

## 107.4 Wireless Standards for Turbine Engine Test Stands

**Purpose:** The Subcommittee will identify where wireless interfaces need to be, define surrounding environment, identify radio frequency environment, provide multi-vendor interoperability support and develop common application interfaces and network management as well as enhanced security.

**Scope:** The Subcommittee's focus is to define scalable architectures, system components, and protocols that allow secure reliable wireless connectivity for test cell based turbine engine measurements. The subcommittee will address multi-tier wireless technologies including but not restricted to wireless mechanisms for data transmission and passive wireless sensing or technologies required for harsh environments as found in the operating power turbine test environment.

### **Point of Contact:**

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## 107.5 Dynamic Pressure Standards for Turbine Engine Testing

**Purpose:** This Subcommittee will establish a standard to compare gas turbine dynamic pressure instrumentation and a set of best practices for making accurate dynamic pressure measurements within gas turbines. The subcommittee also plans to identify current and future dynamic pressure transducer needs for gas turbines.

**Scope:** The Subcommittee will (1) standardize the specifications and validation/calibration testing methods used to define the dynamic performance of the various pressure transducer technologies to



improve industry wide understanding of underlying technologies and capabilities.; 2) provide an objective review of the

fundamental sensor technologies used in the numerous dynamic pressure transducers available; 3) compile a set a best practices for making accurate, wide-bandwidth dynamic pressure measurements; and 4) identify and address common problems.

### **Point of Contact:**

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## International Society of Automation (ISA) Standard 107: Advanced Instrumentation Techniques for Gas Turbine Engines

**Scope:** The scope of this Committee encompasses measurement techniques for gas turbine engines that are developed for and used in aerospace and industrial applications.

**Purpose:** Develop standards, recommended practices and technical reports on measurement techniques that are vital in the safe and reliable operation of gas turbine engines.

### ***For further information, contact:***

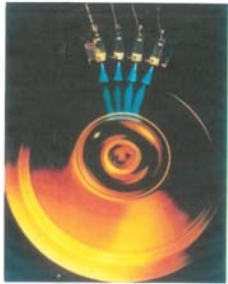
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## ISA 107.1: Tip Timing for Use in Gas Turbine Engines

**Purpose:** The purpose is to develop a standard for gas turbine instrumentation used to measure blade tip deflections during engine operation.

**Scope:** The scope is to standardize the application of tip timing instrumentation including the acquisition and data processing of tip timing data. The object of the specification is to provide common tools and agreed methods for testing different systems in the same standard.



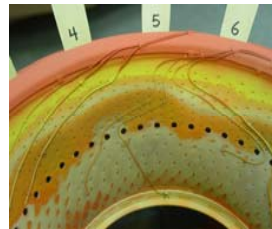
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## ISA 107.2 Thermographic Phosphor Temperature Standard

**Purpose and Scope:** Thermographic phosphors have been used in a number of high temperature applications and hold significant potential for solving component temperature measurement problems in the engine. No measurement standards currently exist for their use. Standards for comparing the various approaches and defining appropriate benchmarks are needed. Standardizing the definitions of coating durability, fluorescence efficiency, temperature range, temperature sensitivity and methods of establishing these characterizes, as well as establishing a set of standards or best practices for the other components will be the work of this subcommittee.



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## ISA 107.3 Non-Contact Clearance Measurement Systems for Use in Gas Turbines

**Purpose:** Develop a standard for gas turbine instrumentation used in the measurement of blade tip to engine casing clearance during engine running.

**Scope:** Provide guidance on the standardization of the specification and qualification testing of high bandwidth, non-contact clearance measurement systems for use in gas turbines to measure blade tip clearances at high temperatures. The object of the specification is to provide a common language and agreed methods for testing different systems to the same standard.

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