

Optical Fiber Sensors for Cryogenic applications

In the framework of ongoing projects with CERN and ITER magnet divisions SMARTeC has developed, qualified and serially produced a number of different fibre optic sensors, including:

- Strain sensors
- Displacement sensors, short and long range
- Non contact, remote, long range displacement sensors
- Local temperature sensors
- Distributed temperature sensors
- Multi-fibre non-metallic cables
- Multi-fibre vacuum feed-throughs
- Fibre Optic data acquisition units

All sensors have been qualified for compatibility with cryogenic temperatures, vacuum, strong magnetic fields and radiation.

This presentation will introduce fibre optic sensing technologies and show example of applications and qualification tests for several of them. In particular we will concentrate on cryogenic applications.

Summary

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