



INSPIRE-ROBOTS

PRODUCT SELECTION GUIDE

Micro Linear Servo Actuator | The Dexterous Hands | Electric Gripper

Web: en.inspire-robots.com

E-mail: sales@inspire-robots.com

Phone: +86 13161665075

Address (Beijing): chuangxingongchang A3-4, NO.69, yangzhuang street, shijingshan District, Beijing, China.

Office (Shenzhen): Room 506, Building 1, Phase 1, Shenzhen Software Park, Nanshan District, Shenzhen, China.



MICRO LINEAR SERVO ACTUATOR



THE DEXTEROUS HANDS



ELECTRIC GRIPPER



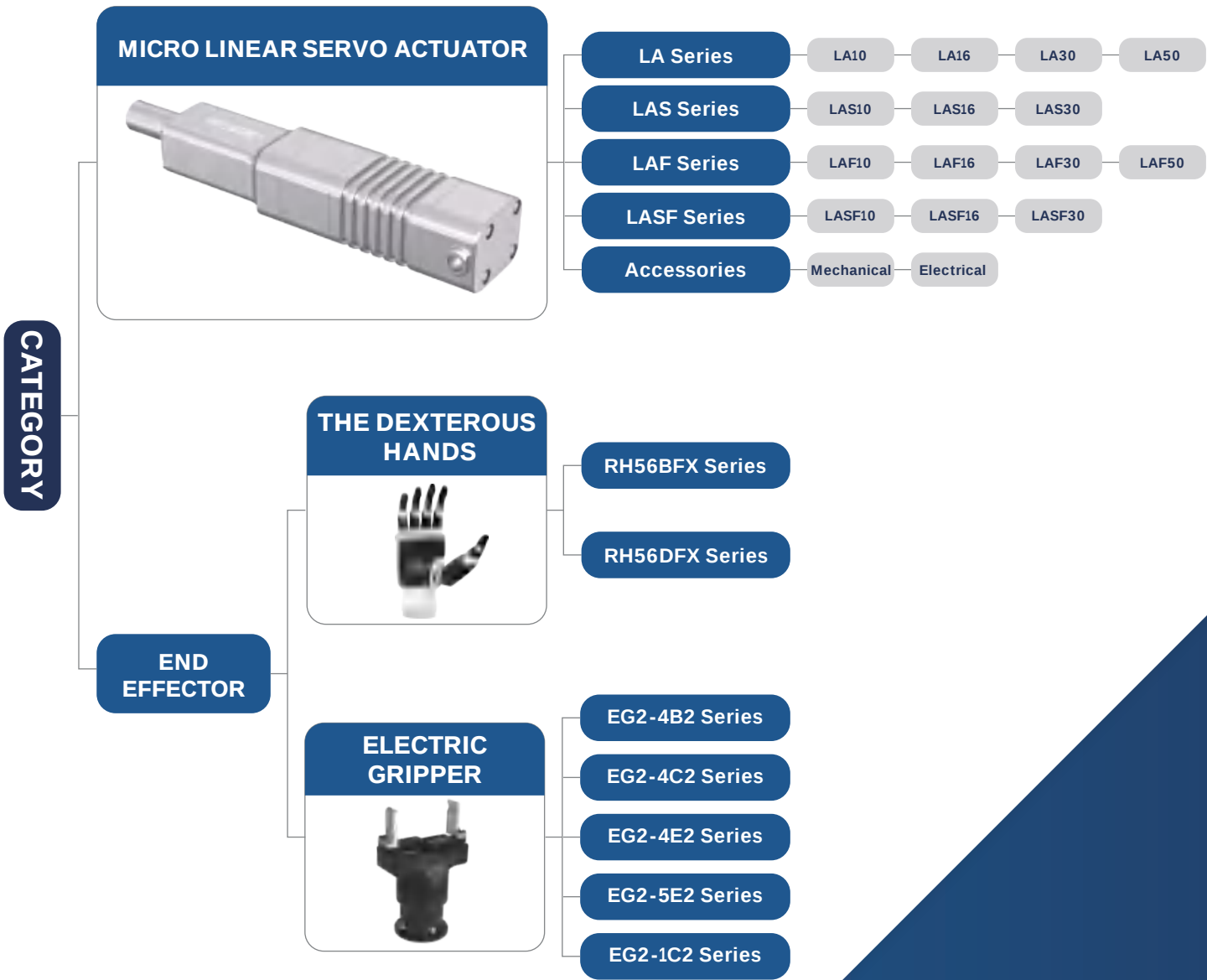
About Inspire Robots

Smaller and Higher-precision Motion Control Experts

Beijing Inspire-Robots Technology Co., Ltd., established in 2016, is an enterprise focused on the R&D of advanced, emergent technology, committed to providing high performance solutions for robotics, manufacturing, aesthetic medicine and biomedical device industries through the manufacture and development of compact, precise, and innovative moving components and motion control technology.

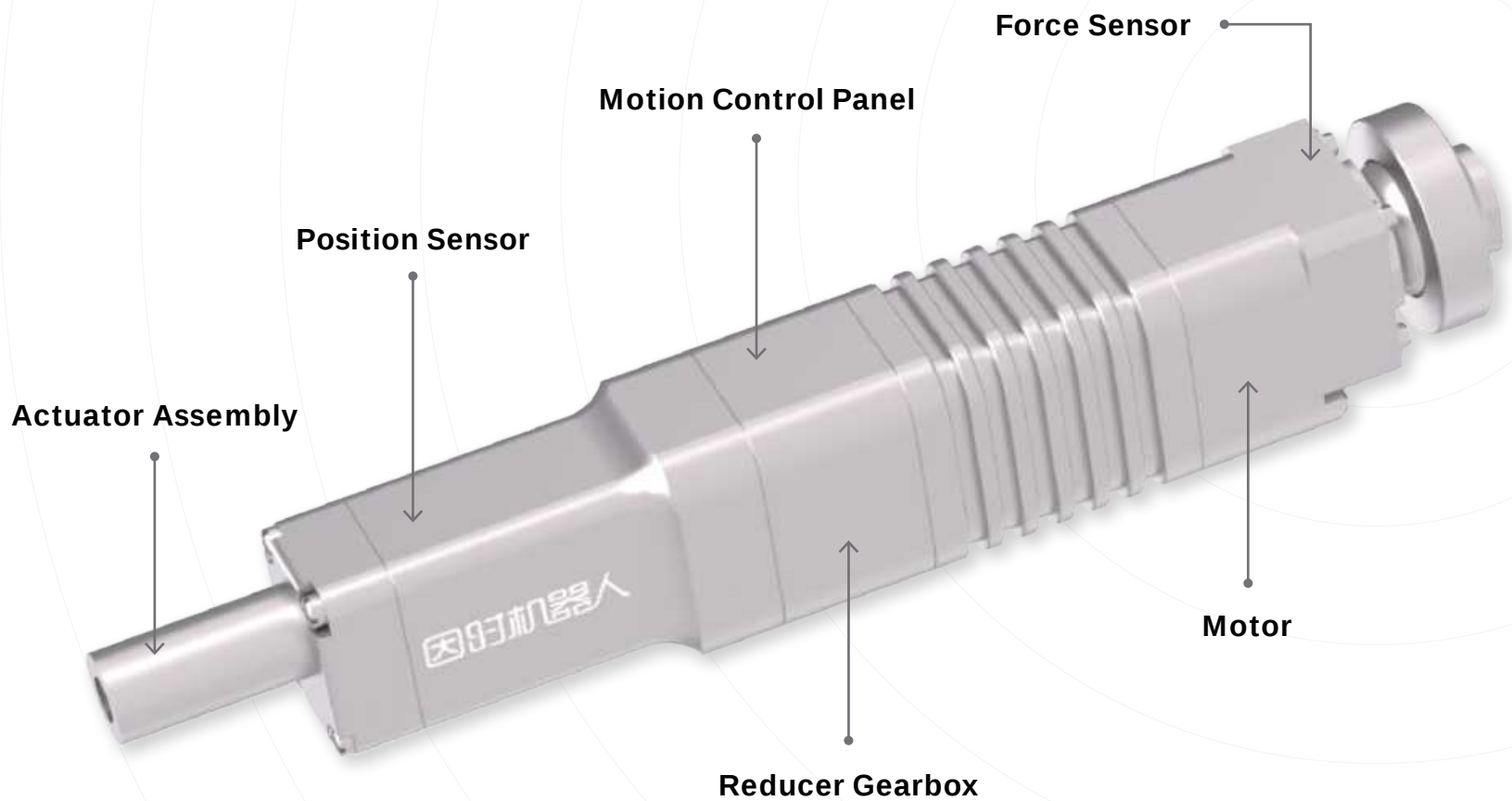
Products and Application

Inspire Robots products can meet the demand in the fields such as biomedical, precision manufacturing, aerospace, education and scientific research, with an emphasis in micro servo motion and precision force control.



Micro Linear Servo Actuator

Micro Linear Servo Actuator is a small integrated system combining core-less motor, precision planetary reducer, position sensor, precision screw mechanism and closed-loop control system in a single package. Its compact dimensions, large load capacity, and high precision at any point throughout its stroke range enables it to act as a core component in electromechanical systems such as robots, medical equipment, and industrial equipment. A built-in absolute position sensor enables the retention of position information even during a power loss, without the need for a reference point.



Controller Integrated

Force Control (Force Control Model)

Small Size

High Precision

High Power Density

APPLICATIONS



BIOMEDICAL INDUSTRY



Aesthetic Medicine Equipment



In-Vitro Diagnostics



Minimally Invasive Surgical Instrument



Surgical Robots



Rehabilitation Equipment



AEROSPACE INDUSTRY



Drones



Manned Aerial Vehicles



ENTERTAINMENT



Electronic Props



Bionic Robots



INDUSTRIAL AUTOMATION



3C Semiconductor Tooling Fixtures



Gripper



New Energy Field (Lithium Batteries)



Instrumentation (Testing Equipment)



Valve Control



Automotive Electronics (Assembly, Modification)



3D Printing



Optical Equipment



CONSUMER APPLIANCES



Electronic Lock



Electric Car



Home Automation (Lifting Table, Lifting Door, Lifting Window)



EDUCATION AND SCIENTIFIC RESEARCH

Micro Linear Servo Actuator

Series Introduction



LA Series

Tandem placement of motor and screw structure.

Advantages: Slender appearance, small cross-section, lightweight.



LAS Series

Parallel placement of motor and screw structure.

Advantages: Compact dimensions, lightweight.



LAF Series

Adding integrated force sensor on the LA series basis. Enabling real time push rod force detection and control.



LASF Series

Adding integrated force sensor on the LAS series basis. Enabling real time push rod force detection and control.

