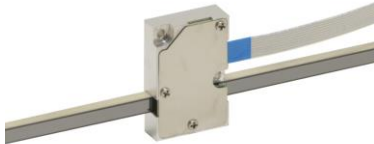


# XLA-1 Open-loop series

## Fast and compact linear actuator



The XLA open-loop micro linear actuators are world class in terms of weight and size. The actuator is driven by the Crossfixx™ ultrasonic piezo motor, allowing an extremely compact design, speeds of 200 mm/s and a total weight of less than 6 gram. Even better, the XLA-1 Open-loop has a built-in controller and is equipped with integrated (and adjustable) limit switches. Two cable positions are possible (top or side). A wide range of rod lengths is available, allowing stroke lengths from 5 mm to 185 mm! The XLA-1 Open-loop can also be delivered without the top cover, saving an extra 0.5 mm.

### Key features

drive principle	patented Crossfixx™ ultrasonic piezo technology
lifetime	> 100 km / 1 million cycles
control principle	open-loop
operating voltage	20 to 48 V
controller	integrated

### Model code structure

actuator type	rod length (mm)	encoder resolution	FPC cable outlet (flexible printed cable)
XLA-1	-20	no encoder (-OPEN)	top side (-T)
	-30		
	-40		
	-50		
	-60		
	-70		
	-80		right side (-R)
	-100		
	-120		
	-140		
	-160		
	-200		

Example: **XLA-1-40-OPEN-R**

- └ XLA-1 series linear actuator
- └ Rod length of 40 mm
- └ Open-loop with built-in controller
- └ Cable outlet to the right side (see drawing below for cable orientation convention).

## 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-1 Open-loop all rod lengths	unit	tolerance	
<b>LIMITS</b>	type	optical			
<b>ENCODER</b>	type	no encoder			
<b>ACTUATOR</b>	<b>positioning</b>	resolution = min. step size = min. incremental motion (MIM)	50 - 100 nm (pulsed operation)	nm	typ.
	<b>speed</b>	max. speed	400	mm/s	typ.
		min. speed	10	µm/s	typ.

## Mechanical properties

	XLA-1												unit	tolerance
rod length	-20	-30	-40	-50	-60	-70	-80	-100	-120	-140	-160	-200	mm	± 0.1
stator/housing dimensions	22.7 x 14.8 x 5.4 (4.9 without cover)												mm	± 0.1
stroke/ travel range	5	15	25	35	45	55	65	85	105	125	145	185	mm	± 0.1
mass	5.5	5.9	6.3	6.7	7.1	7.5	7.9	8.7	9.5	10.3	11.1	12.7	g	± 5%
holding force	1												N	min.
driving force	1												N	min.
actuator materials	anodised aluminium (housing) stainless steel (rod and housing cover)													
cable type	FPC, 8 core, 0.5 mm pitch with same side contacts													

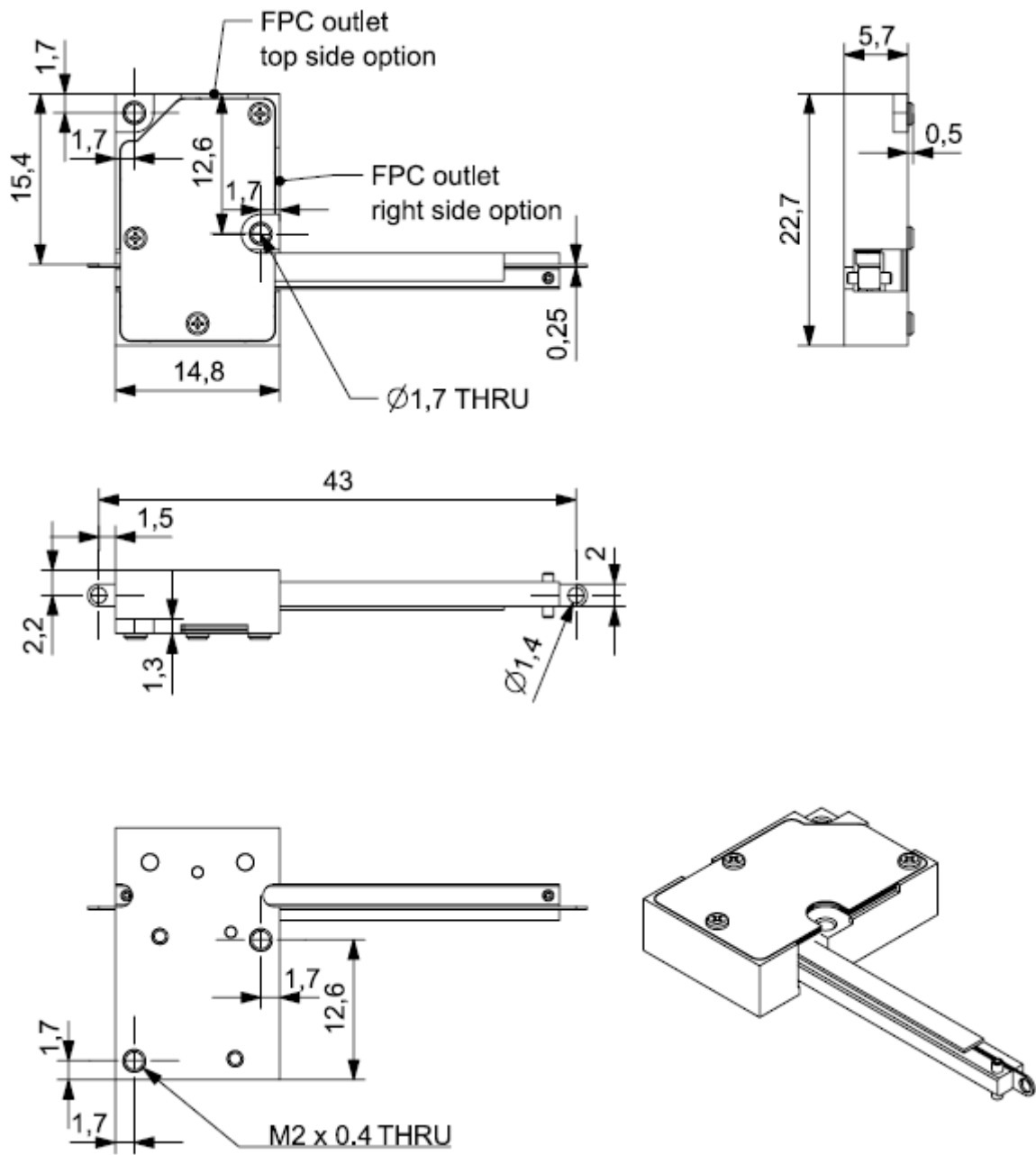
## Controller/software

In **open-loop configuration**, the XLA-1 series actuators come with an integrated controller.

This controller allows the user to:

- set the travel speed (analog input)
- adjust the travel direction (digital input)
- read the limit switches state (digital output)
- operate in pulsed mode to move in small steps (as small as 50 nm)
- set advanced parameters

Drawing



Last updated: 22/06/2020. All specifications are subject to change without prior notice.