

# Turbine temperature sensors



INNOVATIVE TEMPERATURE  
MEASUREMENT SOLUTIONS  
FROM THE GLOBAL LEADER



## MANUFACTURING FACILITIES

We have dedicated manufacturing and testing facilities located in the Netherlands. Our Thermo Electric temperature sensing products are supplied directly from our headquarters to our customers, through sales and service centres across the globe.

### HIGH STANDARDS AND EFFICIENT SUPPLY

Our dedicated central production and engineering facilities allow us to maintain our high standards and best practice in engineering and design. This expertise is reflected in the efficient supply of Thermo Electric temperature sensors and in our consistent achievement of quality in the field.

### SERVICES

- Wake frequency calculations according ASME PTC 19.3 (2010)
- X-rays
- Welding robot
- Manufacturing record book
- Quality inspection plan
- Explosion safe certificate Exi, Exe, Exd, Exn
- Cleaning for oxygen service
- Visual inspection
- Dimensional check
- According EN 10204 3.1 and NACE MR0175
- WPS and PQR for welded Thermowells
- Batch certificate
- Certificate of origin
- Certificate of conformance
- CSA/US
- IEC-Ex
- ATEX
- KTL
- CCOE
- GOST R

### TEST FACILITIES

- Functional performance test
- Loop resistant test
- Insulation resistance test
- Dye penetration test
- Pressure test
- Calibration test
- From  $-200^{\circ}\text{C}$  up to  $1.500^{\circ}\text{C}$  (RvA/ILAC)
- Calibration test for each instrument, mV, mA, Ohms and V (RvA/ILAC)
- Vacuum test
- Helium leak test
- PMI test





## GAS TURBINE TEMPERATURE SENSORS

Thermo Electric manufactures and supplies gas turbine temperature sensors for a variety of sectors.

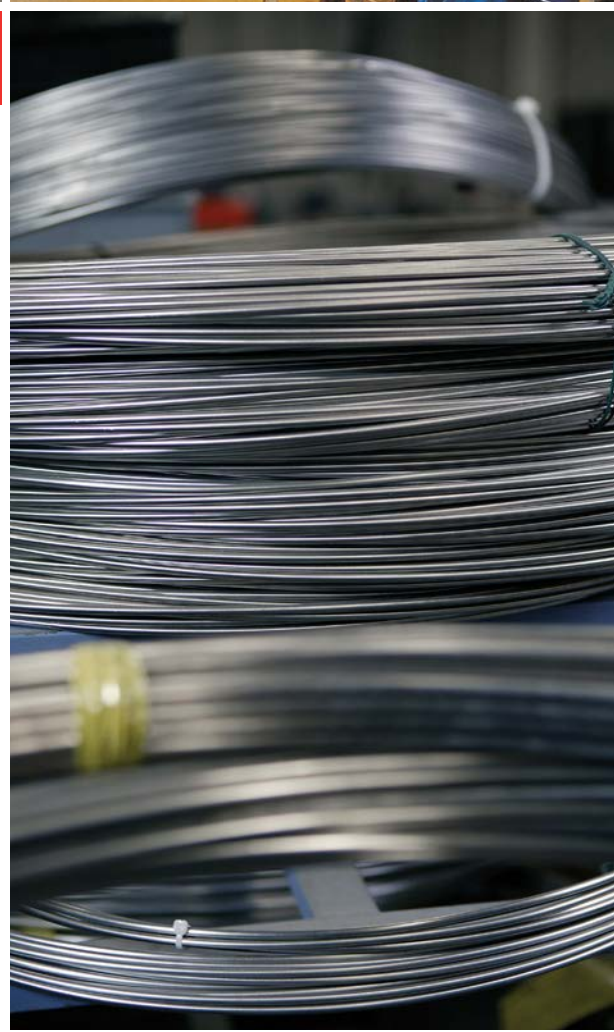
Gas turbine temperature sensors measure the temperature at different points in a turbine, from the exhaust temperature to the bearing temperature. In order to handle such demanding variations, exhaust gas temperature sensors must be of high quality, extremely robust and reliable.

The Thermo Electric brand has been synonymous with temperature sensors for over 50 years. Our original temperature sensors were designed to specifically measure exhaust gasses from aircraft engines. We are proud to remain a major supplier to OEM's and end users for a complete range of gas turbine temperature sensors.

### HIGH GRADE MATERIALS

Our experienced staff are always available to assist you with your sensing requirements. We only select the highest grade of materials based on your applications.

Our production procedures and quality control system are fully certified by Lloyds Quality Register and our reputation for consistent excellence in industrial sensor manufacturing speaks for itself.





## MANUFACTURING

Gas turbine temperature sensors are manufactured from mineral insulated cable. Depending on your application, these can be supplied in various grades of stainless steel and exotic alloys.

### **DURABILITY AND PRACTICALITY**

We offer thermocouples and Pt100 RTD sensors which come in a variety of standard and nonstandard constructions, including vibration proof for high demanding applications such as pneumatic compressors and bearing temperature measurement.

We recommend that mineral insulated cable is used for gas turbine applications and we offer this on all of our devices. The durability and practicality of this type of cable allows us to provide specific construction types to suit most applications and processes. All of our mineral insulated cable comes with manufacturer batch certificates for traceability purpose.

### **IN-HOUSE LABORATORY TESTS**

For thermocouple type sensors we offer either grounded or ungrounded end constructions, depending on the type of measurement that is required. Each temperature sensor is tested in-house according the applicable standards.

Our in-house laboratory meets the stringent requirements of ILAC, Corfac, RvA and other international NAMAS certifications.





## QUALITY IS OUR PRIORITY

Our customers rely on Thermo Electric products because of our experience, reliability and manufacturing excellence. All of this is backed by our quality management system and ISO certificate.

This quality guarantee provides additional security and has formed the foundation of Thermo Electric, synonymous for gas turbine temperature sensors that have the highest level of performance and reliability.

For further detailed product information on our range of temperature sensors and applications in which they can be used, please visit our website:  
[www.te-instrumentation.com](http://www.te-instrumentation.com)  
or contact one of our sales specialists.



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