

Satellite Dish Antenna

BASIC
AP 00014



PRODUCT

V3 Basic, VX Solid State Switch

APPLICATION DESCRIPTION

Linear actuators are used to accurately focus the satellite dish antenna to a pre-set satellite coordinate. Reliability and accuracy are essential during this process. If the angle or position of the antenna is off by even the smallest degree, it can mean the focus has missed the satellite by hundreds of miles. As a result, the actuator arm must provide the receiver's microprocessor with accurate feedback as it moves from satellite coordinate to satellite coordinate .

Within the linear actuator arm is MICRO SWITCH's VX solid state switch, located at the base of the lead screw and gear motor assembly. It is actuated four times during each screw revolution, for a total of 24 actuations per inch of linear travel. The number of actuation signals is stored in the microprocessors's memory and recalled for repositioning purposes as required.

The VX solid state switch was chosen because it could be easily adapted to meet the needs of their linear actuating application, and for the installation and maintenance savings it provides. The mechanically-actuated VX is completely self-contained,

incorporating an integral magnet, so it saved the customer the added cost and design considerations associated with applying external magnets. In addition to its inherent solid state reliability and long life, the VX also provides ease of interface with logic level circuitry.

The company also uses two electromechanical V3 switches. These switches are incorporated into the linear actuator arm's gearing system , and function as limit switches. They either stop or reverse the motor as the actuator arm reaches its fully extended or fully retracted position. This sensing function is important because it prevents damage that could result if the lead screw and actuator were to operate unchecked.