



## Automotive Sensor Testing - case study

### Lasertec improve automotive sensor testing speed and reliability

#### Summary

Lasertec was engaged by a leading automotive component manufacturer to design and build both the fixtures and test platform for the calibration of automotive components. The testing of multiple sensors at a time is carried out within a thermal chamber. The Lasertec test system has dramatically increased the throughput, reproducibility and repeatability of the devices under test (DUT). The Lasertec system is proving highly effective in

- maintaining fixed fluid level over a range of temperatures
- ensuring repeatable assembly of the DUT's in the jig
- ensuring the integrity of DUT connections prior to assembly into the test chamber

#### Background

Prior to commissioning of the Lasertec test system the plant R&D team were required to manually connect each test cable to individual sensors. The water distribution system design caused fluctuation in water levels, making it impossible to reproduce the constant test environment required to calibrate the sensors at varying temperatures. This method was not suitable for mass production on an automated production line. The turnaround time on this project was less than three months. The prompt delivery of a successful and satisfactory solution was as a direct result of Lasertec's own in-house design, electromechanical, software and manufacturing capabilities.

#### Approach

A Lasertec test platform including of a chiller, a reservoir, a PLC and industrial PC control was

installed and integrated with the client's own electronic test programme. National Instruments test stand and labview hardware and instrumentation software were an integral component in the development of the system. A seamless integration of both Lasertec and client test software provided for communication to and from the test fixture while it was in-situ within the thermal control chamber. Lasertec had the capability to design and manufacture a precision test fixture necessary for the repeatable mounting of DUT's during the test process guaranteeing a positive connection of DUT's to the tank assembly.

#### Results:

**The client production capability jumped by 56% and Lasertec went on the supply further systems globally.**