

NanoMax™ 4mm Travel, Flexure Stage with Stepper Motors (cont.)

Closed-Loop Internal Piezoelectric Actuators

The MAX342 and MAX341 feature internal piezoelectric actuators built directly into the body of the stage, providing a 20µm travel range with a positional resolution of 20nm. Furthermore, the MAX341 features three strain gauge displacement sensors, which provides a voltage signal that is linearly proportional to the displacement of the piezoelectric element. This signal is used to compensate for the hysteresis, creep, and thermal drift that is inherent in all piezoelectric elements. If driven by a controller which uses a balanced bridge circuit, the piezoelectric actuator can be controlled in a closed-loop feedback mode that improves the positional resolution from 20nm to 5nm. Hysteresis, mechanical creep, and drift can be monitored and compensated via this sensor.



MAX341
Patented 6,467,762

Displacement Sensor



- PIN 1: +15V
- PIN 2: OSCILLATOR+
- PIN 3: 0V
- PIN 4: SIG OUT-
- PIN 5: SIG OUT+
- PIN 6: -15V
- PIN 7: TRAVEL

The strain gauge displacement sensor, directly attached to the body of the piezoelectric element, provides an analog signal that is proportional to its displacement. When combined with low-noise electronics the resolution obtained is better than 5nm.

Specifications

- **Piezoelectric Travel:** 20µm in Each XYZ Direction
- **Piezoelectric Actuator Resolution:** 5nm (When Operating With Internal Piezo Displacement Sensors), 20nm (Without Sensors)
- **Maximum Piezoelectric Drive Voltage:** 75VDC
- **Resolution:** 5-20nm

You Choose!

Do you require two steppers and one manual drive or some other combination of options? Please see page 290 to configure a stage to your specific needs.

ITEM#	METRIC ITEM #	\$	£	€	RMB	DESCRIPTION
MAX343	MAX343/M	\$ 2,466.70	£ 1,554.00	€ 2,294.00	¥ 23,557.00	NanoMax™ Stage With Stepper Motor Drives
MAX342	MAX342/M	\$ 3,032.80	£ 1,910.70	€ 2,820.50	¥ 28,963.20	NanoMax™ Stage; Stepper and Piezoelectric Actuator
MAX341	MAX341/M	\$ 3,714.50	£ 2,340.10	€ 3,454.50	¥ 35,473.50	NanoMax™ Stage; Stepper, Piezoelectric Actuator, & Sensor

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- Large Selection of UV to IR Sensors Covering the Power Range 35nW to 30W
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NEW PM300
Dual-Channel Power Meter



SEE OUR ENTIRE POWER METER LINE ON PAGES 946-961