

Mini piezo smart stage with built-in controller enables simple, precise beam steering

# New Scale News



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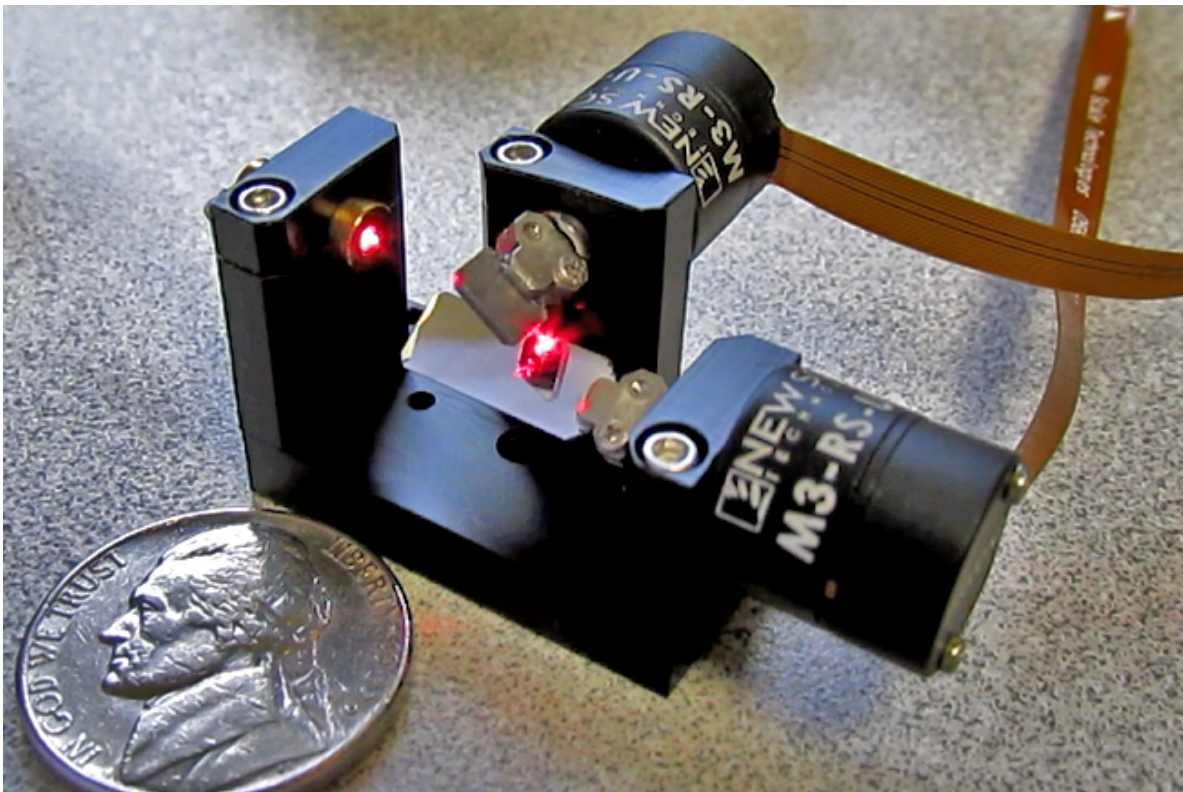
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## Greetings!

Welcome to New Scale News, your monthly update on micro-mechatronic systems and applications. This month we feature our miniature two-mirror beam steering system developer's kit.



## New Dev Kit: Miniature two-axis beam steering system boasts smallest size, easiest operation

**Miniature piezoelectric smart stages with built-in controller enable simple, precise point-to-point beam steering**

The **DK-M3-RS-U-2M-20-L** beam steering system features two miniature piezoelectric rotary stages with *embedded closed-loop controllers*. Along with smallest system size, this makes for fast, easy integration into your system.

Each smart stage rotates a pre-mounted aluminum-coated mirror +/- 20 degrees at up to 1100 degrees/second with angular resolution of 0.05 degrees (1 mrad) for precise, point-to-point positioning or dynamic scanning up to 100 Hz.

With only 3.3 VDC input it is suited for handheld and portable instruments. Applications include medical lasers and imaging systems, industrial measurement and spectroscopy instruments, and laser printing and engraving.

