

TELEDYNE HASTINGS

APPLICATION NOTES

INSTRUMENTS

Goal: Monitor Status of Remote IR Camera Dewar Vacuum Envelope

Solution: The Hastings HPM-2002 OBE, Vacuum Sensor



A customer with a remote IR camera needed a cost-effective method of scheduling maintenance (i.e., repumping) of the housing unit before vacuum decay could occur, degrading the camera's signal and eventually rendering it useless. The unit consisted of the CCD focal plane, a vacuum bottle, and a closed cycle refrigerator. Due to permeation through multiple o-rings, a buildup of gasses within the dewar would start to condense on the inside of the camera window, with increasingly dire consequences.

The Hastings HPM-2002-OBE proved to be the solution to the problem. It was added to the camera filter bezel, the best area for a retrofit. Mounting was easy, requiring a simple drill and tap of the plate to accept the 1/8" NPT HPM-2002S-01 tube. Incorporation into the rest of the system was achieved with minimal effort, as well. The OBE electronics output was appended to the camera's data stream, and the monitoring PC was adapted to search for violation of a high-pressure set point, a predetermined decision point of approximately 1×10^{-2} Torr. Now, when such a position, the operator simply removes the camera from service and has the vacuum bottle repumped.

HPM-2002-OBE features:

- . Modular Electronics
- . Wide Dynamic Range
- . Relay Set Points