LA10 Series

Micro Linear Servo Actuator

Model Instruction

Series	Speed Level	Mechanical Interface	Electronic Interface	Model code
LA10	02	1	D	LA10-021D
Stroke	02 03 07 09	1-Standard Interface 2-Ear Interface 3-Octagonal Interface	D-LVTTL Serial port P-PWM Serial port	

Standard Parameters

Stroke	Weight	Operating Voltage	Repeatability	Operating Temperature Range	Quiescent Current	Peak Current	IP level
10mm	21g	DC8V±10%	±0.02mm	-10°C~+60°C	0.02A	2A	IP40

Speed Levels and Associated Parameters

Speed Level	Maximum Force	Locked-Rotor Force	Maximum Self-Locking Force	No-load Speed	Full Load Speed	No-Load Current
02	70N	100N	100N	18mm/s	8mm/s	0.2A
03	56N	80N	100N	36mm/s	16mm/s	0.24A
07	42N	60N	50N	50mm/s	21mm/s	0.5A
09	21N	30N	38N	70mm/s	36mm/s	0.5A



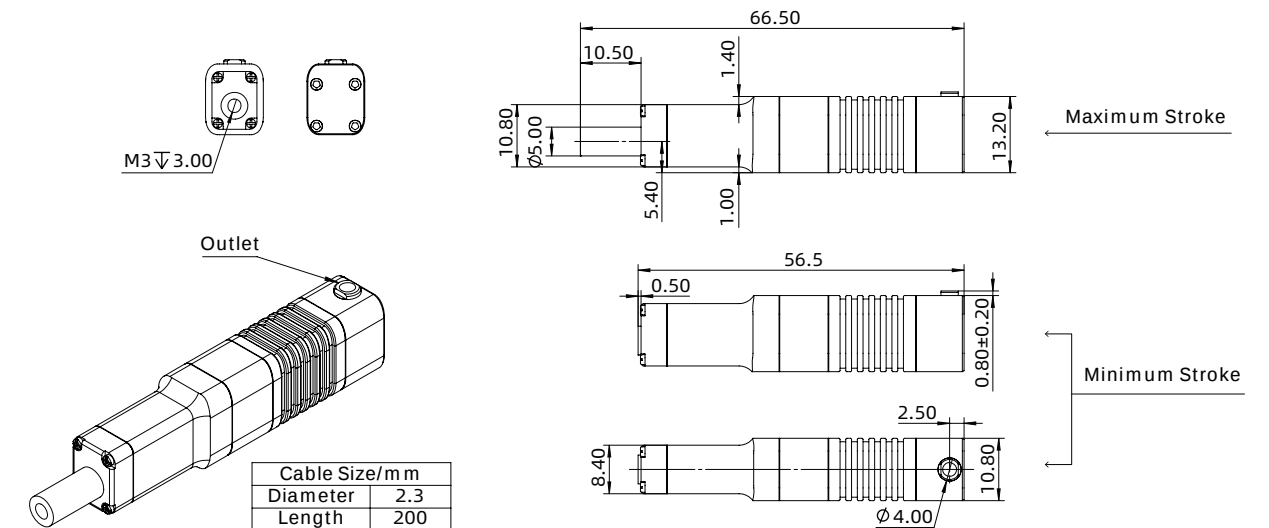
Standard Interface



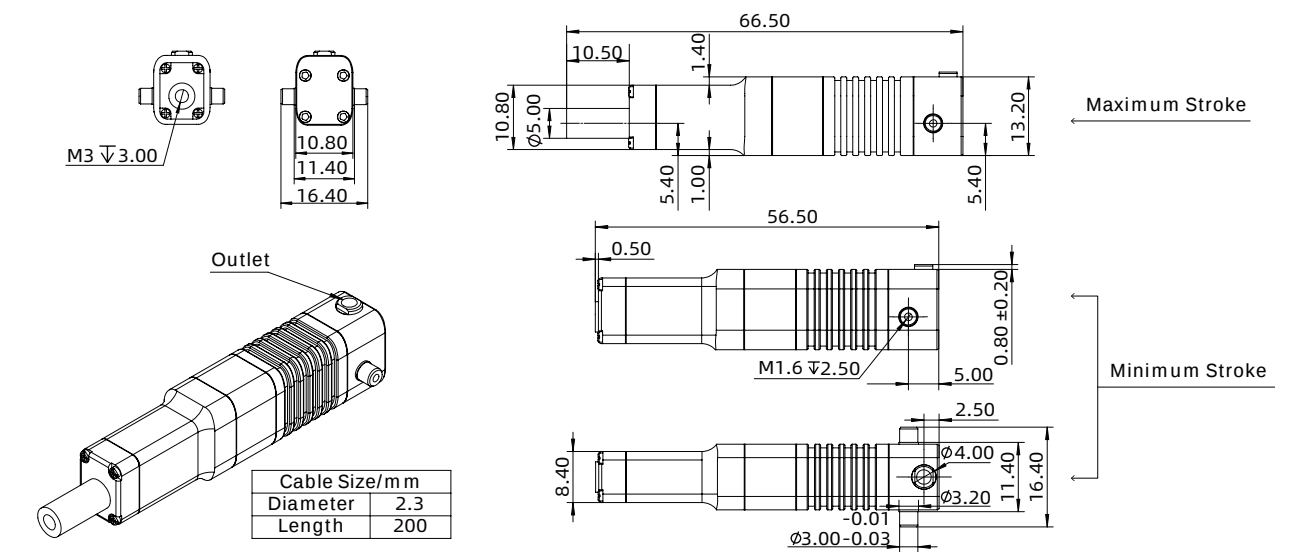
Ear Interface



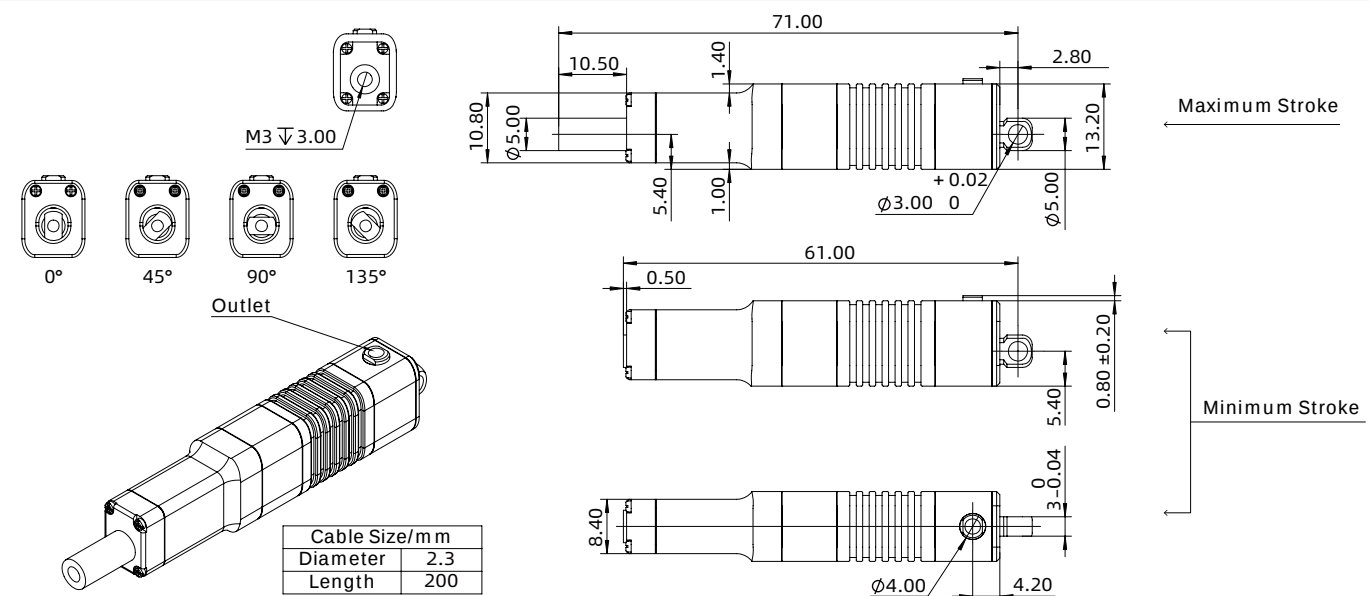
Octagonal Interface



Standard Interface



Ear Interface



Octagonal Interface

LA16 Series

Micro Linear Servo Actuator

Model Instruction

Series	Speed Level	Mechanical Interface	Electronic Interface	Model code
LA16	02	1	D	LA16-021D
Stroke	02 03 07 09	1-Standard Interface 2-Ear Interface 3-Octagonal Interface	D-LVTTL Serial port P-PWM Serial port	

Standard Parameters

Stroke	Weight	Operating Voltage	Repeatability	Operating Temperature Range	Quiescent Current	Peak Current	IP level
16mm	23g	DC8V±10%	±0.03mm	-10°C~+60°C	0.02A	2A	IP40

Speed Levels and Associated Parameters

Speed Level	Maximum Force	Locked-Rotor Force	Maximum Self-Locking Force	No-load Speed	Full Load Speed	No-Load Current
02	70N	100N	100N	18mm/s	8mm/s	0.2A
03	56N	80N	100N	36mm/s	16mm/s	0.24A
07	42N	60N	50N	50mm/s	21mm/s	0.5A
09	21N	30N	38N	70mm/s	36mm/s	0.5A



