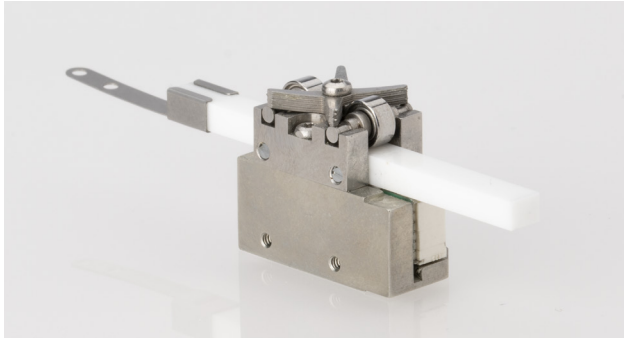




Piezo LEGS® LL10AD



Key features

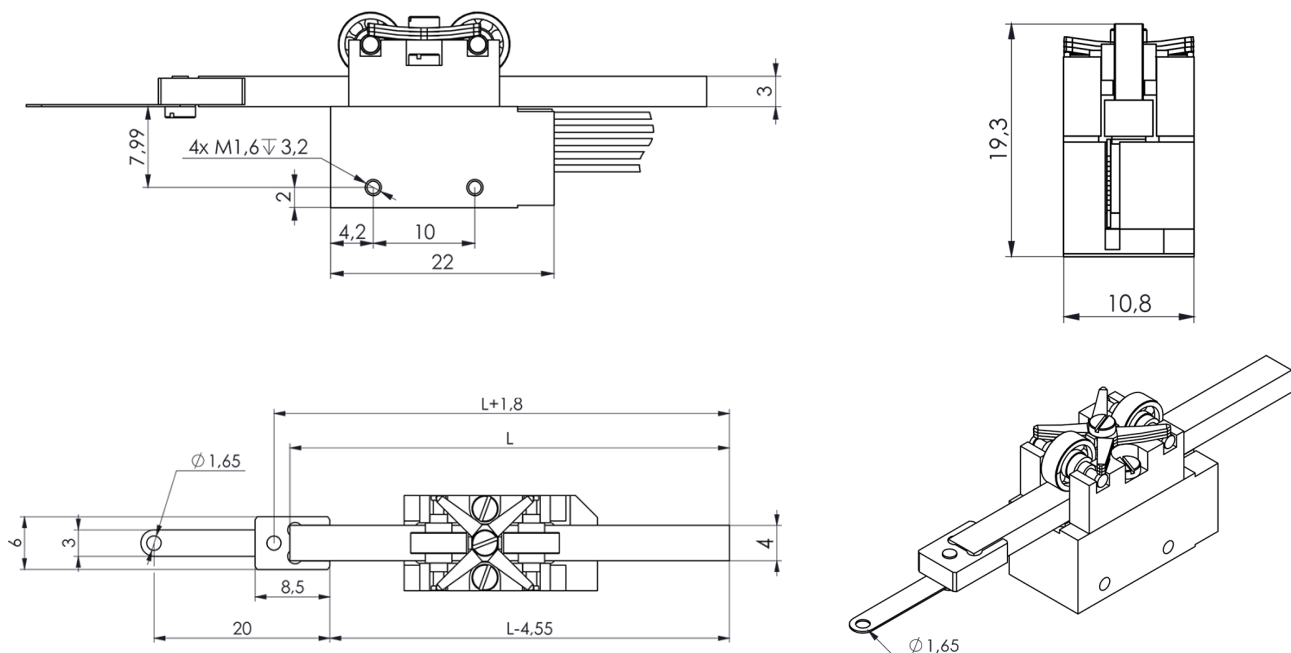
- Non-magnetic & vacuum versions
- 6.5 N force
- Sub nanometer precision
- Direct drive and no backlash
- No power draw in hold position
- Unparalleled size to force ratio

Product Description

The LL10D linear motor is designed to cater to a diverse range of OEM applications, with a specific focus on achieving precise positioning in environments that necessitate a completely non-magnetic and/or vacuum-compatible motor.

The direct drive principle of the Piezo LEGS ensures motion without any mechanical play or backlash. Sub-micrometer movement is effortlessly accomplished by this exceptionally compact and robust motor. It effectively replaces stepper motor assemblies when enhanced resolution and smooth linear movement are required.

Product Dimensions



SWEDEN
Stationsgatan 14
SE-753 40 Uppsala

USA
4215 Pleasant Rd
Fort Mill, SC 29708

JAPAN
Acuvi KK, Ark Mori Bldg
West wing 16th floor
1-12-32 Akasaka, Minato-ku Tokyo
107-6016 Japan

piezomotor.com



Piezo LEGS® LL10AD

Type	Normal (A)	Non-magnetic, vacuum (D)
Maximum stroke	74.5 mm	
Speed range @ Rhomb, no load, 20°C	1 nm/s – 15 mm/s (check driver)	
Step length, full step @ Delta, no load, 20°C	4.8 µm	
Maximum speed (driver and waveform dependent)	15 mm/s	
Max operating frequency (driver dependent)	3 kHz	
Movement resolution	<1 nm	
Stall force	6.5 N	
Holding force	>6.5 N	
Vacuum	No	Yes (10 ⁻⁷ torr)
Non-magnetic	No	Yes
Max operating voltage	48 V	
Power consumption	5 mW/Hz	
Mechanical size L x H x D	22 x 19.3 x 10.8	
Weight with 50 mm drive rod	23 g	
Material in motor housing	Stainless steel	Arcap (non-magnetic)
Operating temperature (recommended)	-20 to +70 °C	
Storage temperature	-20 to +70 °C	
Built in encoder	No	
Connector motor (motor side)	JST BM05B-SRSS-TB	Soldered cable w. JST 05SR-3S
Connector encoder (motor side)	N/A	
Control	Open loop or closed loop	
Lifetime (Cycles), [Room temp, 1ATM and Half Load]	2,5 X 10 ⁹ WFM-S*	
Index	N/A	
Max. acceleration	800 Hz/ms	

All specifications are subject to change without notice.

Controllers

PMD301

1-axis micro-step driver/controller - max 3 kHz,
RS485 or USB

PMD401

1-axis micro-step driver/controller - stackable PCB,
max 1.5 kHz, RS485 or SPI

Standard lengths of drive rods are 30, 40, 50, 60 and 101 mm, Other drive rod lengths between 30 and 100.8 mm can be made on request, at an extra charge.

*Wave Form Step

Starter Kit

PMD401 controller, motor cables, USB-to-RS485 cable, and power supply

Piezo Drive lab software downloadable from acuvi.com

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