

Decoupling The Instrument Display

A significant proportion of the cost of a portable instrument is taken up by its built-in display. Even with modern developments in display technologies such as high-resolution OLED touch screens, this often results in a trade-off between cost and display capability that inevitably imposes limitations on instrument usage. A good solution is to deliberately decouple the display from the instrument, resulting in a rugged instrument head that communicates wirelessly (e.g. Bluetooth) with an App running on a tablet PC or smartphone. All too often the display is the Achilles' heel of an instrument, with a significant proportion of write-offs involving display damage. By decoupling the display, the instrument can be further ruggedised making it even more suitable for use in hostile environments.

This approach not only brings significant benefits such as improved display capability (high res, colour, touch screen, zooming), data sharing (Internet, email, Cloud), easier and safer physical access to measurement points (through safety guards/gates etc.) but also reduces the cost! The cost reduction coming about through the economies of scale achieved by the tablet PC and smartphone manufacturers. These ubiquitous devices are produced in vast quantities for consumer markets, hence significantly lowering their cost. In fact, by implementing the instrument's control and display as a graphical user interface (GUI) running as an Android or iOS App, most users will find they already own the instrument's GUI hardware!

Test Products International (TPI) produces a wide range of "smart instruments" that exploit this strategy through the FREE TPI View App for Android/iOS platforms. Recent additions to the range include the TPI 9043 Wireless Vibration Analyser and the TPI 9075 Wireless Smart Vibration Sensor. Both devices, which also incorporate wireless charging, are designed to work with the TPI Ultra III App running on Android/iOS platforms and feature very high spectral resolution (up to 51,200 lines) with 24-bit ADC sampling to enable condition monitoring of a wide range of machinery, including both high speed and very low speed bearings.

The TPI 9043 Wireless Vibration Analyser with its 3 simultaneously sampled +/- 30 volt general purpose inputs can be used with a wide range of sensors, including IEPE accelerometers, proximity probes, tachometers, temperature sensors etc. Coupled with Ultra III, in addition to top-of-the-range vibration analysis for the detection of unbalance, misalignment, looseness and bearing wear, the TPI 9043 includes the

full range of high-end analyser benefits such as envelope demodulation, phase and orbit analysis, single and dual plane balancing etc.

The TPI 9075 Wireless Smart Vibration Sensor with its built-in accelerometer can also be used with the FREE TPI View App to implement a wireless vibration analyser from £1250.

Ultra III in combination with the TPI 9043 or TPI 9075 is also available with C-Trend II PC-based trending and reporting software featuring everything needed to implement a full condition-based maintenance strategy, including automatic email notification of alarms and report generation. Measurement routes and readings can also be transferred to/from Ultra III via the Internet, allowing service personnel to be sent routes and return readings no matter where they are in the world.

For more information please contact TPI Europe's head office on +44 1293 530196 or take a look on the website at www.tpieurope.com or email sales@tpieurope.com