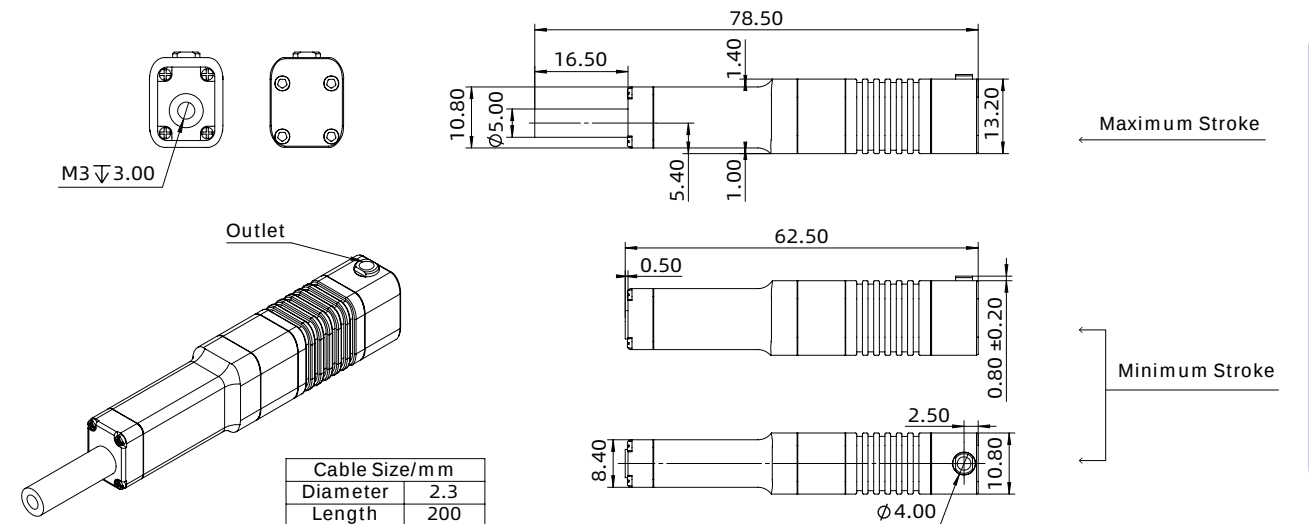
Standard Interface



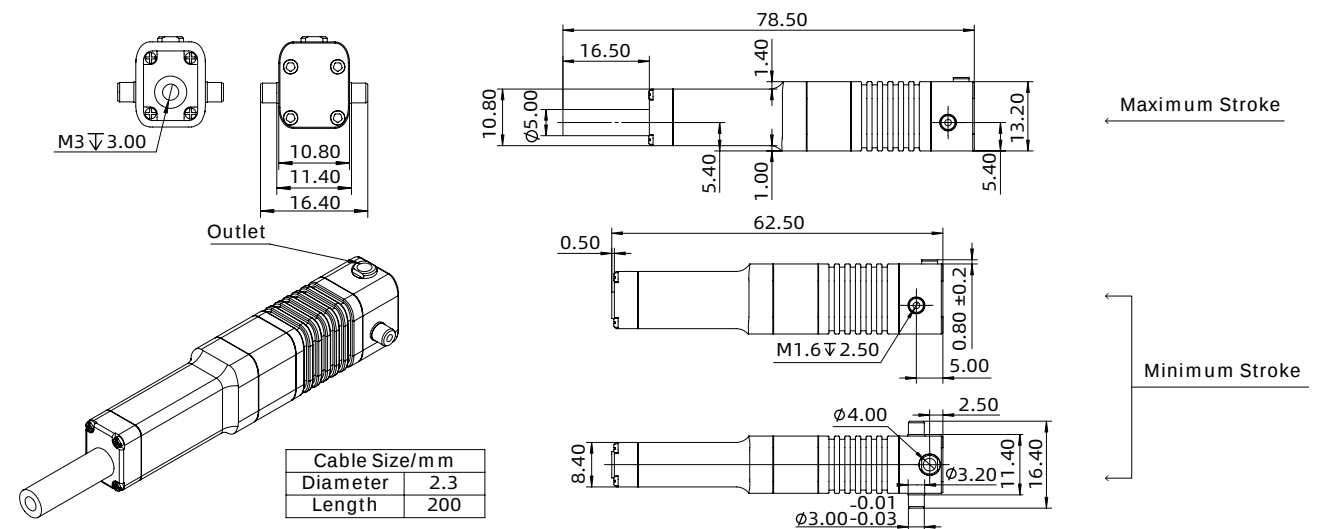
Ear Interface



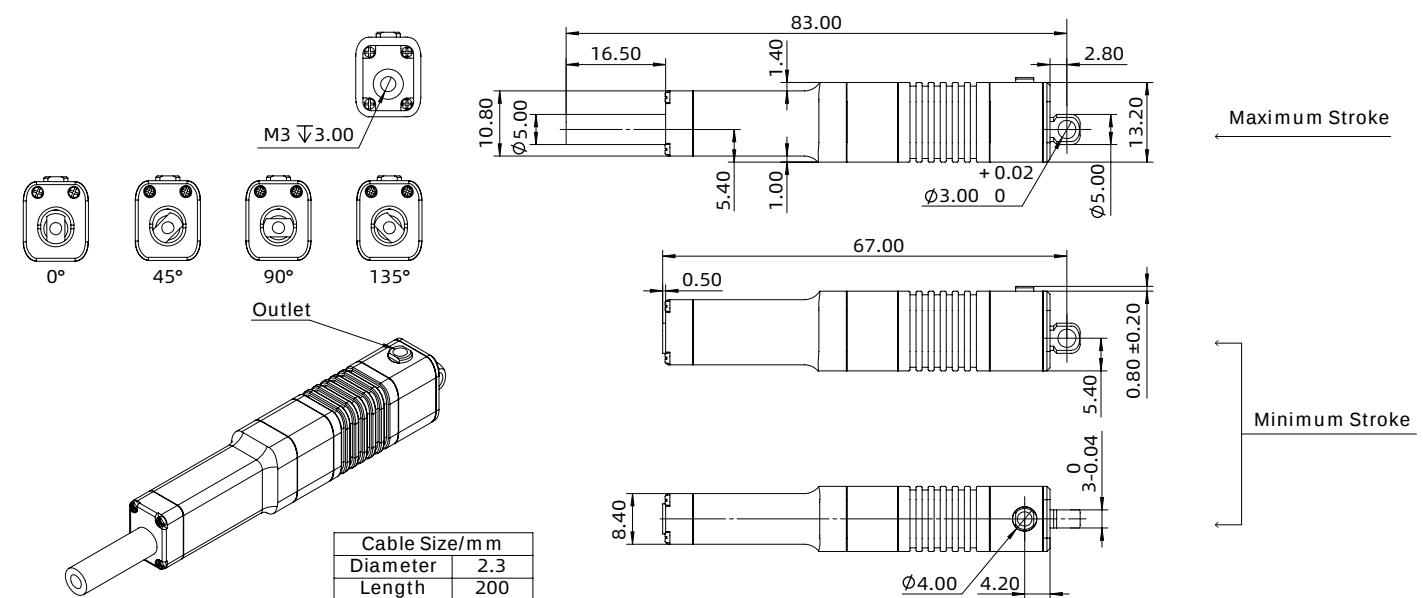
Octagonal Interface



Standard Interface



Ear Interface



Octagonal Interface

LA30 Series

Micro Linear Servo Actuator

Model Instruction

Series	Speed Level	Mechanical Interface	Electronic Interface	Model code
LA30	02	1	D	LA30-021D
Stroke	02	1-Standard Interface 2-Ear Interface 3-Octagonal Interface	D-LVTTL Serial port P-PWM Serial port	

Standard Parameters

Stroke	Weight	Operating Voltage	Repeatability	Operating Temperature Range	Quiescent Current	Peak Current	IP level
30mm	30g	DC8V±10%	±0.06mm	-10°C~+60°C	0.02A	2A	IP40

Speed Levels and Associated Parameters

Speed Level	Maximum Force	Locked-Rotor Force	Maximum Self-Locking Force	No-load Speed	Full Load Speed	No-Load Current
02	50N	80N	80N	17mm/s	8mm/s	0.3A



