

WIRELESS SENSORS FOR TURBINE BLADE TIP-TO-CASING CLEARANCE

Fossil power generation gas and steam turbine manufacturing companies have long used hand-held feeler gages to measure the blade tip clearances and inspect the roundness of the TBC linings at access ports provided for that purpose. With new construction and at overhaul, turbine blade tip-to-casing clearances at room temperature must be properly set.

Typically, turbine cases are not perfectly round, having some asymmetry and ovalization developed from many hours of operation. Over the past 5 years, Philtec has been working closely with turbine manufacturers to develop wireless non-contact displacement and gap sensing systems. Philtec designed and developed the **model CMS3400 Gap Measurement Kit** for that purpose. It provides wireless blade-mounted fiber optic sensors and Windows Tablet preloaded with Philtec's Control Software to digitally capture the full 360° picture of casing roundness and gap data.

This measurement system can be operated in dual or quad channel mode. As a technician slowly jogs a rotor thru 360° of rotation, Gap and Angle data pairs are simultaneously recorded from rows of blades and saved to a USB flash drive for offloading and data analysis.

MORE INFO AT <http://philtec.com/industryapplications/energy.html>

