technik

The UK's CANbus specialist

Making the move to a bus-based control system is a big step, but it needn't be a difficult one. Whether you require fully-approved components with a track record, or complete system design, Sensor-Technik has the answer. And we'll be with you every step of the way.

CANbus provides the ideal system for integrating electronic controls into vehicles and machinery, particularly because it's a system which is to ISO standard and which is supported by so many different manufacturers.

Graf-Syteco operator panels

Graf-Syteco offers the industry's most complete range of CANbus enabled operator panels, for general industrial, building management and mobile vehicle applications. The products are available in a range of sizes and with different levels of functionality to allow the precise needs of the application to be met with the most cost-effective solution.

The units are also available with additional built-in control functionality and with additional on-board I/O to provide direct control of external CANbus nodes. Further, the units can be supplied without the operator panel to provide compact, standalone CAN nodes.

The products can be supplied to meet demanding environmental conditions. Front panels are protected to IP64, and the panels are suitable for use in extreme temperatures from -20°C to $+70^{\circ}\text{C}$.

Graf-Syteco has also developed associated programming software which provides the simplest means of setting up a system. Easy to use, the software guides even the novice programmer through application development and operator-interface design. Graf-Syteco offers comprehensive, free telephone support, and provides regular updates.

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