



Drogue Hose Limit Switch System



Challenge: Develop a military-quality measurement system at COTS prices that lets a pilot know when the refueling drogue hose has been fully retracted prior to landing. System must be compatible with current aircraft systems.

Answer: Our customer approached us to develop a new method to determine when the drogue hose on new F/A-18 E/F series aircraft adapted as tankers and incorporate it into the entire assembly. Other requirements required the unit to be easily removed and replaced, reliable, and less expensive than current systems.

Force Switch engineers designed a unique limit switch that not only senses when the hose is fully retracted or deployed, but has control signals that integrate with the drogue motor brake system to stop the hose coiling. The signal also notifies the landing gear system telling the system it can be deployed and sets a status light on the heads up display so the pilot knows the hose has been retracted or that he/she must take additional actions.

The Force Switch solution was the complete assembly that met all environmental, shock, and life requirements specified by the prime contractor as well as meeting the COTS pricing targets requested by the US Navy.