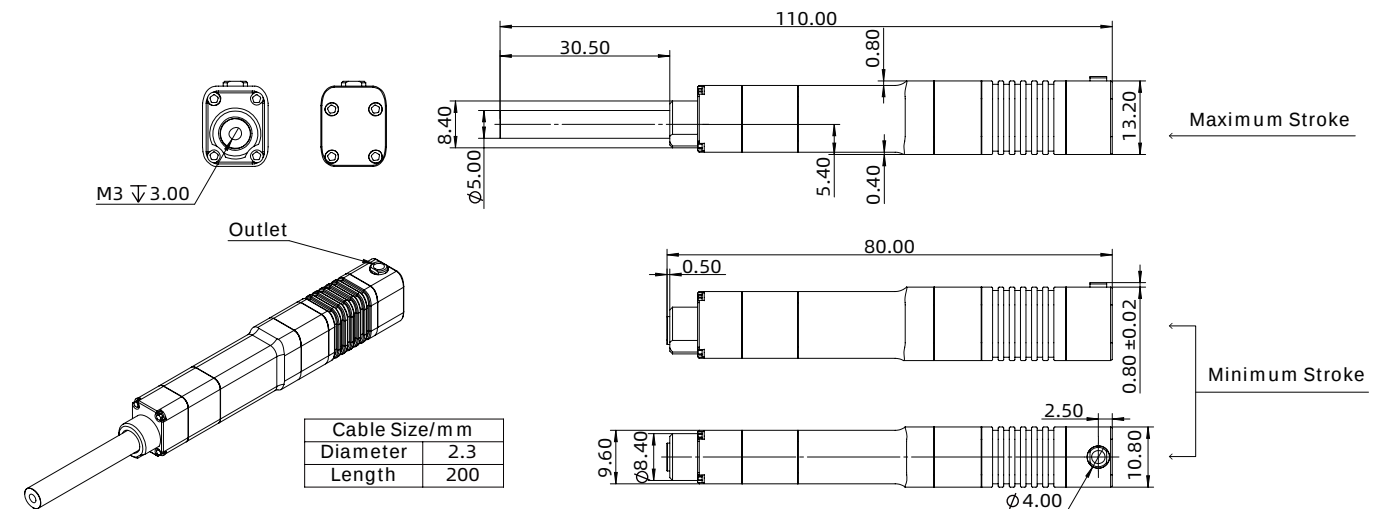
Standard Interface



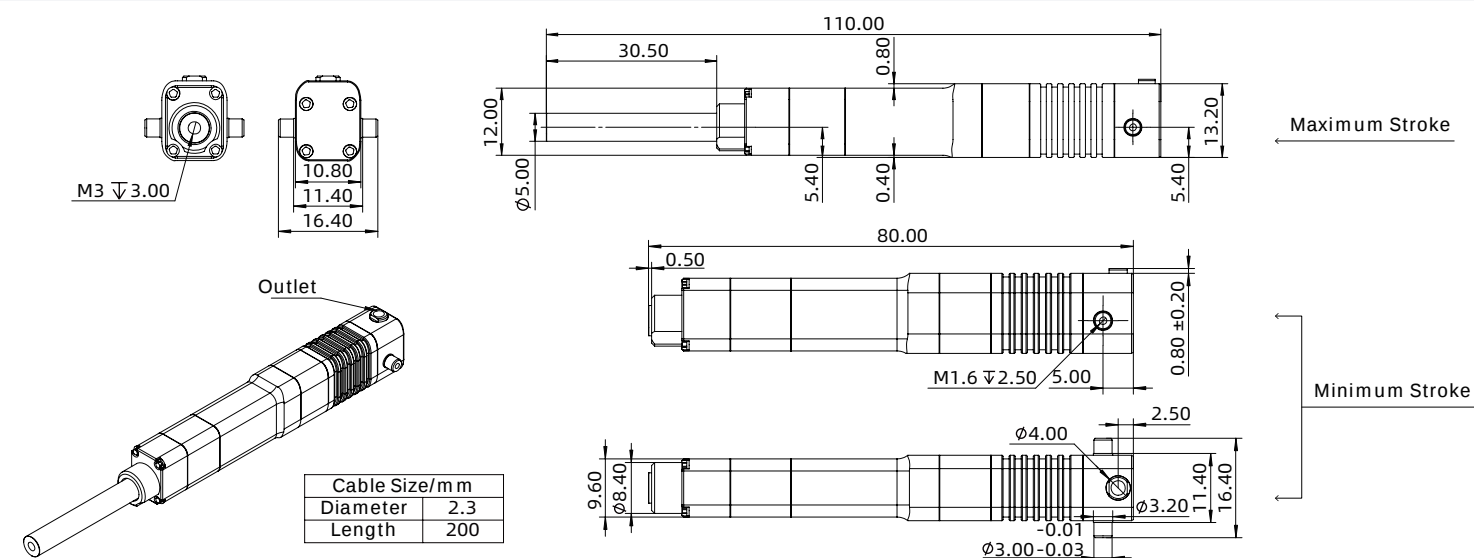
Ear Interface



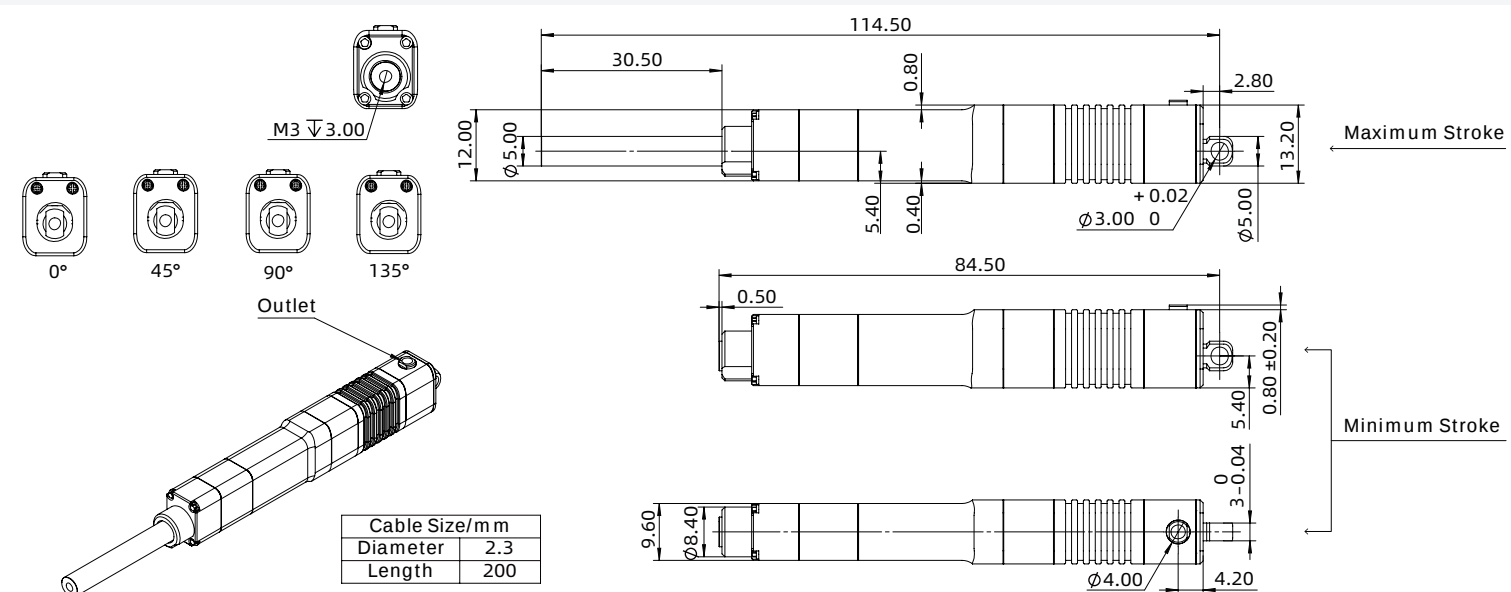
Octagonal Interface



Standard Interface



Ear Interface



Octagonal Interface

LA50 Series

Micro Linear Servo Actuator

Model Instruction

Series	Speed Level	Mechanical Interface	Electronic Interface	Model code
LA50	02	1	D	LA50-021D
Stroke	02	1-Standard Interface 2-Ear Interface 3-Octagonal Interface	D-LVTTL Serial port P-PWM Serial port	

Standard Parameters

Stroke	Weight	Operating Voltage	Repeatability	Operating Temperature Range	Quiescent Current	Peak Current	IP level
50mm	42g	DC8V±10%	±0.1mm	-10°C~+60°C	0.02A	2A	IP40

Speed Levels and Associated Parameters

Speed Level	Maximum Force	Locked-Rotor Force	Maximum Self-Locking Force	No-load Speed	Full Load Speed	No-Load Current
02	50N	80N	80N	17mm/s	8mm/s	0.3A



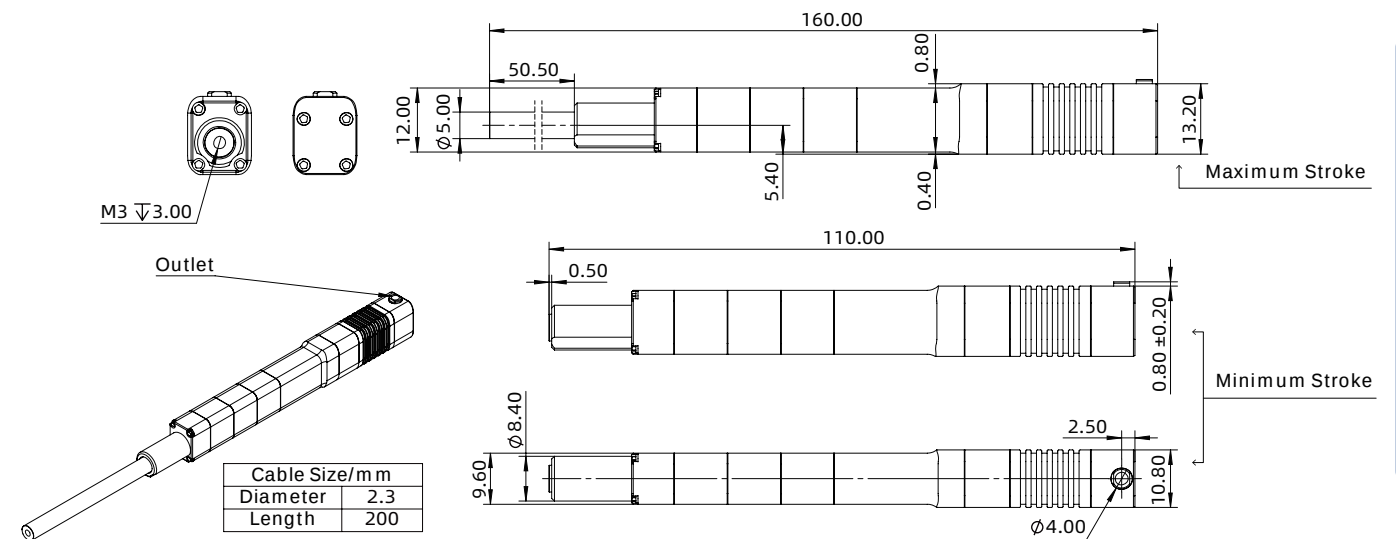
Standard Interface



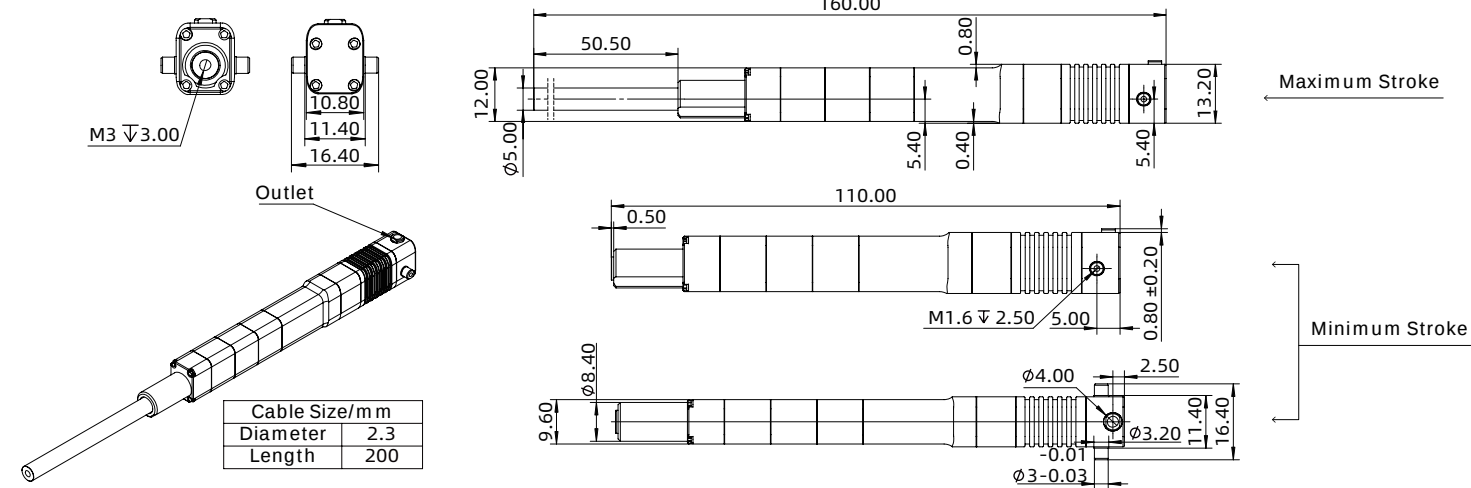
Ear Interface



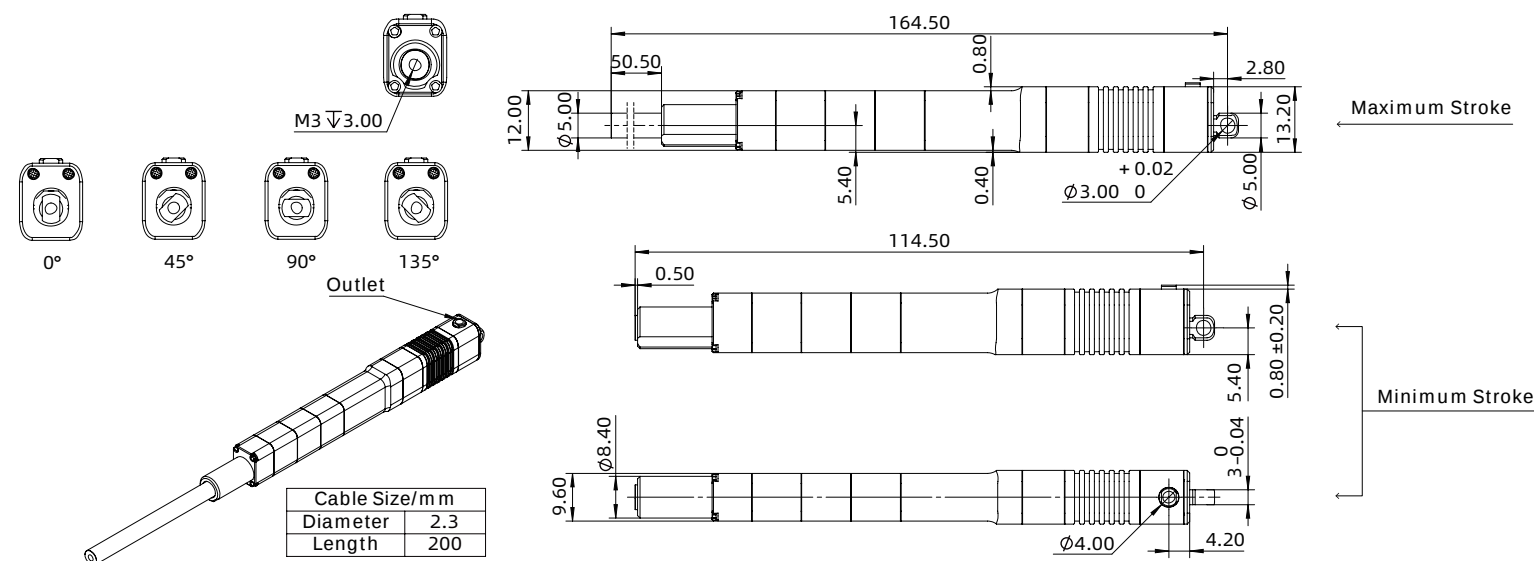
Octagonal Interface



Standard Interface



Ear Interface



Octagonal Interface

LAS16 Series

Micro Linear Servo Actuator

Model Instruction

Series	Speed Level	Mechanical Interface	Electronic Interface	Model code
LAS16	02	1	D	LAS16-021D
Stroke	02	1-Standard Interface	D-LVTTL Serial port	
	03	3-Octagonal Interface	P-PWM Serial port	
	06			
	08			
	10			

