EDA500 Sensor-Driver System for FSM & Differential Sensing Applications

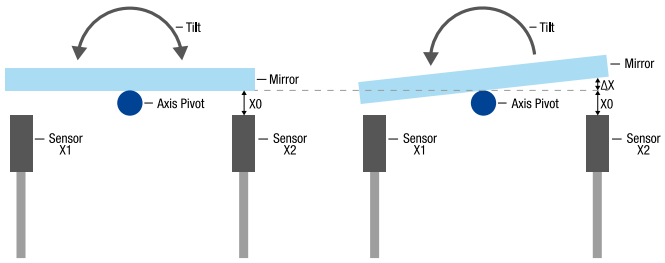
Featuring state-of-the-art Lion Precision Eddy Current Sensors, the new EDA500 controller is the ideal off-the-shelf solution for Fast Steering Mirror and differential sensing applications. The EDA500 system comes with two matched pairs of high-resolution noncontact Eddy Current Sensors, the driver with four sensor inputs (two per axis), an analog output, and a nine-pin connector interface for easy connectivity.

DESIGNED FOR

- Fast Steering Mirrors (FSM)
- Telescope and microscope stabilization
- Image stabilization

HOW IT WORKS

The differential system provides feedback from any change in the null position. Small changes in the tilt of the target are measured and sent to the actuator to allow fast and accurate control and positioning.



FEATURES

- High bandwidth
- High resolution
- Low power consumption
- Excellent temperature stability
- Matched sensor for high stability and repeatability
- Radiation tested to 75 krad TID

The system can be customized for specific applications and is also available as a board without an enclosure for space savings and easy integration into a control system.

SPECIFICATIONS

Input Power	±15 VDC, ±53 mA, 1.6 W
Analog Output	± 10 V
Linearity Error	± 0.1%F.S. @ 22 °C
Error Band	± 0.2%F.S. @ 22 °C
Driver Operating Temperature	0 °C to +60 °C
Probe Operating Environment	-25 °C to +125 °C
Weight (Electronics)	41 grams (board only)
Weight per Probe (1 meter)	12.5 grams
Standard Range*	700 um (150 to 850 um)
Driver Thermal Drift at Null	±0.001% FS/C
Driver Thermal Drift at Min Gap	-0.02% FS/C
Driver Thermal Drift at Max Gap	+0.02% FS/C
Probe Thermal Drift at Null	±0.005% FS/C
Probe Thermal Drift at Min Gap	-0.01% FS/C
Probe Thermal Drift at Max Gap	+0.01% FS/C
Bandwidth (-3dB)	28 kHz
Group Delay	< 12 us
RMS Resolution at Null Gap	< 7.0 nm
RMS Resolution at Max/Min Gap	< 25 nm

**Standard range shown; custom ranges available upon request.*

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