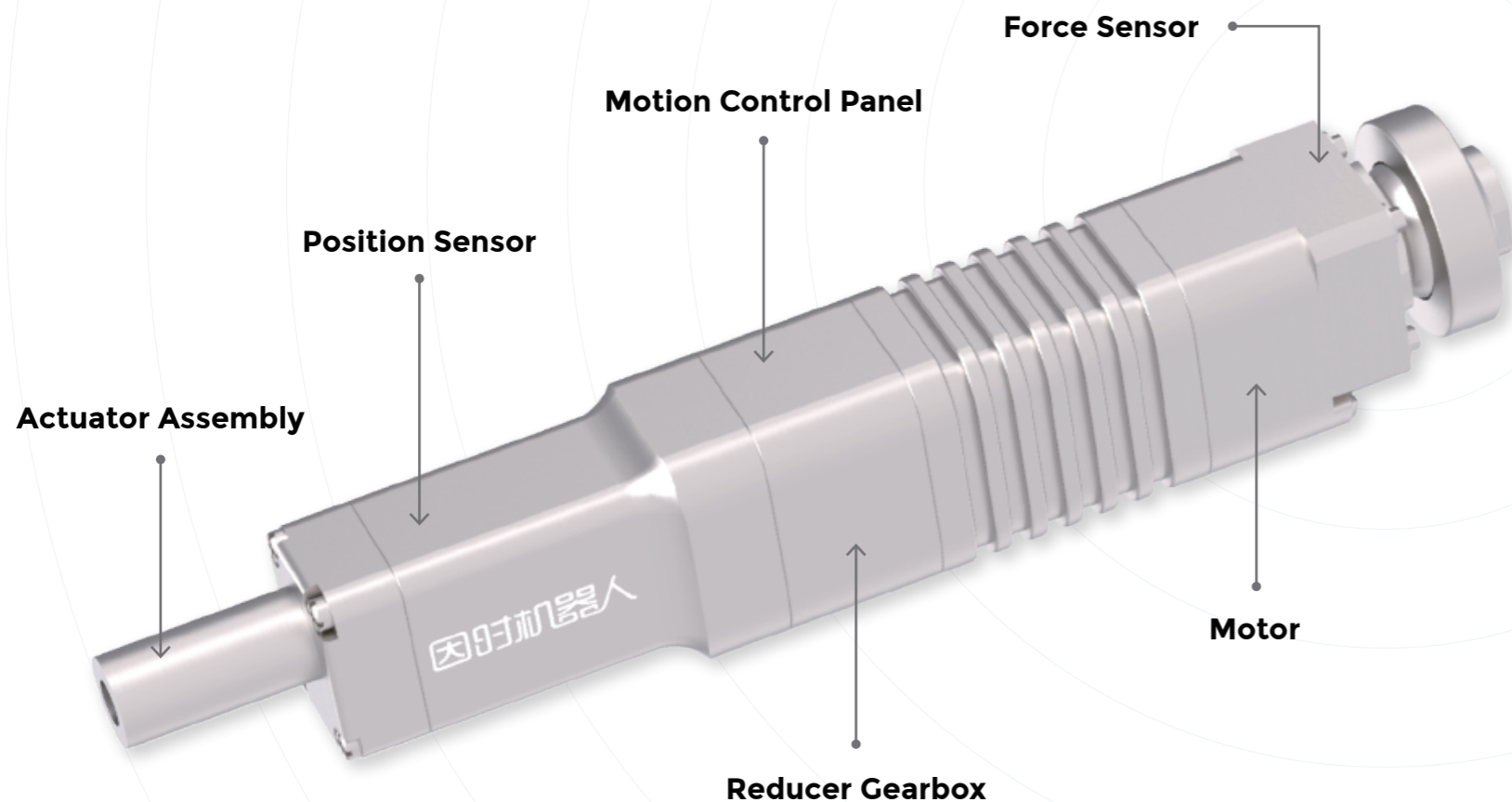


# Micro Linear Servo Actuator

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

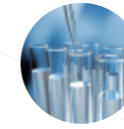
Force Control (Force Control Model)

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<br><b>LA10-021D</b> |
| LA10   | 02                   | 1  | D  |                                |
| Stroke | 02<br>03<br>07<br>09 | 1-Standard Interface<br>2-Ear Interface<br>3-Octagonal Interface | D-LVTTL Serial port<br>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            |