Standard Parameters

Stroke	Weight	Operating Voltage	Repeatability	Operating Temperature Range	Quiescent Current	Peak Current	IP level
16mm	27g	DC8V±10%	±0.03mm	-10°C~+60°C	0.02A	2A	IP40

Speed Levels and Associated Parameters

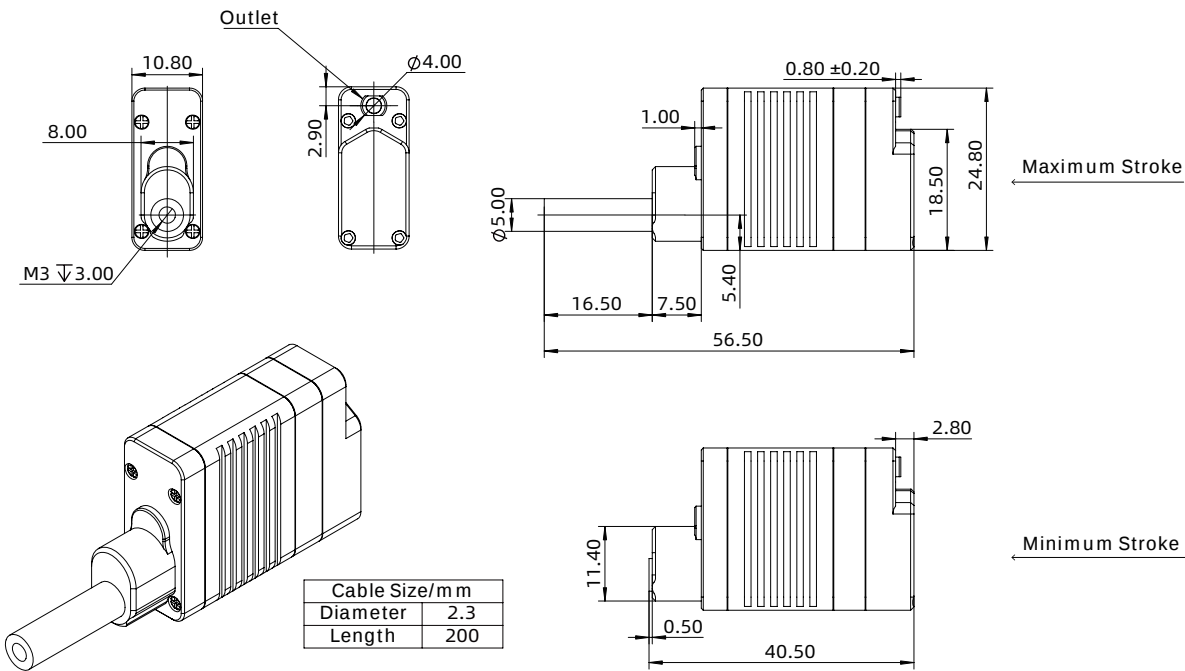
Speed Level	Maximum Force	Locked-Rotor Force	Maximum Self-Locking Force	No-load Speed	Full Load Speed	No-Load Current
02	105N	150N	150N	13mm/s	4mm/s	0.2A
03	56N	80N	150N	26mm/s	12mm/s	0.24A
06	49N	70N	50N	38mm/s	18mm/s	0.5A
08	35N	50N	38N	53mm/s	27mm/s	0.5A
10	31.5N	45N	30N	62mm/s	39mm/s	0.5A



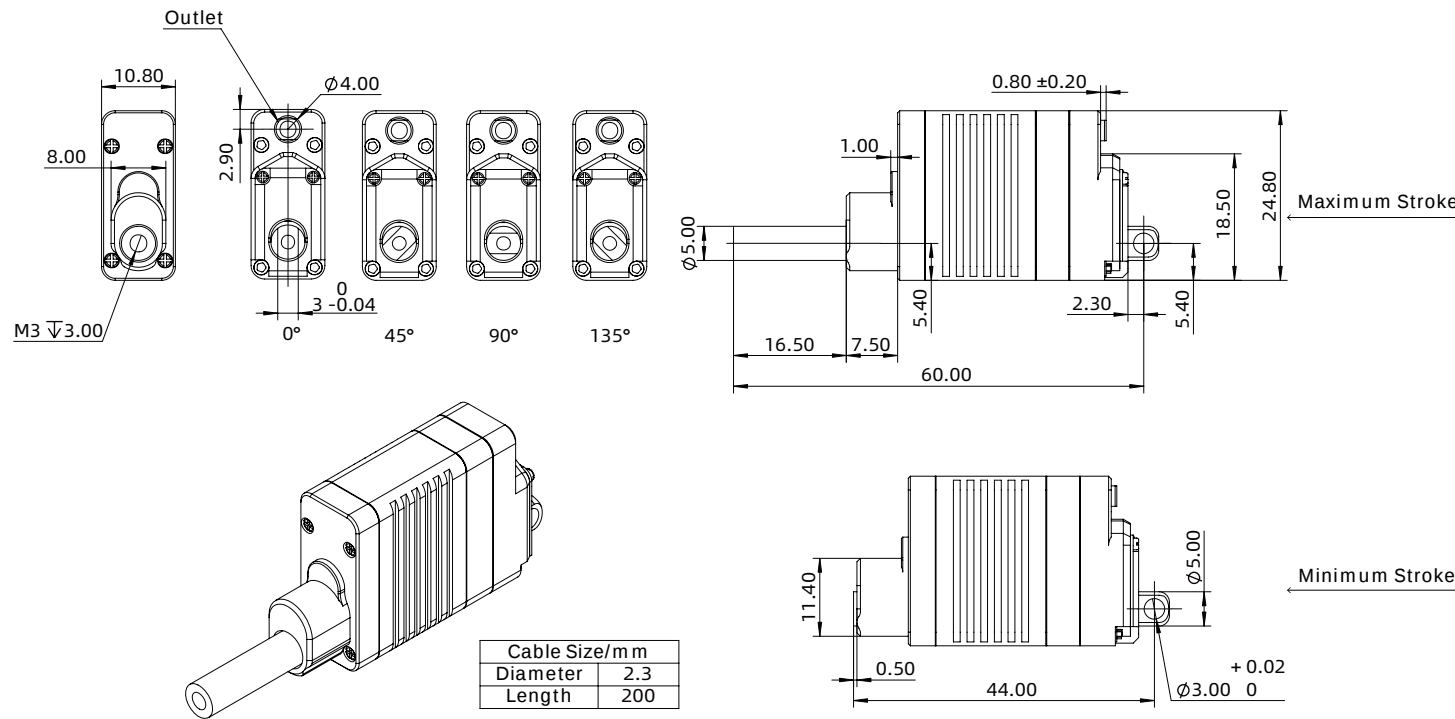
Standard Interface



Octagonal Interface



Standard Interface



Octagonal Interface

LAS30 Series

Micro Linear Servo Actuator

Model Instruction

Series	Speed Level	Mechanical Interface	Electronic Interface	Model code
LAS30	02	1	D	LAS30-021D
Stroke	02	1-Standard Interface 3-Octagonal Interface	D-LVTTL Serial port P-PWM Serial port	

Standard Parameters

Stroke	Weight	Operating Voltage	Repeatability	Operating Temperature Range	Quiescent Current	Peak Current	IP level
30mm	35g	DC8V±10%	±0.06mm	-10°C~+60°C	0.02A	2A	IP40

Speed Levels and Associated Parameters

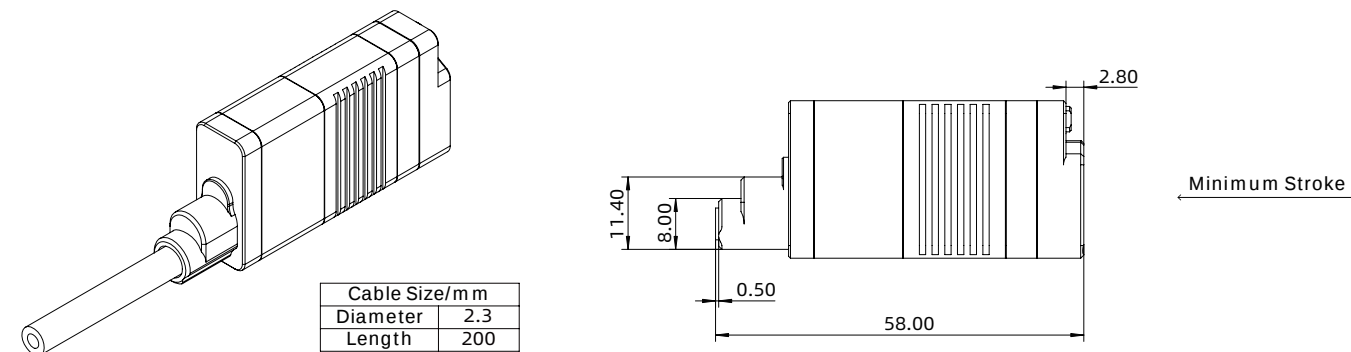
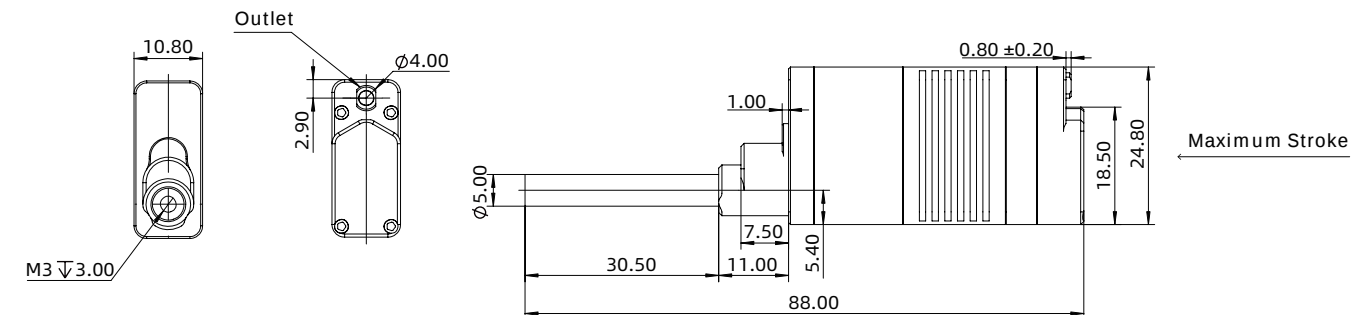
Speed Level	Maximum Force	Locked-Rotor Force	Maximum Self-Locking Force	No-load Speed	Full Load Speed	No-Load Current
02	80N	110N	110N	13mm/s	6mm/s	0.3A



