

CONEX-NSA12

Actuator USER'S MANUAL

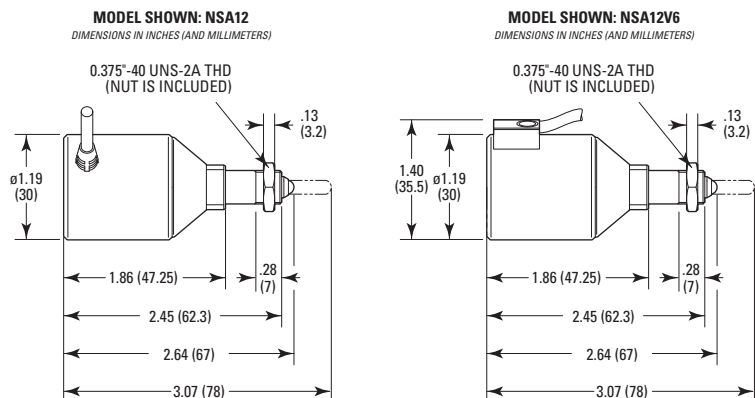


1.0 CONEX-NSA12 Motorized Actuator

Designed as micrometer replacement, the CONEX-NSA12 linear actuator is ideal for remote adjustment of sensitive, hard-to-reach optical mounts. Typical applications include optimizing the alignment of a laser cavity, zeroing in on coherence lengths, or just adjusting the pointing of a beam over a long distance.

The CONEX-NSA12 provides 11 mm motorized travel with sub-micron resolution. It can drive up to 28 N load. With its backlash eliminating spring mechanism and 5/32" non-rotating chrome-vanadium steel ball bearing this actuator is ideal for applications that require repeatability.

The CONEX-NSA12 is easily mounted via its 0.375" x 40 pitch threaded shaft. This mechanical interface is compatible with many Newport mounts and manual stages. A mounting nut and wrench are included.



1.1 Specifications

CONEX-PP Controller Specifications

Description	Single-axis motion controller and driver for Intelligent Stepper Motors
Motor Output Power	24 VDC peak, 2.5 A peak PWM amplifier
Control Loop	PI Control of motor phase current with programmable idel phase 2 kHz servo rate Baklash Compensation
Motion	Point-to-point motion with S-gamma profile and jerk time control
Computer Interface	USB +5V (USB): <0.5 A, Windows Compatible
Programming - Natural user defined units	Natural user defined units 40+ intuitive, 2-letter ASCII commands
Safety Feature	End of range checks Power limit checks Watchdog timer
Power Requirements	+24 V (FC-PS40): <1.67 A
Dimensions in. (mm)	4.33 x 2.06 x 0.98 (110 x 52.2 x 25)
Cable Length ft. (m)	9.8 (3)

CONEX-NSA12 Actuator Specifications

Drive Type Micro Step Drive Stepper	Micro Step Drive Stepper
Travel (mm)	11
Minimum Incremental Motion (µm)	0.2
Uni-directional Repeatability, Guaranteed ⁽¹⁾ (µm)	2.2
Bi-directional Repeatability, Guaranteed ⁽¹⁾⁽²⁾ (µm)	10 or ± 5
Maximum Speed (mm/s)	0.9 ⁽³⁾
Axial Load Capacity (+Cx) (N)	28

¹⁾ Shown are peak to peak, guaranteed specifications or ± half the value as sometimes shown. For the definition of typical specifications which are about 2X better than the guaranteed values, visit www.newport.com.

²⁾ After backlash compensation.

³⁾ Speed is reduced by half for vacuum compatible versions.

Note: Also available in vacuum compatible version, CONEX-NSA12V6.

1.2 Environmental Specifications



CAUTION

The CONEX-PP motion controller and positioners are high-precision laboratory instruments. Only use and store in a clean laboratory environment. Avoid mechanical shock to positioners.

Max operating temperature	5 °C to 40 °C
Recommended operating temperature	20 °C to 25 °C
Operating relative humidity	<85%, non-condensing
Storage temperature	0–60 °C
Storage relative humidity	<85%, non-condensing
Altitude	<2000 m (6,562 feet)
Installation	category II
Pollution	degree 2
Use location	Indoor use only

1.3 Conex-NSA12V6 Color Coded Wiring Diagram

Wire Color	Signal	Wire Size
White	Homing Signal	28 AWG
Green	Phase A+	28 AWG
Red	+5 V	28 AWG
Orange	Phase B-	28 AWG
Blue	Phase B+	28 AWG
Yellow	Phase A-	28 AWG
Black	GND (0 V)	28 AWG
Brown	Not user	28 AWG



CONEX-NSA12V6



Newport Corporation, Global Headquarters
1791 Deere Avenue, Irvine, CA 92606, USA

PHONE: 1-800-222-6440 1-949-863-3144 FAX: 1-949-253-1680 EMAIL: sales@newport.com

Complete listings for all global office locations are available online at www.newport.com/contact

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