

PRODUCT INFO SHEET

Nanmac Corporation

Quality • Performance • Solutions

Multi-Function Sensor Reference E13 Info

The Multi-Function Sensor (MFS) consists of a specified number of Nanmac Eroding Thermocouples capable of recording temperatures even while subjected to ablation, char, and erosion (for up to 1/2 inch of each installed thermocouple). The thermal junctions are two-dimensional and are located at given depths within the MFS with a precision of ± 0.001 inch. The entire gauge and housing is fabricated from the same material as that under study (whether it be an ablative or non-ablative plastic, metal, or non-metal). Thereby, eliminating errors due to differences in thermal and physical properties. A multitude of shapes and sizes can be made to fit any requirement. Typical materials used include various phenolic, graphite, glass laminates, graphite/phenolic composites, copper, steel, molybdenum, and tungsten.

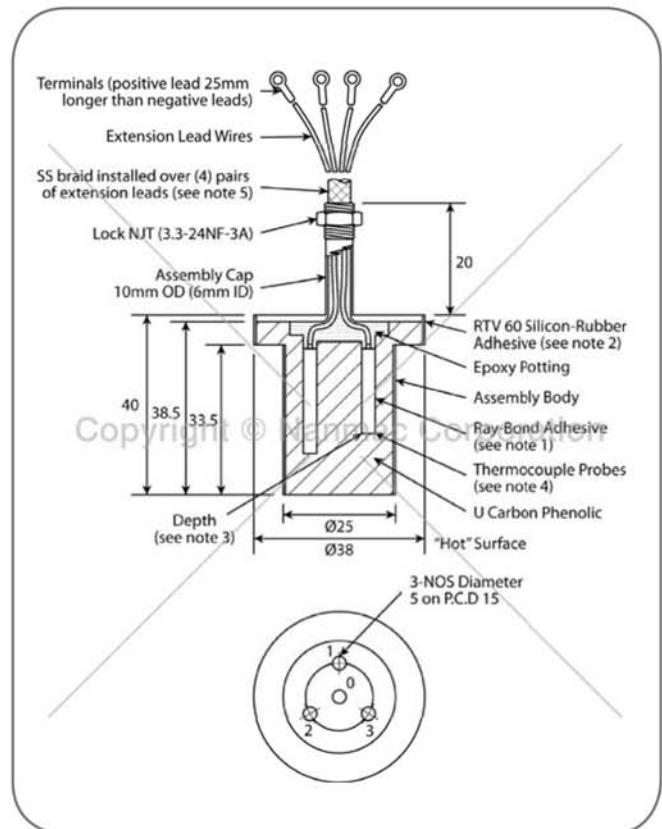
We invite inquiries on special thermocouples and gages for your particular application. We have designed and built units with multiple thermocouple junctions, extremely high sensitivity, combination metal and plastic sensing tip, and a wide variety of dimensional changes.

NOTES:

- Gauge material same as test item for minimum heat, char, erosion, and ablation variations
- Two-dimensional accuracy at the point of measurement
- Fast response times
- Temperature ranges to 5,000 degrees Fahrenheit
- Pressure range to 3,000 psi
- Vibration, velocity and accelerations as found in rocket nozzles, re-entry vehicles, etc.
- Virtually any size of configuration

Applications:

- Material research and evaluation
- Insulation and char characteristics
- Rocket insulation and re-entry shields
- Temperature monitoring and control of cooling apparatus
- Ablation, erosion and char rates
- Heat transfer and fusion point temperature of materials
- Automotive brake band research



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