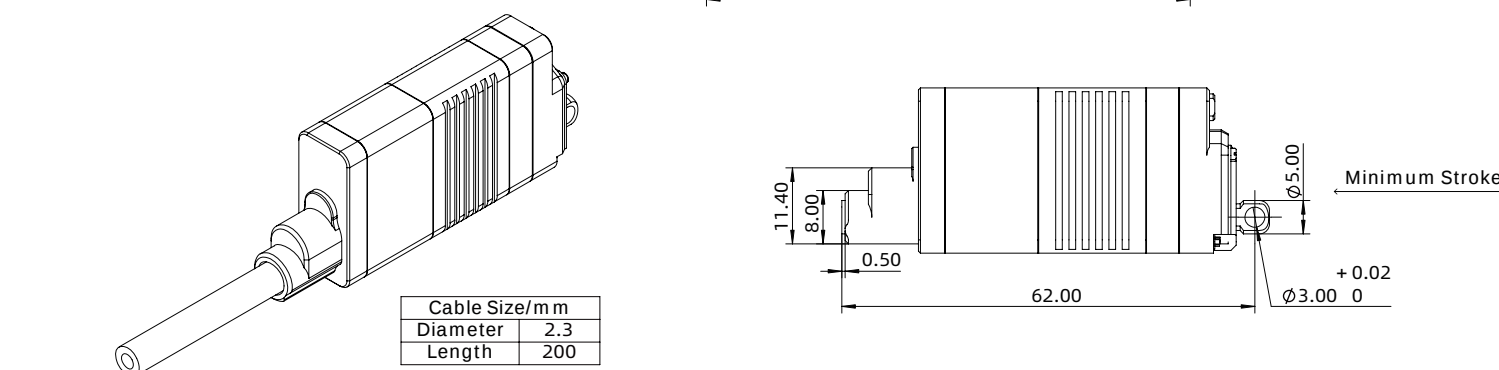
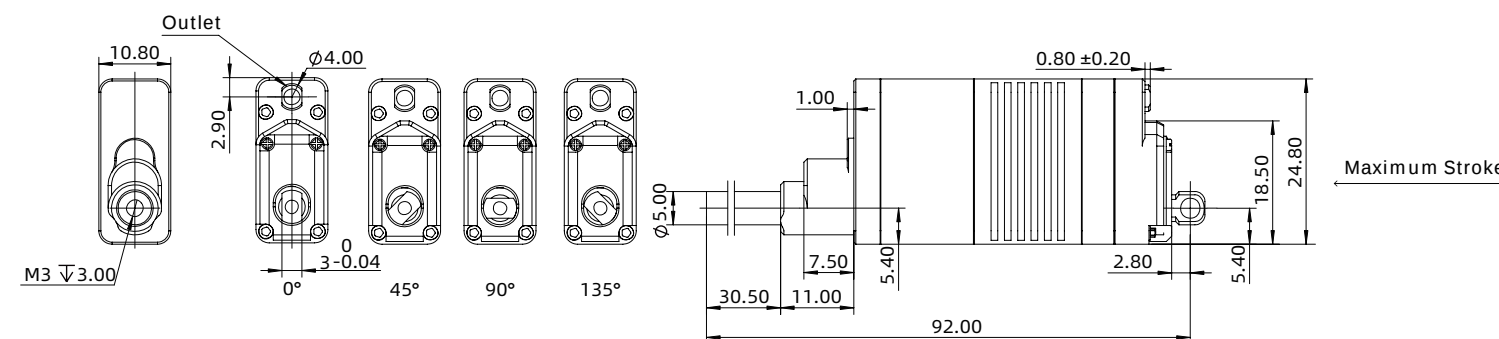
Standard Interface



Octagonal Interface



Standard Interface



Octagonal Interface

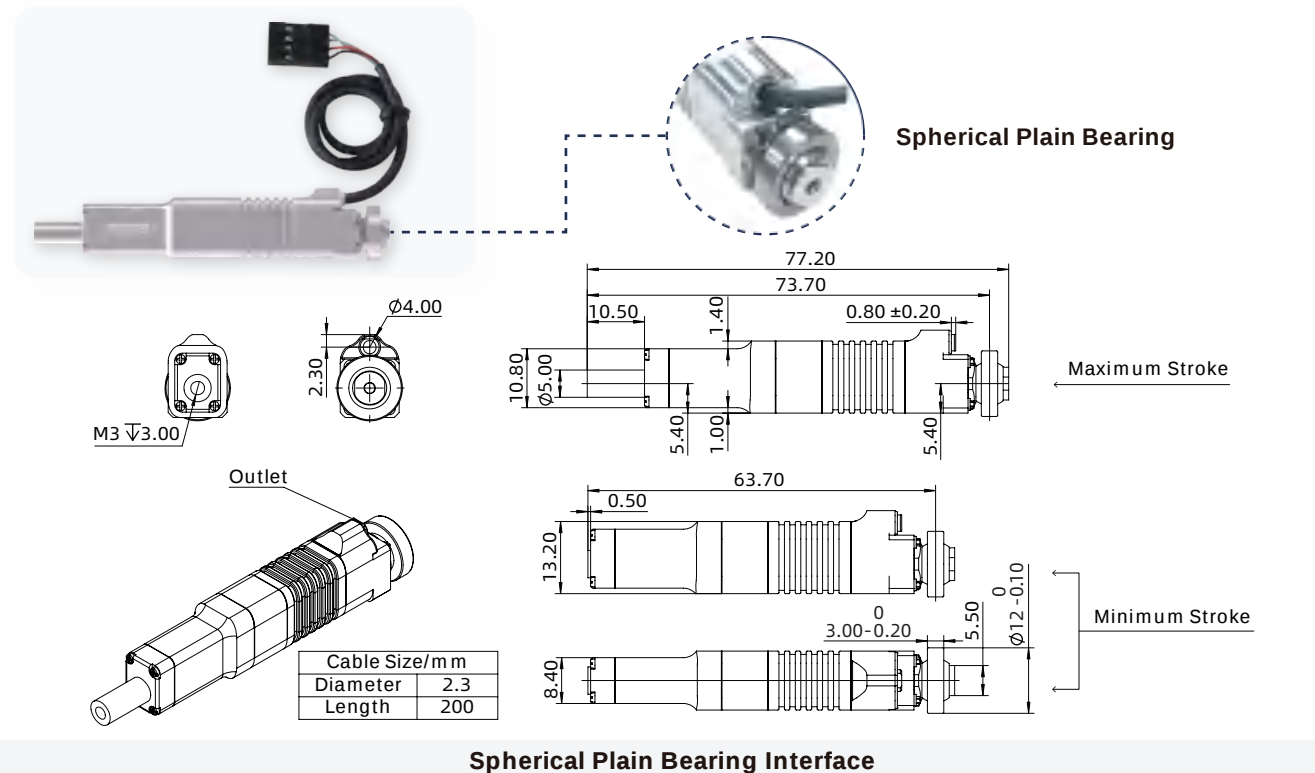
LAF10 Series

Micro Linear Servo Actuator

Model Instruction				
Series	Speed Level	Mechanical Interface	Electronic Interface	Model code
LAF10	02	4	D	LAF10-024D
Stroke	02 03 07 09	4-Spherical Plain Bearing	D-LVTTL Serial port	

Standard Parameters									
Stroke	Weight	Operating Voltage	Repeatability	Operating Temperature Range	Quiescent Current	Peak Current	Force Sensor Detection Range	Force Sensor Resolution	IP level
10mm	29g	DC8V±10%	±0.02mm	-10°C~+60°C	0.05A	2A	-100N~+100N	1N	IP40

Speed Levels and Associated Parameters						
Speed Level	Maximum Force	Locked-Rotor Force	Maximum Self-Locking Force	No-load Speed	Full Load Speed	No-Load Current
02	70N	100N	100N	18mm/s	8mm/s	0.23A
03	56N	80N	100N	36mm/s	16mm/s	0.27A
07	42N	60N	50N	50mm/s	21mm/s	0.53A
09	21N	30N	38N	70mm/s	36mm/s	0.53A



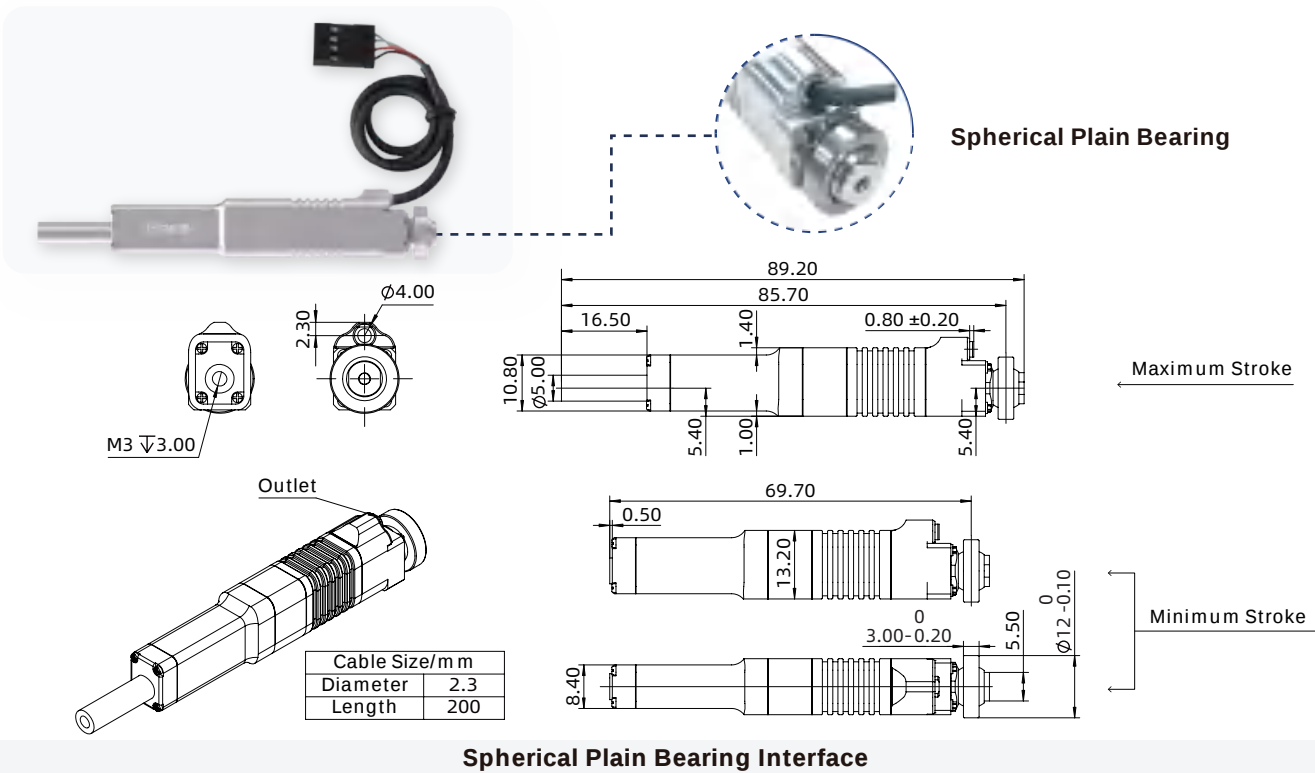
LAF16 Series

Micro Linear Servo Actuator

Model Instruction				
Series	Speed Level	Mechanical Interface	Electronic Interface	Model code
LAF16	02	4	D	LAF16-024D
Stroke	02 03 07 09	4-Spherical Plain Bearing	D-LVTTL Serial port	

