

# S840

## Miniature Precision Rotary Stage

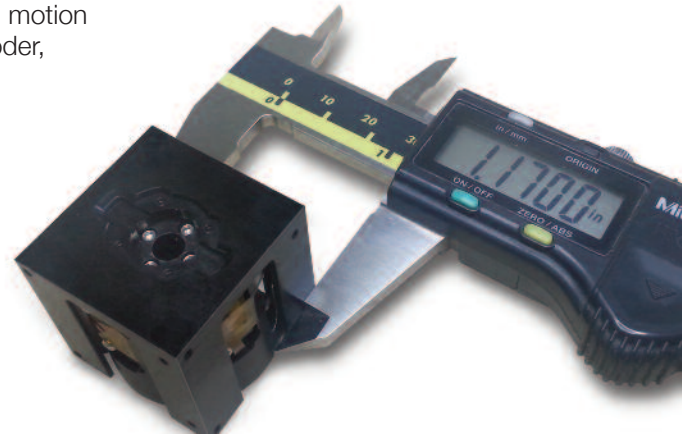
### Application Recommendations

The S840 Rotary module contains a 50,000 cpr precision optical encoder (external interpolator), with Nanomotion's Edge motor technology and the XCD drive/control.

This integrated design consists of a complete motion solution, including the motors, bearings, encoder, drive & control captured in a 30mm cube.

This miniature rotary module can be adapted for:

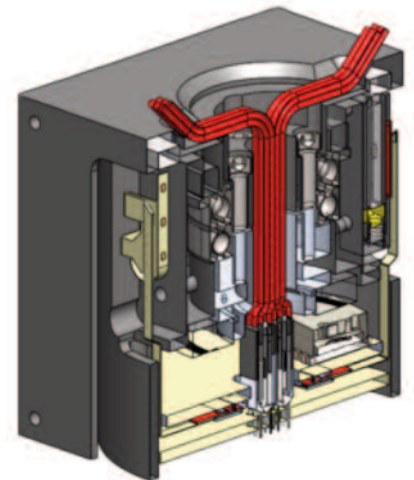
- Hand-held (soldier carry) use
- Integration to LTLM / CLRF devices
- Vehicle use
- Other mechanisms



### Product Description

The outside configuration can be adapted to support different customer electronics (Mounting Orientation), while the rotary module moves 90° - for a precise quartering process.

The S840 is designed for a calibration process of an IMU (inertial measurement unit) to eliminate the drift and improve north finding precision. It is intended to reduce the cycle time and improve the precision based on current IMU availability.



# S840

## Miniature Precision Rotary Stage

The S840 has the control card completely integrated into the rotary module. The module construction consists of a (2) angular contact bearings with (4) Edge motors and a 50,000 cpr quadrature encoder (external interpolation). The control is based on Nanomotion's XCD chip and can be provided as an integrated solution or on a chip level for customer integration.

### TECHNICAL SPECIFICATIONS

Stage Travel: Continuous Rotation

Velocity: 180°/sec.

Resolution: 26 arc seconds

Torque: 14mNm

Typical MoveProfile:

180° in less  
than 1 second

Position Repeatability:

+/- 52 arc seconds

Assembly Weight:

Less than 50g

Power Consumption:

<500mW

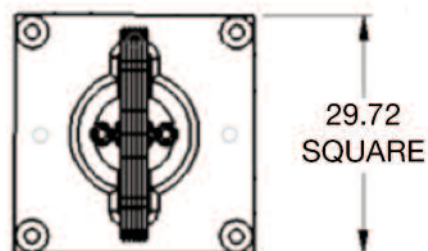
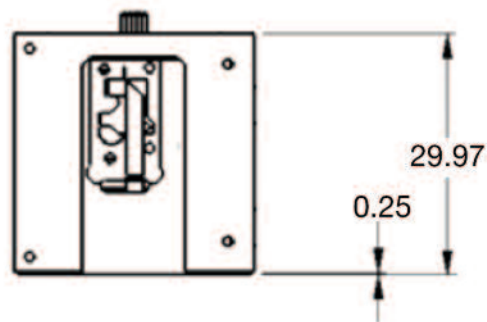
Operating Temperature:

-20°C to 70°C

Lifetime:

>20,000 hours

### MECHANICAL DRAWINGS AND INTERFACE



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