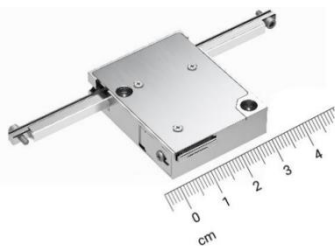




XLA-3 系列 --- 快速和紧凑的线性执行器



XLA-3 微型线性执行器从其重量、尺寸和精度来看都是世界一流的，该直线器由 Crossfixx™ 超声波压电马达驱动，结构设计极其紧凑、高达 400 mm/s 的可变速度和总重量小于 36 克！XLA-3 具有集成编码器 1250、312 或 78nm 分辨率或开环。推杆的长度范围很广，允许行程长度从 10 mm 到 300 mm！开环

版本也配备了集成控制器，使整个设置更加完善紧凑。

Key features

	closed-loop	open-loop
drive principle	patented Crossfixx™ ultrasonic piezo technology	
lifetime	> 100 km / 1 million cycles	
operating voltage	20 to 48 V	12 V
controller	external XD-A controller required	integrated controller

Model code structure

actuator type	rod length (mm)	encoder resolution (nm)	FPC cable outlet (flexible printed cable)
XLA-3	-45	-OPEN	top side
		-1250	
		-312	
		-78	
	-55	same as XLA-3-40	
	-65		
	-75		
	-85		
	-105		
	-125		
	-145		
	...		
	-285		
-305			
-325			

Example: XLA-3-45-312

- L XLA-3 series linear actuator
- L Rod length of 45 mm
- L Closed-loop actuator with integrated encoder with a resolution of 312 nm

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Environmental compatibility

temperature range	-30°C to +70°C
humidity range	20% to 90% RH (non-condensing)
heat dissipation (motor only)	< 1 W

Motion performance

		XLA-3 all rod lengths				unit	tolerance	
		-1250	-312	-78	open-loop			
LIMITS	type					optical		
	type	optical, incremental						
ENCODER	grating period	80				no encoder + integrated controller	µm	
	resolution	1250	312	78	nm			
	index	1 per full stroke						
	accuracy	± 5					µm	typ.
	resolution = min. step size = min. incremental motion (MIM)	1250	350	80	50 – 100 µm (pulsed operation)		nm	typ.
unidirectional repeatability	± 1250	± 350	± 80	nm		typ.		
bidirectional repeatability	± 2500	± 700	± 160	nm		typ.		
ACTUATOR	positioning					mm/s	typ.	
						µm/s	typ.	
	speed	max. speed	400			1000	mm/s	typ.
		min. speed	2 to 5			10	µm/s	typ.
	stability (at typical speed of 10 mm/s)	± 1			-	%	typ.	
	point-to-point positioning time for a 1 mm step* 0g load	200			-	msec	typ.	

Error motion

		XLA-1 length XX to XX		XLA-1 length XX to XX		unit	tolerance
resolution		-1250	-312	-1250 -312	-78 -5 -1		
error motion	straightness	±	±	±	±	µm	max.
	flatness	±	±	±	±	µm	max.
	pitch					µrad arcsec	max.
	roll					µrad arcsec	max.
	yaw					µrad arcsec	max.

Mechanical properties

		XLA-3											unit	tolerance
rod length		-45	-55	-65	-75	-85	105	-125	-145	-165	-185	-205	mm	± 0.1
dimensions	closed-loop	38 x 30 x 9.1											mm	± 0.1
	open-loop	38 x 30 x 12												
stroke / travel range		10	20	30	40	50	70	90	110	130	150	170	mm	± 0.1
mass	closed-loop	35.8	36.6	37.4	38.2	40	40.8	41.6	42.4	43.2	50	50.8	g	± 5%
	open-loop	37.0	37.8	38.6	...	50.4	51.2	52	52.8	53.6	54.4	55.2		
holding force		3											N	
driving force		3											N	
actuator materials		anodized aluminum (housing) steel rod and stainless steel housing cover												
cable type		Closed loop version: FPC, 12 core, 0.5 mm pitch with same side contacts Open loop version: FPC, 14 core, 0.5 mm pitch with opposite side contacts												

		XLA-3						unit	tolerance
rod length		-225	-245	-265	-285	-305	-325	mm	± 0.1
dimensions	closed-loop	38 x 30 x 9.1						mm	± 0.1
	open-loop	38 x 30 x 12							
stroke / travel range		190	210	230	250	270	290	mm	± 0.1
mass	closed-loop	51.6	52.4	53	53.8	54.6	55.4	g	± 5%
	open-loop	56	56.8	57.6	58.4	59.2	60		
holding force		3						N	
driving force		3						N	
actuator materials		anodized aluminum (housing) steel rod and stainless steel housing cover							
cable type		Closed loop version: FPC, 12 core, 0.5 mm pitch with same side contacts Open loop version: FPC, 14 core, 0.5 mm pitch with opposite side contacts							

Controller/software

The XLA-3 **closed-loop** actuators are compatible with the **XD-A Controller**.

The XLA-3 **open-loop** actuators have a **built-in controller**.

Controlling of the stage is done with:

- Easy-to-use Windows interface
- LabVIEW interface program (compiled program or source)
- MATLAB interface script
- C++ and Python libraries

Drawing

