



OKAZAKI
MANUFACTURING COMPANY
UK LIMITED

Okazaki

Innovation

not Immitation

SUPPLIERS OF

- Temperature Sensors
- Electric MI Heaters
- Thermocouple Assemblies
- Resistance Thermometers
- Mineral Insulated Cables
- Temperature Ranges
from 1.5K to 2600°C



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Okazaki Manufacturing Company operates from manufacturing sites in Japan and the USA, with clean room production when required, and utilises the latest 3D CAD software system in all aspects of the design process. Through continuous development in product design and investment into the latest, cutting edge technologies, we will maintain our market-leading position and continue to provide our customers with the next generation of temperature sensors and heaters.

Okazaki Manufacturing Company has been an active supplier to the Aerospace Industry for more than 50 years.

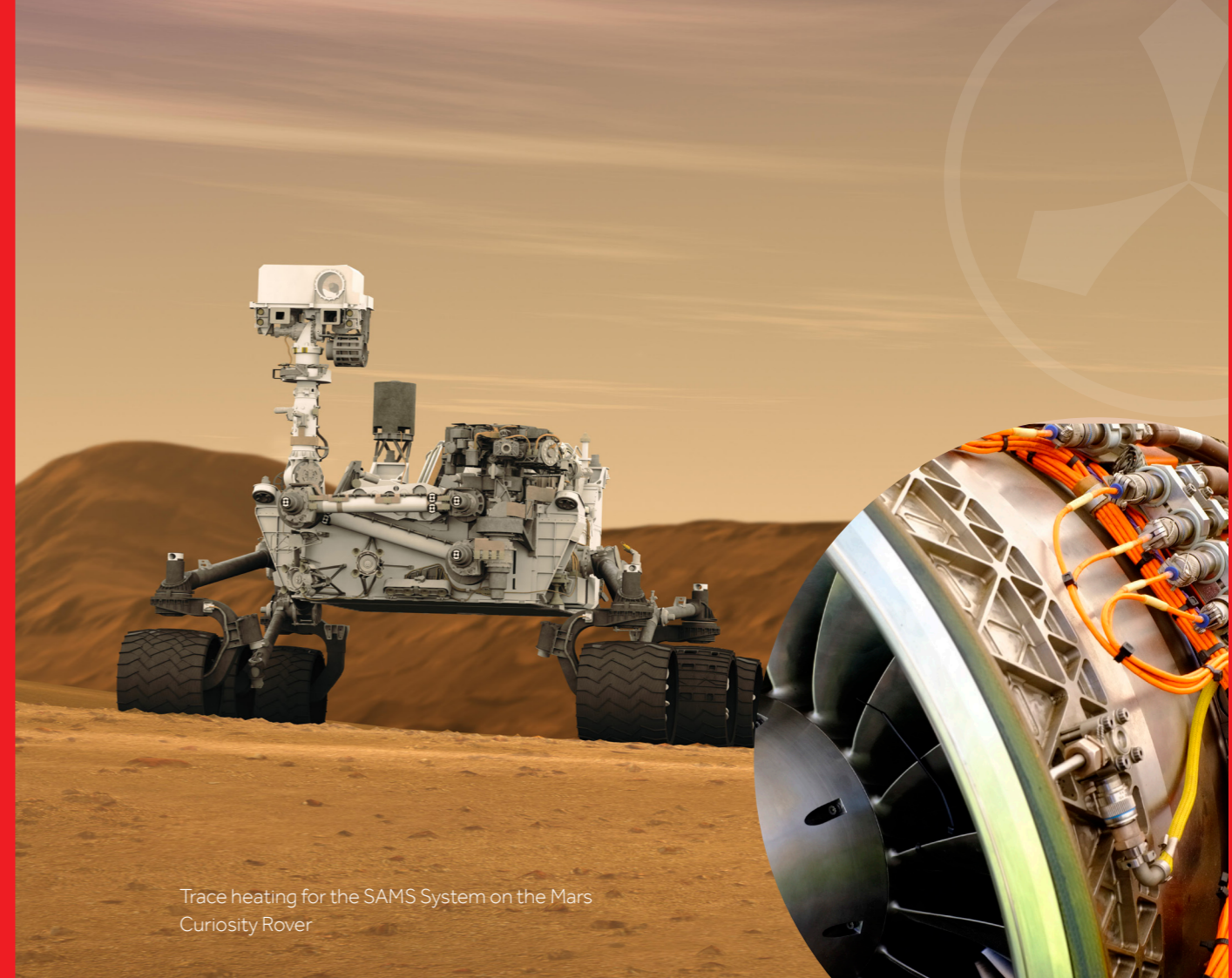
Aerospace applications we have designed for include:

- Heat flux sensors
- Artificial satellite which includes surface and probe type sensors
- Temperature sensor/liquid-gas sensor assembly for LH₂, LOX Tank
- Sensors for first stage engine
- Heaters for Ion thrusters
- Sensor to detect the ignition of a thrust engine.

We were among the pioneering companies to first manufacture mineral insulated cable to improve product performance and reliability.

Over the decades, we've refined and improved that technology, as it remains the heart of our products to this day.

- **Mineral Insulated Electric Heaters**
- **Temperature Sensors** - including cryogenic assemblies, thermocouple assemblies and resistance thermometers
- **Mineral Insulated Cables** -Semi-rigid RF coax and multi-conductor transmission and microwave cables



Trace heating for the SAMS System on the Mars Curiosity Rover

Mineral Insulated Electric Heaters

Our extensive range of electric heating systems for the Aerospace Industry is constructed using our own in-house manufactured mineral insulated cables.

This manufacturing process offers ease of installation, since the sheath can be supplied to a bend radius of 2.5 times the heater OD. This means the heater can be formed into any desired shape and is high pressure sealed for welding when required into process flanges.

Our MI Electric Heaters can be used in many applications including:

- Drain tube heaters
- Satellite thruster heaters

Turbine temperature measurement within aircraft engine





Temperature Sensors

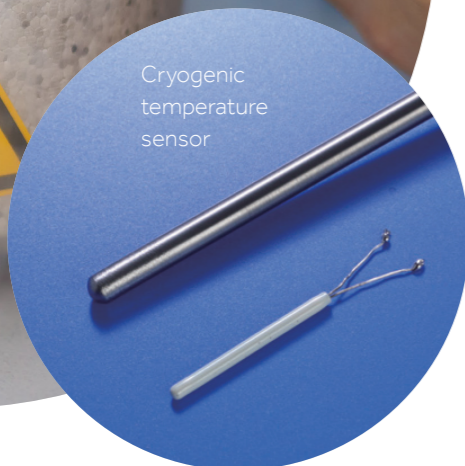
Okazaki produces a range of Temperature Sensors for the Aerospace Industry. We know that our sensors need to be reliable and precise to give our clients accurate and consistent results.

Our sensors not only meet our own high standards but have also achieved Nadcap Accreditation and are AMS 2750 compliant. However, this requirement would need to be specified when requesting a quotation.



Some of our sensors include:

- Cryogenic Assemblies
- Thermocouple Assemblies
- Resistance Thermometers
- Moulded Sleeve Sheathed Thermocouple
- Hoskins 2300® Sensors



Cryogenic temperature sensor

Cryogenic Assemblies

Our patented Cryogenic temperature sensors provide highly accurate temperature measurement as low as 1.5K.

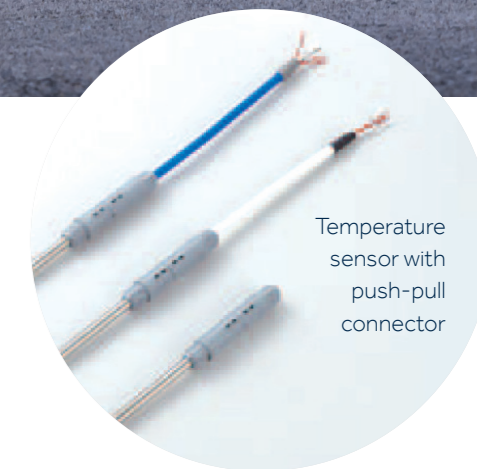
Our platinum resistance thermometer includes technology found in temperature sensors used in space and made available for consumer use, resulting in high-precision measurements. We are also currently developing a 10,000Ω device using a thin film element.