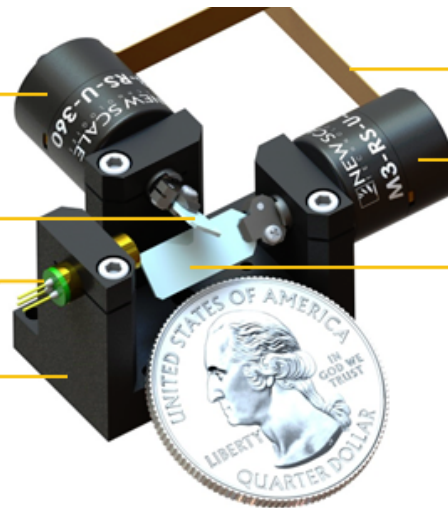
### Beam steering system

**Rotary smart stage # 1**  
with embedded controller  
(M3-RS-U-360)

**Short Mirror**  
(M3-RS-U-Mirror-01-03)

**Demo Laser**  
650nm collimated

**Clamp Brackets  
and Base**  
(M3-RS-U-Mounts  
and M3-RS-U-Base)



**Flex Cables** with straight exit  
from stage, 150 mm length  
(M3-RS-U-FPC-0-150)

**Rotary smart stage # 2**  
with embedded controller  
(M3-RS-U-360)

**Long Mirror**  
(M3-RS-U-Mirror-01-11)

Patented piezoelectric motors along with position sensors, bearings, drive electronics and embedded firmware are all integrated into each miniature rotary stage. The positioner accepts direct input of high-level digital motion commands from a system processor via I2C, SPI, UART or analog servo interface.

### DK-M3-RS-U-2M-20-L Specifications

- Smart stage size: 12 mm diameter
- Beam size: up to 2 mm diameter
- Mirror range: +/- 20 degrees
- Speed: up to 1100 deg/sec
- Absolute encoder resolution: 0.025 degrees
- Accuracy: 0.25 degrees
- ***More specifications***

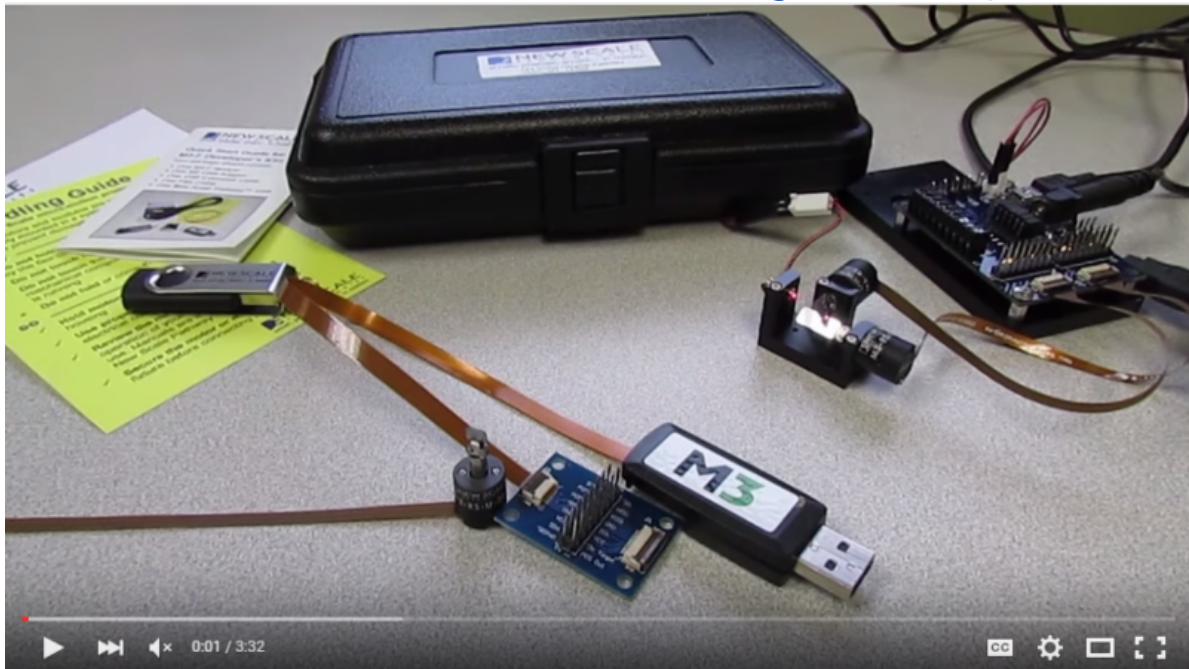
### Developer's Kit price and availability

The DK-M3-RS-U-2M-20-L Beam Steering Developer's Kit includes two rotary smart stages with mounted mirrors, a 650 nm collimated laser, brackets and base, demo board, cables, USB adapter and software for system evaluation and development. Developer's Kits are available from New Scale Technologies at \$3,450 with delivery from 8-12 weeks.

[Download the data sheet \(PDF\)](#)

Email us to order your kit or call +1 (585) 924-4450

## VIDEO: Miniature beam steering developer's kits




The two-axis beam steering system and one-axis mirror positioning system developer's kits include demo boards and USB connection for easy evaluation using New Scale Pathway software on your PC. [Watch the video \(3:32\)](#)

### About Us

New Scale Technologies develops small, precise and smart motion systems for critical adjustments of optics, and many other micro positioning applications. Our simple and elegant solutions deliver best-in-class performance in handheld, portable and mobile instruments for medical, scientific and industrial applications. Our customers benefit from complete, "all-in-one" motion solutions that are tailored to their unique requirements and easily integrated into their next-generation instruments. [Contact us.](#)



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