

Date: 23rd September 2013

Specialist Services

Monitran supports the Oxford Turbine Research Facility in its investigations into future aero-engine technologies

High Wycombe, United Kingdom – Monitran, a leader in the development and manufacture of transducers for the measurement of vibration, proximity and displacement, is providing specialist engineering services to the Oxford Turbine Research Facility (OTRF), part of the Department of Engineering Science, University of Oxford.

Monitran has designed and is supplying high-accuracy signal conditioning units for interfacing with hundreds of thin film heat transfer gauges; which the OTRF has fitted to a full working section of a turbine in order to investigate a variety of turbine blade cooling techniques.

Kam Chana, Commercial & Technical Director of the OTRF, comments: “While we could have outsourced to a traditional CEM we selected Monitran because of their engineering professionalism when it comes to taking on specialist projects and their considerable experience in conditioning small signals.”

Working from schematics provided by the OTRF, and using appropriate CAD software, Monitran designed a double-sided, eight channel analogue circuit board. Each channel is isolated and particular attention was paid to the use of ground planes to screen signal paths into high gain amplifiers. The boards, which are housed in a 19-inch rack system, have been tested at sample rates of 1MHz, as the rationale behind the OTRF’s use of thin film heat transfer gauge sensors is that they have response times in the order of 1µs.

Andy Anthony, Managing Director of Monitran, comments: “This was and continues to be a very interesting project for us and we’re pleased to be supporting the Oxford Turbine Research Facility and the University of Oxford in their investigations into future aero-engine technologies. Also, the service we’re providing gives further testimony of our ability to undertake bespoke projects and deliver professionally engineered ‘turnkey’ solutions.”

MORE

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To date, Monitran has manufactured 20 signal conditioning units for the OTRF and is on hand to produce more if required; and another reason for the company's selection by the OTRF was its ability to deliver consistent quality.

The full story of Monitran's work with the Oxford Turbine Research Facility can be found on Monitran's website (www.monitran.com) alongside case studies which include the design, installation and commissioning of a system to monitor bearing movement and gate positions on the Thames Barrier and a project to develop an integrated engine and gearbox monitoring system for use on hovercraft.

MAIN ENDS



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About Monitran

Established in 1986 and based near High Wycombe in the UK, Monitran is a world leader in the development and manufacture of sensors and systems for vibration and displacement measurement. The company has the widest range of standard vibration and displacement products available from any single supplier and has an impressive track record of customising products for bespoke applications.

With full ISO 9001:2008 approval, Monitran's products are used for monitoring vibrations in machinery such as pumps, motors, engines and drive trains as well as in a diverse range of applications including automotive, aerospace, industrial processing, power stations and wind turbines. Indeed, the products are at home in any application where vibrations or displacements provide early indications of mechanical wear or that a structure's integrity has been compromised. They are also used in other vibration related applications, such as R&D, structural testing, equipment qualification testing and calibration. For more information please visit www.monitran.com

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