

## High Pressure Application

An OEM customer has an application requiring exceptional stability from sensors under pressure.

### Application Requirements

- model DMS-D63
- Pressure Range - 0 to 1200 psi
- Stability Under Pressure - 0.05%



### The Solution - model DMS-D63-T7W

A straight thread o-ring seal compression fitting is brazed to the probe tip at a prescribed fixed distance from the tip end, and a sapphire window is bonded to a ledge inside the probe tip. The window seals the leak path thru the fiber optics; the fitting seals the leak path around the tip.

The customer encloses the DMS sensors in a constant temperature box to minimize drift.



### Pressure Stability Test

A stability test is required for each of these sensors. To perform this test, we install the probe into a pressure vessel with no target external to the probe tip. We monitor the (ratio) signal reflected back from the window inside the probe tip.

The DMS heaters are turned on and the system allowed to reach thermal stability.

Data recording begins at 0 psi for 1 minute and then continues at 400 psi for at least 10 minutes.

The data shown below shows a stability under pressure better than 0.025%.

