



Fast Steering Mirror (FSM)

CMM Optic's Fast Steering Mirror (FSM) combines our mechanical, optical, and electronics expertise to deliver a flexure-mounted or ball-bearing system offering a compact, high-performance solution for single and multi-axis optical scanning and beam stabilization applications.

The design of the FSM incorporates a mirror mounted to a flexure support system that may be tilted to direct a laser beam or other light source. A set of voice coils and eddy current sensors are used to provide the directional motion and position feedback. The system offers either open-loop and closed-loop operation. For closed-loop operation, integrated high-speed precision sensors are used to provide a complete feedback control system. With its modular design, the CMM Optic FSM allows increased flexibility in mirror substrate choice, aperture size, degrees of tilt and control electronics to meet any mission requirements.



Fast Steering Mirror

SPECIFICATIONS

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|------------------------|--|
| Clear Aperture Size | 5 to 200 mm |
| Mirror Substrate | Aluminum, Beryllium, SiC, glass, or other |
| Optical Coating | UV to IR coatings available |
| Angular Tilt | Up to $\pm 12^\circ$ optical ($\pm 6^\circ$ mechanical) |
| Resolution | 1.0 μ -radian |
| Small Signal Bandwidth | > 350 Hz |
| Accuracy | 35 μ -radian |
| Controller | DSP-based digital servo Digital/analog user interface Advanced algorithms for high bandwidth Integrated position sensor PC-based diagnostics and signal monitoring |

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