Standard Parameters									
Stroke	Weight	Operating Voltage	Repeatability	Operating Temperature Range	Quiescent Current	Peak Current	Force Sensor Detection Range	Force Sensor Resolution	IP level
16mm	33g	DC8V±10%	±0.03mm	-10°C~+60°C	0.05A	2A	-100N~+100N	1N	IP40

Speed Levels and Associated Parameters						
Speed Level	Maximum Force	Locked-Rotor Force	Maximum Self-Locking Force	No-load Speed	Full Load Speed	No-Load Current
02	70N	100N	100N	18mm/s	8mm/s	0.23A
03	56N	80N	100N	36mm/s	16mm/s	0.27A
07	42N	60N	50N	50mm/s	21mm/s	0.53A
09	21N	30N	38N	70mm/s	36mm/s	0.53A



LAF30 Series

Micro Linear Servo Actuator

Model Instruction

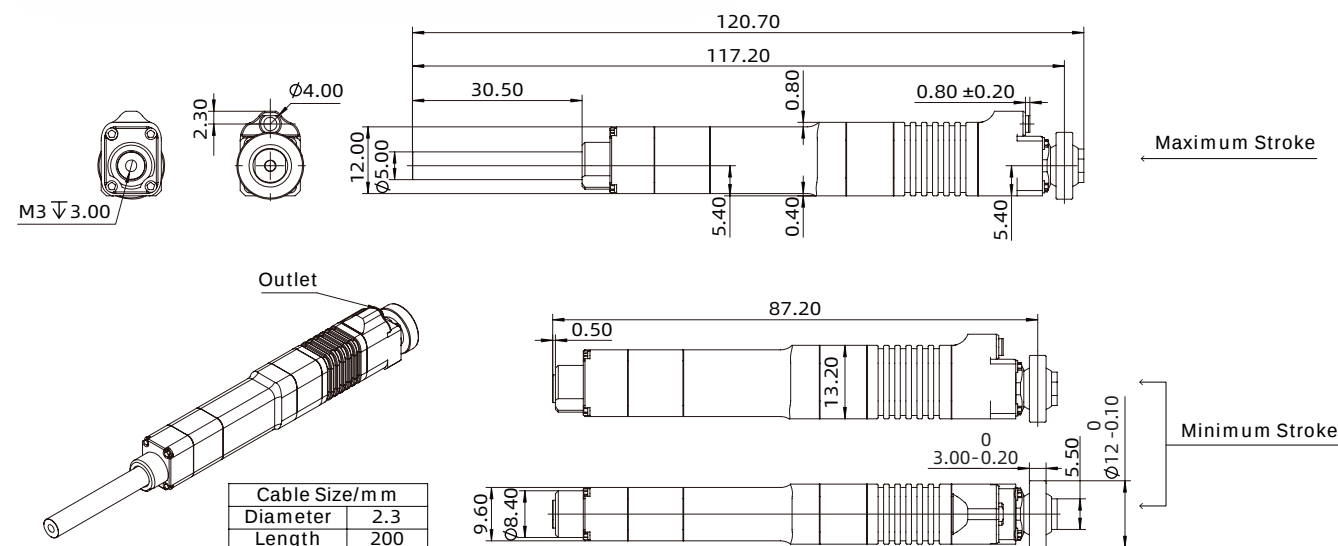
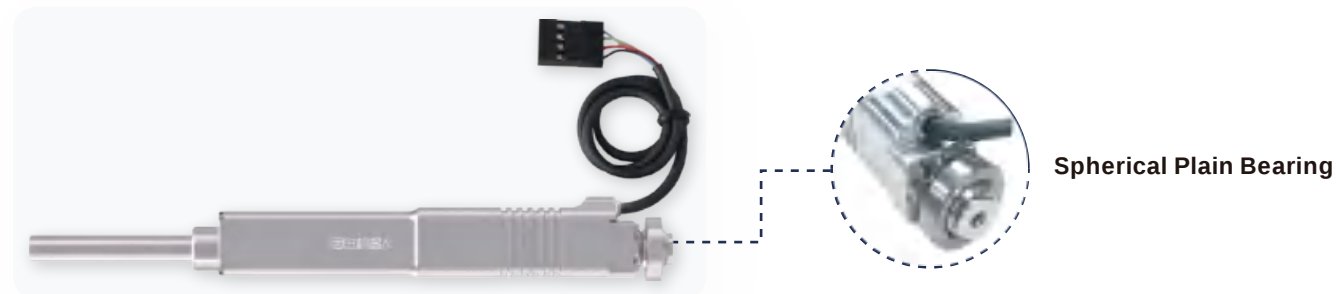
Series	Speed Level	Mechanical Interface	Electronic Interface	Model code
LAF30	02	4	D	LAF30-024D
Stroke	02	4-Spherical Plain Bearing	D-LVTTL Serial port	

Standard Parameters

Stroke	Weight	Operating Voltage	Repeatability	Operating Temperature Range	Quiescent Current	Peak Current	Force Sensor Detection Range	Force Sensor Resolution	IP level
30mm	38g	DC8V±10%	±0.06mm	-10°C~+60°C	0.05A	2A	-100N~+100N	1N	IP40

Speed Levels and Associated Parameters

Speed Level	Maximum Force	Locked-Rotor Force	Maximum Self-Locking Force	No-load Speed	Full Load Speed	No-Load Current
02	50N	80N	80N	17mm/s	8mm/s	0.3A



Spherical Plain Bearing Interface

LAF50 Series

Micro Linear Servo Actuator

Model Instruction

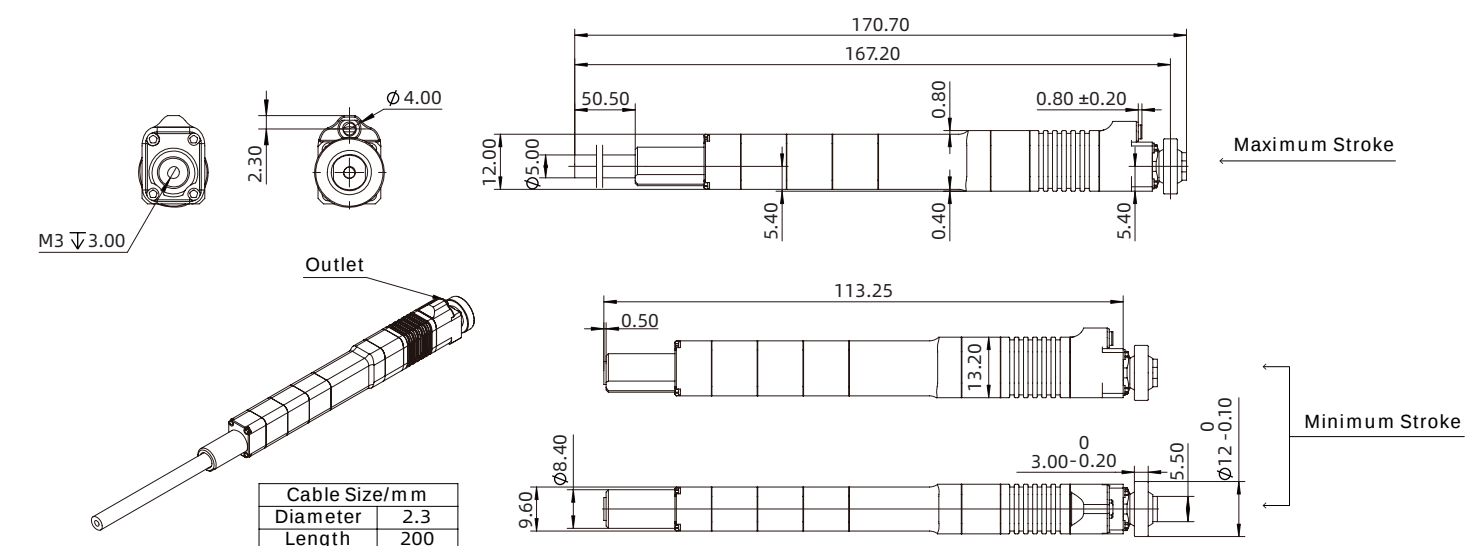
Series	Speed Level	Mechanical Interface	Electronic Interface	Model code
LAF50	02	4	D	LAF50-024D
Stroke	02	4-Spherical Plain Bearing	D-LVTTL Serial port	

Standard Parameters

Stroke	Weight	Operating Voltage	Repeatability	Operating Temperature Range	Quiescent Current	Peak Current	Force Sensor Detection Range	Force Sensor Resolution	IP level
50mm	50g	DC8V±10%	±0.1mm	-10°C~+60°C	0.05A	2A	-100N~+100N	1N	IP40

Speed Levels and Associated Parameters

Speed Level	Maximum Force	Locked-Rotor Force	Maximum Self-Locking Force	No-load Speed	Full Load Speed	No-Load Current
02	50N	80N	80N	17mm/s	8mm/s	0.3A