Thermocouple Assemblies

Our wide range of Thermocouple Assemblies are suitable for many types of applications to eliminate any temperature measurement problems that may arise.

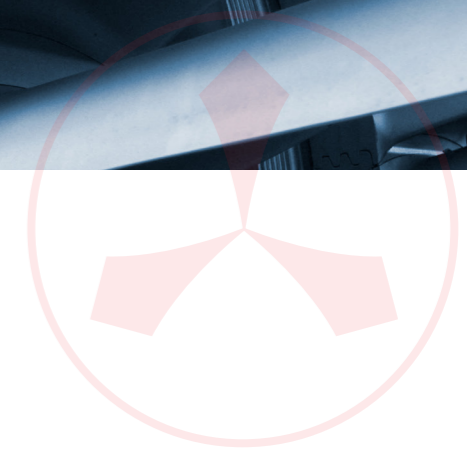
Our range includes.

- Multipoint Temperature Assemblies
- Thermocouple for Gas Turbines
- High Pressure Thermocouples
- Temp Assembly for Hazardous Atmosphere



Temperature sensor with push-pull connector





Resistance Thermometers

As part of our Temperature Sensors range, Okazaki manufactures a range of Platinum Resistance Thermometers designed to operate over the extreme temperature range of -260°C to $+930^{\circ}\text{C}$.

These sensors offer excellent performance across this wide temperature range giving high accuracy with fast thermal response, with no effect from high vibration, mechanical shock and adverse radiation levels.

These qualities have been proven by Okazaki's sensors passing over 30 test conditions set by JAXA which are required before items are used in a live launch condition.

Okazaki sensors are also used on various aircraft and again have met the stringent criteria and conditions set by the Japanese Ministry of Defence.

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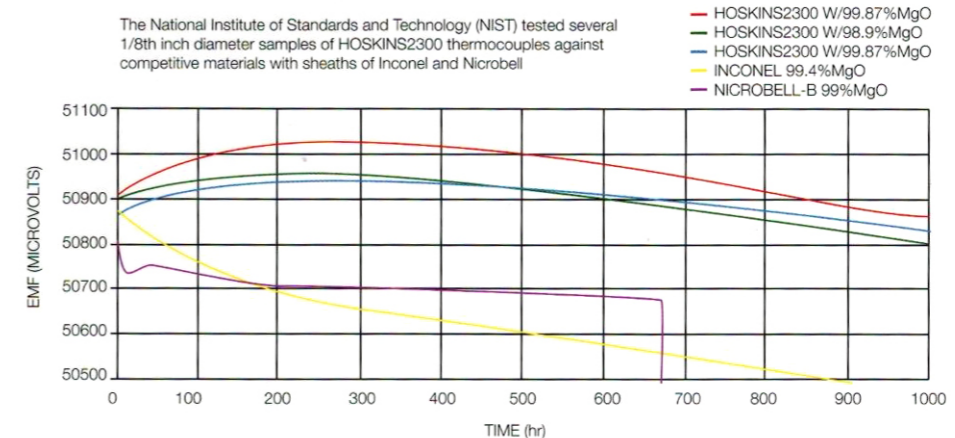


Platinum Resistance Thermometer

Mineral Insulated Cables

Our Mineral Insulated Cables are at the core of many of our products and are manufactured in our factories in Japan. They can be tailored for a multitude of applications across the Aerospace Industry and can be relied upon to provide accurate results in the harshest of environments – they can operate over a temperature range of 1.5k to 2600°C .

One example of how our MI Cable as used in our Hoskins 2300[®] can be used is to measure the turbine blade path temperature in a jet engine which allows the engine to run hotter and quieter, thereby improving environmental performance and noise pollution.





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