

# LVDT Applications

## AC LVDT: A CRITICAL PART OF MEDICAL DEVICE

Brain surgery is something nobody wants to go through, but is often necessary to treat symptoms of Parkinson's and other neurological diseases. A medical products company has developed a sophisticated modular probe drive to support streamlined implantation of deep brain stimulating electrodes. This device addresses the clinician's need for precise placement of electrodes for functional neurosurgery.

At the heart of this system is our Model 0237-0003 AC-AC LVDT ( $\pm 1.0''$  stroke). This transducer is a special version of our standard Model 0237, modified to withstand steam autoclaving - the sterilization process often required for surgical tools. Added features include sealing to resist moisture and increased temperature ratings. Normal autoclave temperatures hover around 250°F, but can sometimes reach 275°F.



The instrument uses a unique push/pull cable drive mechanism to move the carrier that guides the probe to the problem area of the brain. A surgeon manipulates the up and down motion by means of a dial micrometer (pictured on top of the meter display). The LVDT (also shown in this photo) is mounted at the top of the structure pointed in the same direction as the probe. The LVDT body is held stationary, while the core and extension rod are attached to the carrier and follow its movement.

The LVDT accurately monitors the position of the probe as it's used to carefully place electrodes in the targeted area. This position is also calibrated manually as a secondary check. The feedback signal from the transducer is displayed on the meter, while data is also collected to "map" surface features of the brain.

There's probably no better example of choosing a product for its reliability. We are proud to have the trust of our customer in playing a critical part in this medical application.