

## Application Notes...



# On-board weighing

Construction and agricultural vehicles cannot be taken on public roads without the weight of the load they carrying being known, so a simple weighing mechanism is a big advantage. An on-board system also offers advantages on the likes of farm vehicles, giving operators continual monitoring of feed loads being picked up or deposited.

### Brief given

Sensor-Technik was asked to combine a sensor that would be robust enough to survive the potential of regular overloads and misuse with an interface unit that would be both informative and simple to use.

### The solution

Sensor-Technik suggested the use of a standard Graf model AT3 – a CANbus HMI offering all the required functionality – in conjunction with a CANbus pressure sensor. The sensor would measure the pressure in the hydraulic system and transmit this over CANbus to the HMI, which would perform the calculations to turn the pressure reading into a meaningful weight measurement for display to the operator.

### Implementation

It quickly became clear that different applications would have different requirements for the display, so developing software that

would meet the needs of many different operators was an important consideration. Sensor-Technik solved this by developing modular software that made it simple to implement many subtly different displays.

Determining the various measuring points and selecting the correct sensor was another key aspect of the implementation. The device had to survive extremes of temperature, and be able to work accurately immediately after moving the vehicle from overnight storage in a cold dark environment to possible bright sunshine and rapidly climbing temperatures.

### Conclusion

Sensor-Technik developed a system that is simple for an end user to install and easy to calibrate. Using standard off-the-shelf hardware kept costs down, with specially developed software providing a unique and user-friendly interface for the weighing system.

# 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  $-20^{\circ}\text{C}$  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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