Philtec

7 July 2005

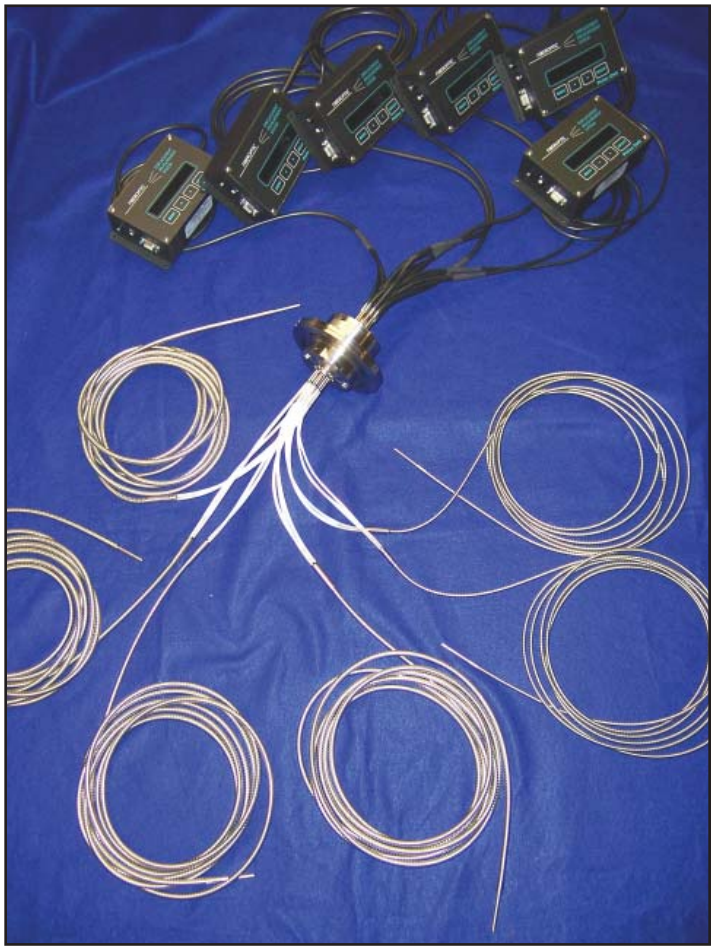
E-NEWSLETTER

YOUR SOURCE FOR THE LATEST SENSOR APPLICATION NEWS

# MULTI-CHANNEL PASSTHRU for HIGH VACUUM ($10^{-7}$ Torr)*

BvF When two or more sensors are required to measure in high vacuum our multi-channel vacuum passthru BvF is a great saver of space and money. One BvF assembly can pass up to

- 8 D model sensors (two legs each) or
- 5 RC model sensors (three legs each)



## *APPLICATION*

### *The Problem*

- Six sensors were required to pass thru an ISO100 vacuum flange:

*DMS-RC100 ... 2 units*
*DMS-RC171 ... 1 unit*
*DMS-D170 ... 3 units*

All 6 sensors had 14 foot long cables in vacuum and 9 foot long cables outside the vacuum chamber. The RC171 and the D170 sensors have very large fiber bundles. A problem we faced in producing this order was getting all 6 sensors to fit into the passthru ports which are distributed over a 25 mm circular area.

The photo below shows the problem was solved by making the fiberoptic ends with different leg lengths, thereby avoiding interference with the collar hardware.

* Inside the BvF, a Ø 25 mm fused fiberoptic image rod passes the sensor signal channels across the vacuum bulkhead. The glass rod is sealed with a Swagelok™ Ultra-torr compression fitting which is welded to the I.D. of the BvF. Precision machined end caps contain 16 ports on each end for accurate alignment of the fiberoptic bundles.