Prismatic/Revolute Orienting Apparatus

Description of Technology

The Prismatic/Revolute Orienting Apparatus provides a two degree-of-freedom spherical orienting device applicable to point end effectors containing items such as cameras, mirrors, lasers, antennas, and similar devices.

Applications

This technology, due to its speed and precision, can be used for communications signals, lightshows, target illumination and more using the laser function. Using the camera and mirror pointing, this technology can be used for image jitter reduction for land, sea, air and space platforms. Examples include military and commercial helicopters, firefighting robots, etc.

Features & Benefits

The Prismatic/Revolute Orienting Apparatus features greatly simplified kinematics, therefore making it possible to rotate about either direction without any movement in the actuator. Additionally, the linkage consists of straight bars, making the design simpler and less expensive to manufacture than current devices. Furthermore, this device can point faster, smoother and with more precision.