The T³
A Revolution in Blade Health Monitoring

- Rigorously tested on a wide variety of engines and test rigs
- High mechanical integrity
- Equivalent signal quality to optical systems even at high frequencies and temperatures
- Immune from contamination
- 'Plug and Play' compatibility with all standard data acquisition and analysis systems
- Simple installation and connection
- Three outputs: processed tip pulse arrival time, scaled tip clearance and raw signal
- Compact and cost-effective

Call Monitran Technology now on ***01494 816569 to arrange a demo***

The T³ Turbo-machinery Tip-Timing System

The T³ Eddy Current Probe and Driver
At a Glance

Typical applications

- Monitoring of blade health in ground-based and airborne turbines
- Detection of cracks and breaks in gear teeth
- Detection of twists and eccentricities in shafts

Driver unit weight:	200g max
Dimensions:	
Driver unit	62.5 x 29.5 x 78.8mm
Standard Probe	
Probe height (including flange)	16.5mm
Probe diameter	13mm
Flange height	8mm
Flange diameter	25mm

Operating Temperature

Driver
-20°C to +85°C

Probe
-20°C to +250°C (continuous)
-20°C to +300°C (intermittent)

MONITRAN TECHNOLOGY
SENSING THE FUTURE

T3 TURBO TIP TIMER
A Revolution in Blade Health Monitoring

The T³
A Whole New Way of Looking at Blade Health

The T³ is an advanced new eddy current probe and driver combination developed by Monitran Technology in partnership with QinetiQ.

It delivers high quality, in-service blade health data and is ideal for use in condition monitoring, predictive maintenance and detection of foreign object damage (FOD) in both ground-based and airborne turbine systems.

Figure 1: *Example of FOD detectable with the T³ Tip Timer*

The T³
An Effective Substitute for Optical Systems

Although accurate, optical systems are notoriously vulnerable to contamination from dust, dirt, oil and other debris. Even rain water can obscure the optical path.

Unfortunately, it is often during times of greatest danger of contamination, for example during an airborne bird strike, that reliable performance of a sensor system becomes essential.

The T³ Turbo-machinery Tip-Timing System

The T³
The Solution to the Contamination Problem

The T³ eddy current probe is immune to these difficulties. It delivers crystal clear data regardless of the degree of contamination. It also performs well at high frequency and in hotter environments, making it ideal for in-service monitoring.

Figure 2 shows how closely the T³ replicates the signal from an optical system. There is effectively no difference between the two traces – but the T³ benefits from the immense advantage that it is immune to contamination.

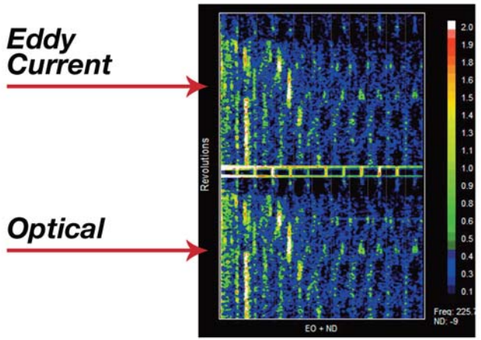

Figure 2: *Results from tip-timing trials of the T3 on a Spey RB168-101 engine at QinetiQ's open air engine test facility, Shoeburyness, UK. The T3 produced comparable results to optical sensors even at high frequency, but was unaffected by the rain which contaminated the optical sensors.*

About Monitran Technology

Monitran has been a leading supplier of vibration, displacement and proximity monitoring equipment for over 20 years. During that time the company has established itself as an expert in the field and acquired an unrivalled reputation worldwide for the high quality and reliability of its products.

Now the founders of Monitran have set up Monitran Technology: a new venture that seeks to explore and exploit the growing demand for advanced sensor technology in a wide range of industry sectors – particularly where a substantial element of research and development or joint venture is involved.

Initial projects have made use of recent advances in eddy current technology, while future plans include the enhancement of Monitran's ever-popular range of accelerometers.

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