



**prime photonics**

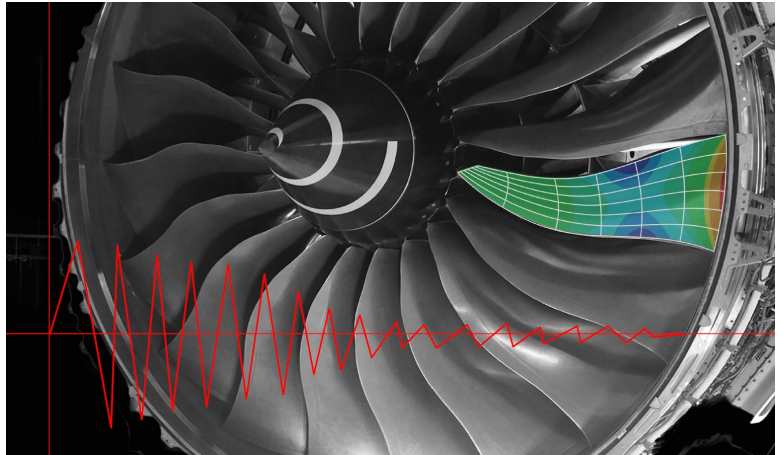
**Technologies for Extreme Applications**

# Bladed Rotor Testing - FOCIS™



FOCIS™ is a multi-function optical system for testing spinning rotors such as gas turbines, compressors, and turbochargers.

It uses the **blade tip timing** method (timing the passage of each blade in front of fixed sensors) to determine **blade vibration**, **blade tip clearance** (clearance between the tip of the blade and the casing), **rotor speed**, **blade twist**, and the presence of **blade cracks** or **blade damage**.



Prime Photonics provides the entire measurement chain with high temperature probes, world-class instrumentation, data acquisition hardware, and blade vibration software.

# Drive Train Diagnostics - TVS™

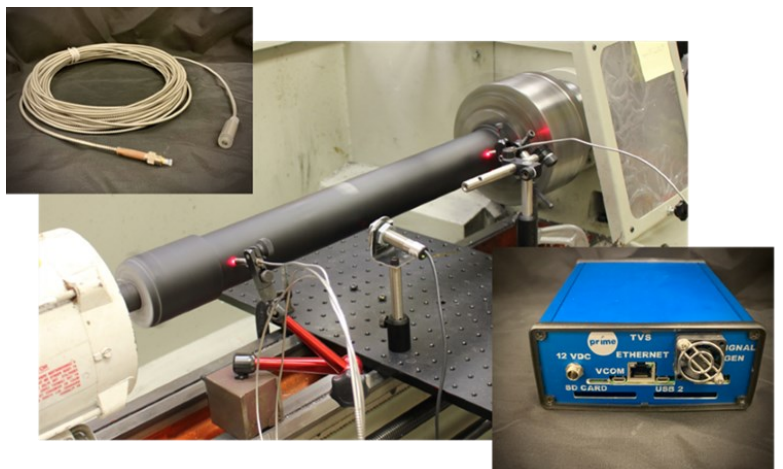


TVS™ is a family of high-speed optical sensors for measuring **torsional vibration**, **torque** and **speed** of rotating shafts.

These instruments are typically used to monitor couplings between a drive system (motor or turbine) and a load (compressor or pump).

Our non-contact sensors do not require any shaft modifications and are ideal for troubleshooting and retrofit of existing installations. TVS™ instruments are intrinsically safe and immune to electromagnetic interference.

TVS™ sensors connect to any vibration analyzer or condition monitoring device.



# Custom Sensors

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Prime Photonics designs and manufactures custom sensors. Our expertise in **optics**, **electronics**, and **signal processing** is currently being applied in areas such as:

- **Compressor stall** detection
- Gas turbine **inlet distortion characterization**
- **Non-destructive inspection**
- **Acoustic emissions** measurement
- **Pressure sensors**
- **Cloud composition** determination

## Prime Photonics

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Prime Photonics delivers transformative equipment measurement and monitoring to developers, manufacturers, and operators. Whether monitoring today's in-service equipment, or validating tomorrow's equipment designs, we reliably provide our customers the information they need to safely operate their equipment and make well-informed decisions.

Prime Photonics was founded in 1999 and is headquartered in Blacksburg, VA. Since inception, Prime Photonics has been a leader in the development and commercialization of advanced optical sensors and systems for commercial and defense applications.

Many of our technical staff hold advanced degrees in their field of specialization including optical design, mechanical engineering, electrical and electronics design and software engineering. Prime Photonics maintains a powerful suite of modeling, simulation and engineering design software as well as numerous work stations and major test and measurement equipment for optical and environmental testing.

Prime Photonics is ISO 9001:2015 certified.



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