Spherical Plain Bearing Interface

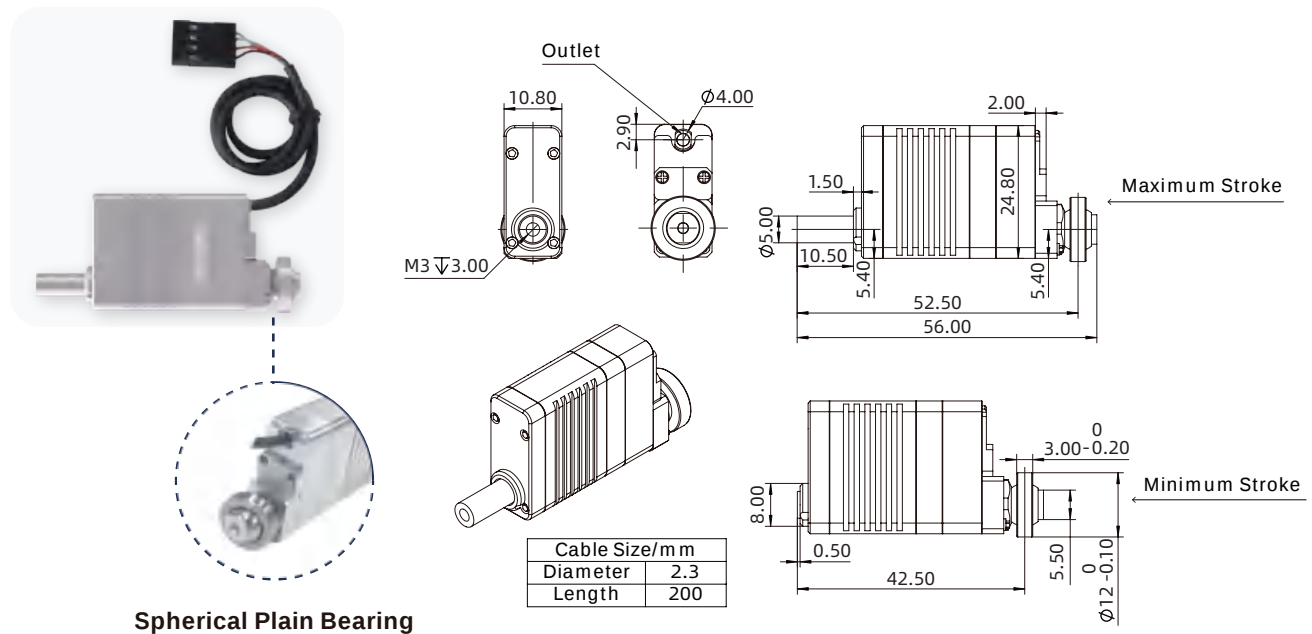
LASF10 Series

Micro Linear Servo Actuator

Model Instruction				
Series	Speed Level	Mechanical Interface	Electronic Interface	Model code
LASF10	02	4	D	LASF10-024D
Stroke	02 03 06 08 10	4-Spherical Plain Bearing	D-LVTTL Serial port	

Standard Parameters									
Stroke	Weight	Operating Voltage	Repeatability	Operating Temperature Range	Quiescent Current	Peak Current	Force Sensor Detection Range	Force Sensor Resolution	IP level
10mm	32g	DC8V±10%	±0.02mm	-10°C~+60°C	0.05A	2A	-100N~+100N	1N	IP40

Speed Levels and Associated Parameters						
Speed Level	Maximum Force	Locked-Rotor Force	Maximum Self-Locking Force	No-load Speed	Full Load Speed	No-Load Current
02	105N	150N	150N	13mm/s	4mm/s	0.53A
03	56N	80N	150N	26mm/s	12mm/s	0.63A
06	49N	70N	50N	38mm/s	18mm/s	0.73A
08	35N	50N	38N	53mm/s	27mm/s	0.73A
10	31.5N	45N	30N	62mm/s	39mm/s	0.73A



Spherical Plain Bearing Interface

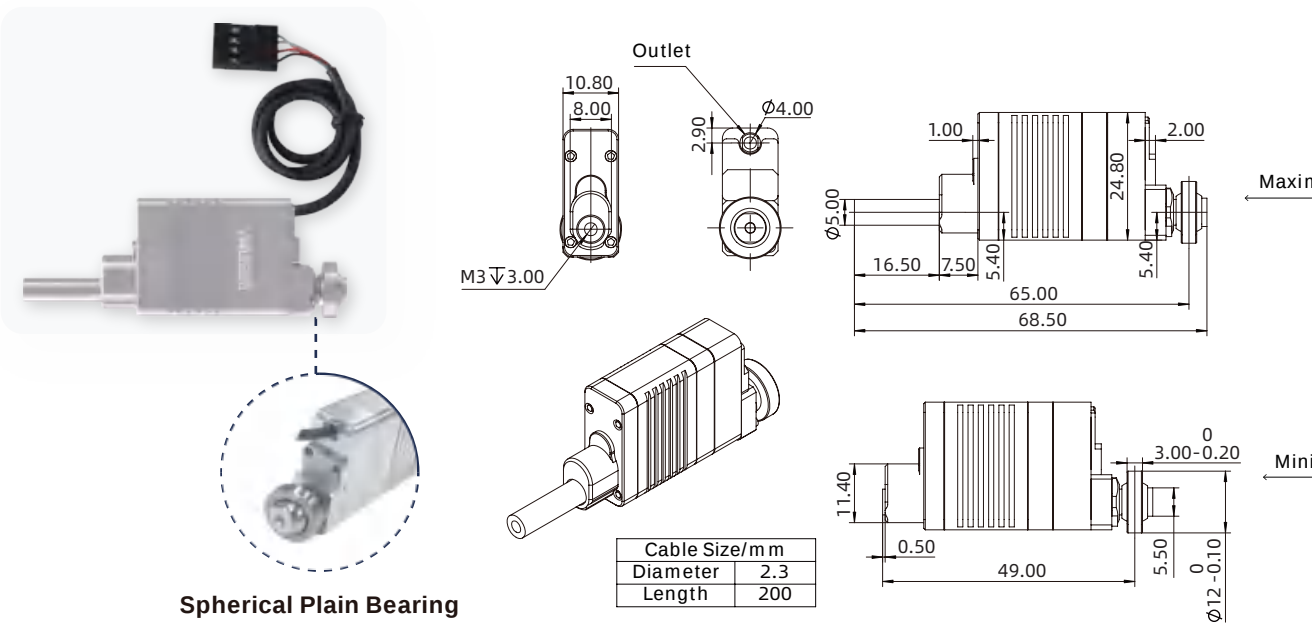
LAFS16 Series

Micro Linear Servo Actuator

Model Instruction				
Series	Speed Level	Mechanical Interface	Electronic Interface	Model code
LASF16	02	4	D	LASF16-024D
Stroke	02 03 06 08 10	4-Spherical Plain Bearing	D-LVTTL Serial port	

Standard Parameters									
Stroke	Weight	Operating Voltage	Repeatability	Operating Temperature Range	Quiescent Current	Peak Current	Force Sensor Detection Range	Force Sensor Resolution	IP level
16mm	36g	DC8V±10%	±0.03mm	-10°C~+60°C	0.05A	2A	-100N~+100N	1N	IP40

Speed Levels and Associated Parameters						
Speed Level	Maximum Force	Locked-Rotor Force	Maximum Self-Locking Force	No-load Speed	Full Load Speed	No-Load Current
02	105N	150N	150N	13mm/s	4mm/s	0.53A
03	56N	80N	150N	26mm/s	12mm/s	0.63A
06	49N	70N	50N	38mm/s	18mm/s	0.73A
08	35N	50N	38N	53mm/s	27mm/s	0.73A
10	31.5N	45N	30N	62mm/s	39mm/s	0.73A



Spherical Plain Bearing Interface

LASF30 Series

Micro Linear Servo Actuator

Model Instruction

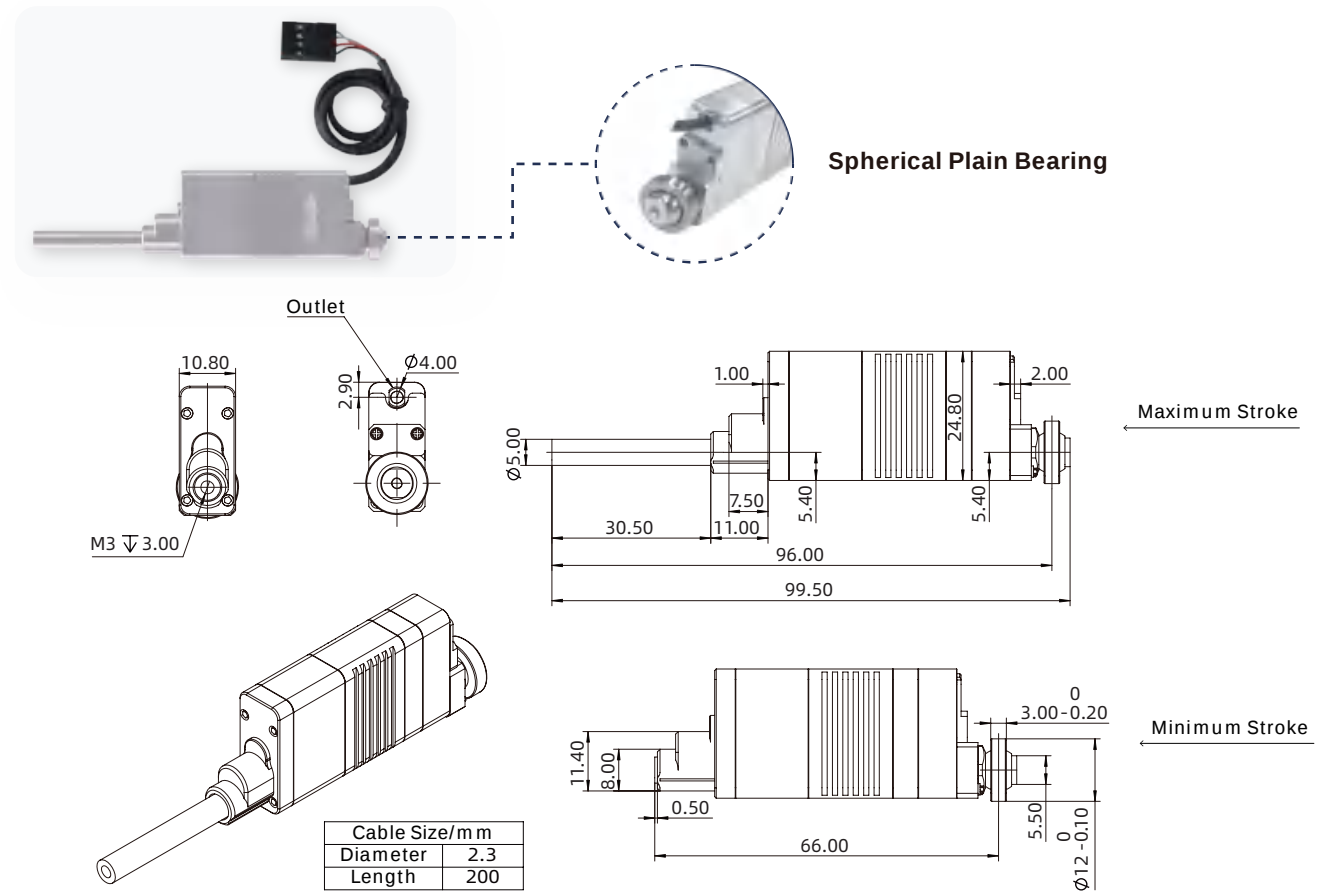
Series	Speed Level	Mechanical Interface	Electronic Interface	Model code
LASF30	02	4	D	LASF30-024D
Stroke	02	4-Spherical Plain Bearing	D-LVTTL Serial port	

Standard Parameters

Stroke	Weight	Operating Voltage	Repeatability	Operating Temperature Range	Quiescent Current	Peak Current	Force Sensor Detection Range	Force Sensor Resolution	IP level
30mm	44g	DC8V±10%	±0.06mm	-10°C~+60°C	0.05A	2A	-100N~+100N	1N	IP40

Speed Levels and Associated Parameters

Speed Level	Maximum Force	Locked-Rotor Force	Maximum Self-Locking Force	No-load Speed	Full Load Speed	No-Load Current
02	80N	110N	110N	13mm/s	6mm/s	0.3A



Spherical Plain Bearing Interface