

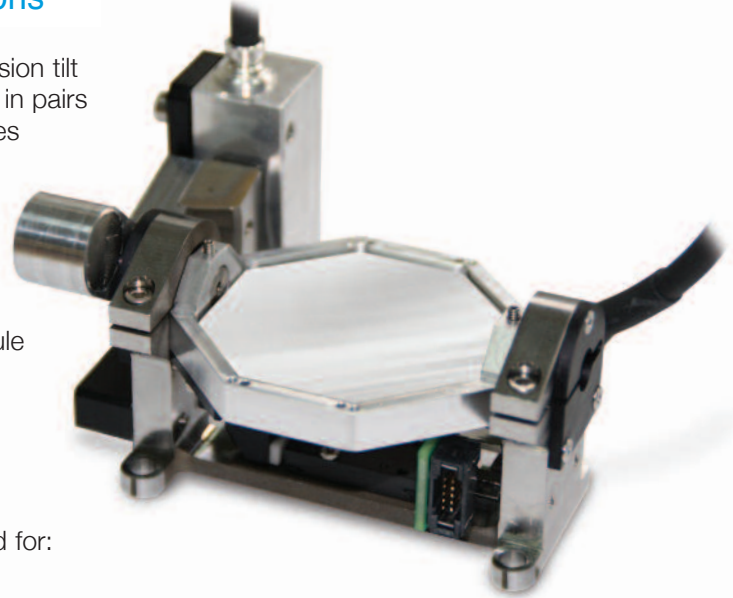
S851

Steering Module Stage

Application Recommendations

The S851 Steering Module is a precision tilt stage, used as a stand-alone axis or in pairs for beam steering. This module utilizes a precision, absolute encoder with resolution down to $0.1\mu\text{rad}$, with positional accuracy to $14\mu\text{rad}$.

The mounting surface can be configured to support a mirror or other optical components. The module is driven by Nanomotion's Edge-4X motor and capable of operation during 30g's of vibration.

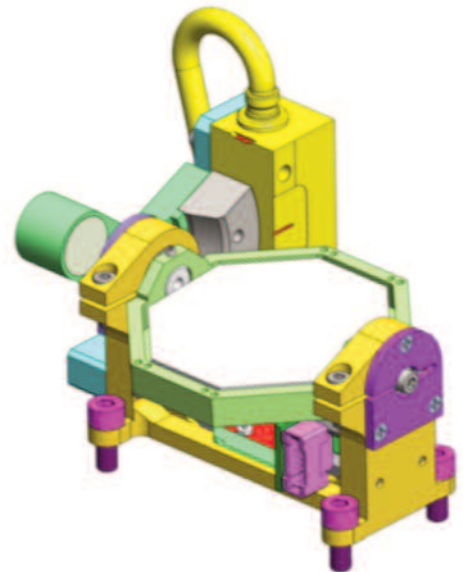


This steering module can be adapted for:

- Ground based laser steering
- Flight based steering

Product Description

The S851 uses the Edge-4X motor to achieve $\pm 3^\circ$ travel operation at 8Hz, with total travel of 8° (or more). Designed to work with Nanomotion's XCD2 board level, dual axis controller, precision motion can be supported for working as a single axis or in pairs.



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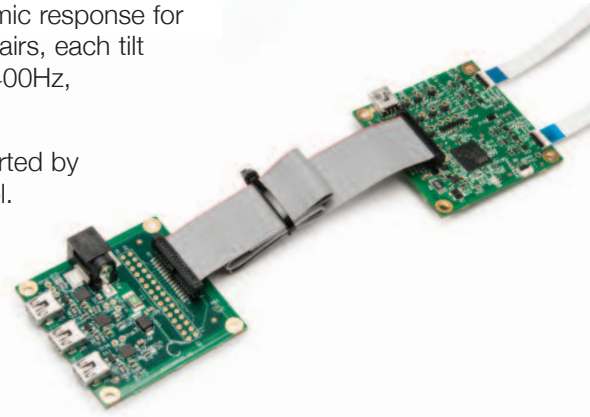
TECHNICAL SPECIFICATIONS

Stage Travel:	8° standard, (10K with modification)
Velocity:	1° in 30msec
Resolution:	0.1μrad (Absolute encoder)
Position Accuracy:	14μrad
Typical Move For Steering:	1° in 30msec.
Operating Temperature:	-40°C to 70°C
Lifetime:	>20,000 hours

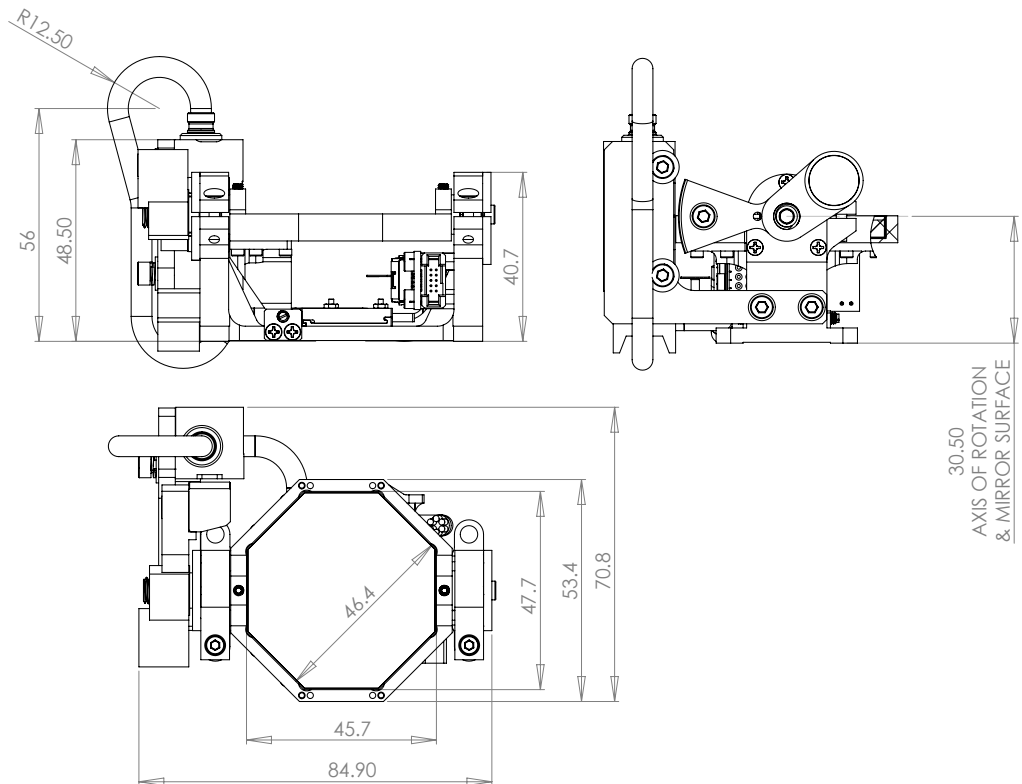
Dual Axis Drive & Control

The S851 is designed for extremely high dynamic response for rapid steering of a laser beam. While used in pairs, each tilt stage has a natural frequency of greater than 400Hz, allowing for high speed motion control.

As a pair of steering stages the S851 is supported by Nanomotion's XCD2 dual axis drive and control. The XCD2 can support a variety of Edge & Edge-4X motor configurations (power stage) and supports both absolute and incremental encoders. The XCD2 can be provided on board level or chip level, depending on integration requirements.



MECHANICAL DRAWINGS AND INTERFACE



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