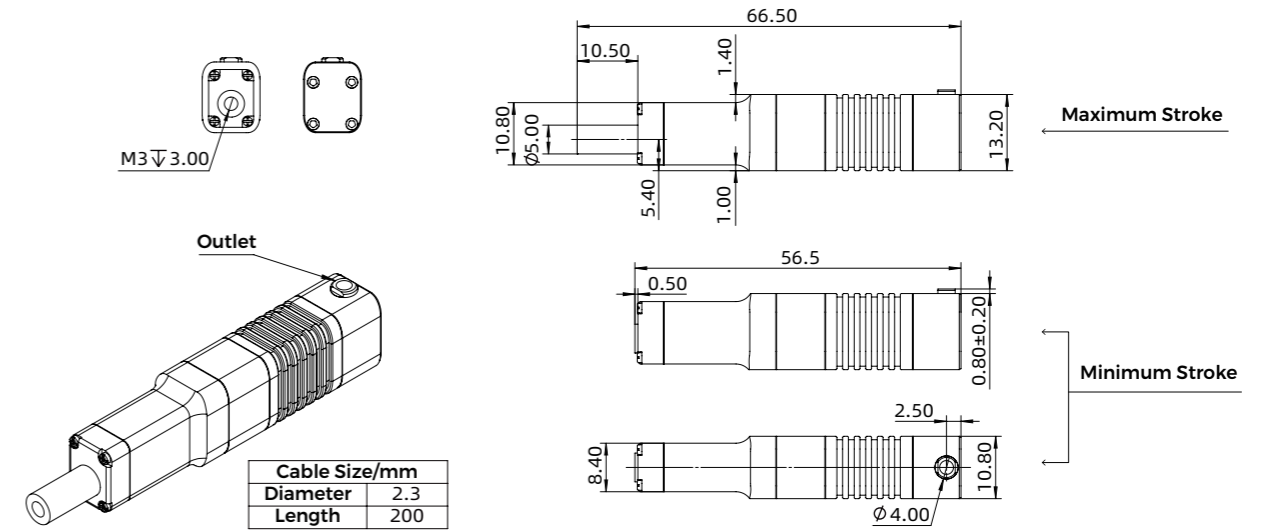
Standard Interface



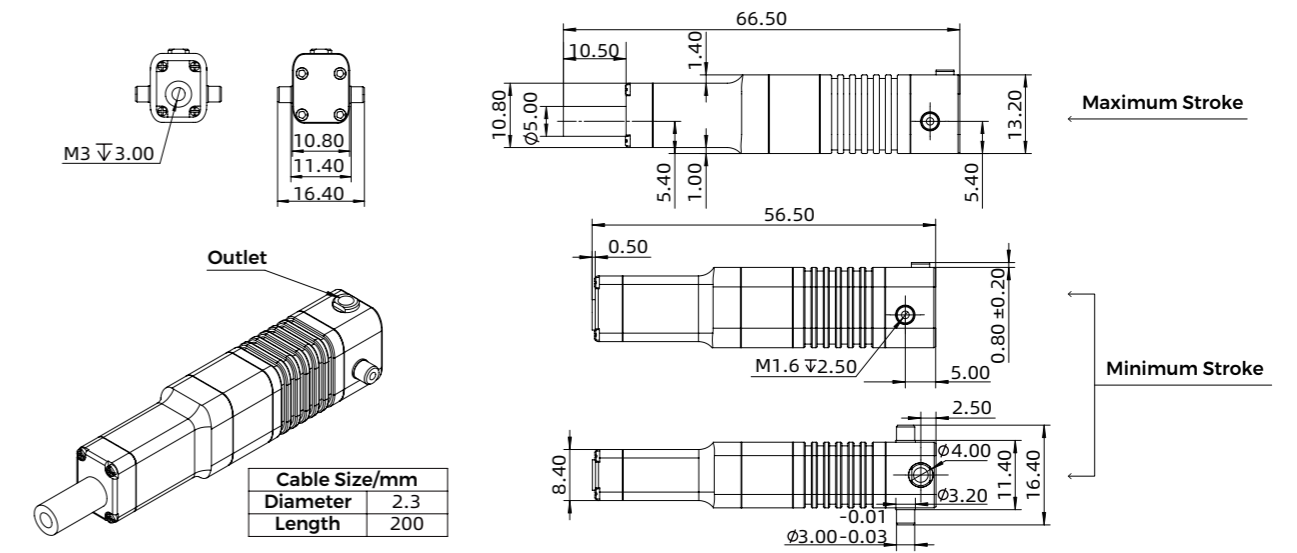
Ear Interface



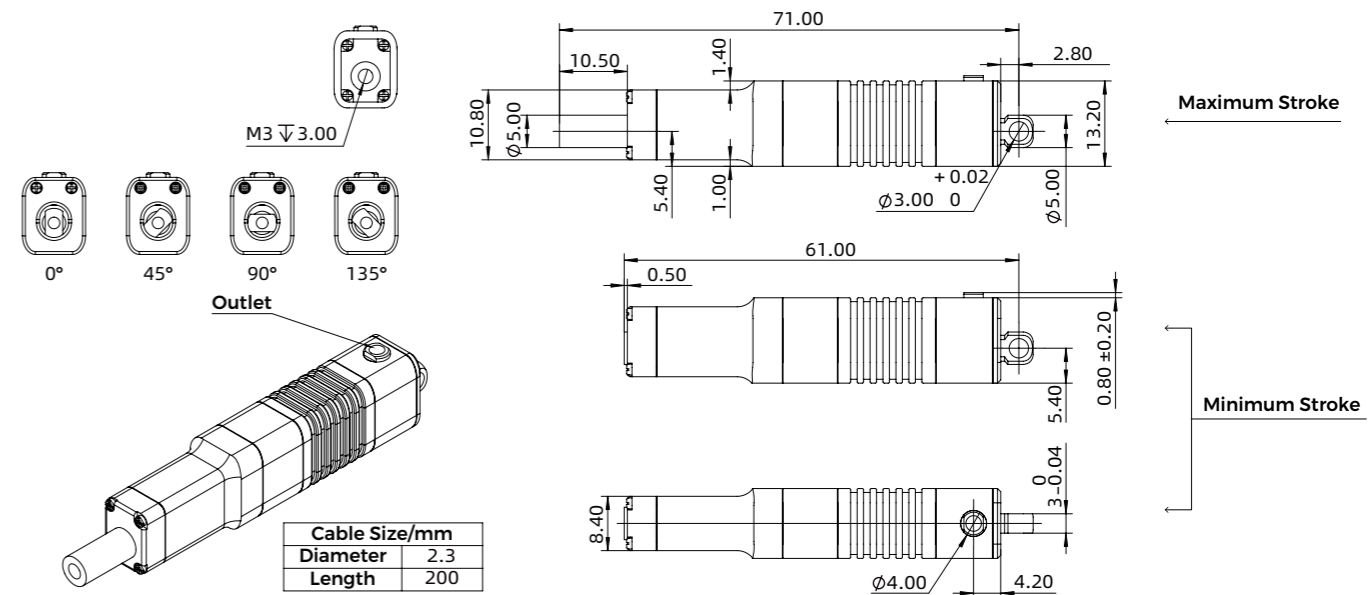
Octagonal Interface



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<br>03<br>07<br>09 | 1-Standard Interface<br>2-Ear Interface<br>3-Octagonal Interface | D-LVTTL Serial port<br>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            |



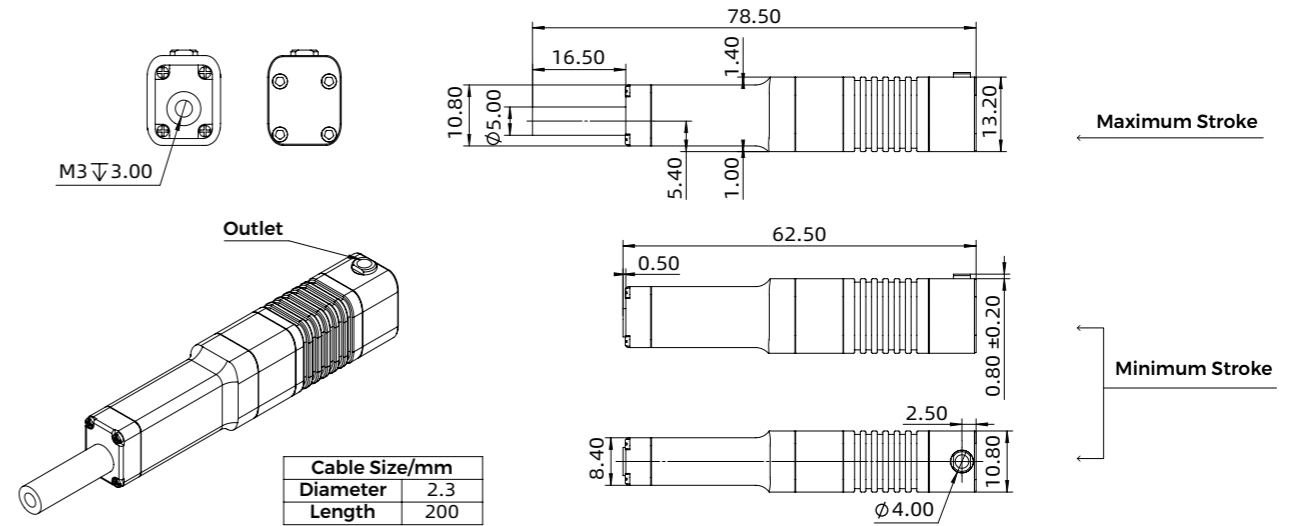
Standard Interface



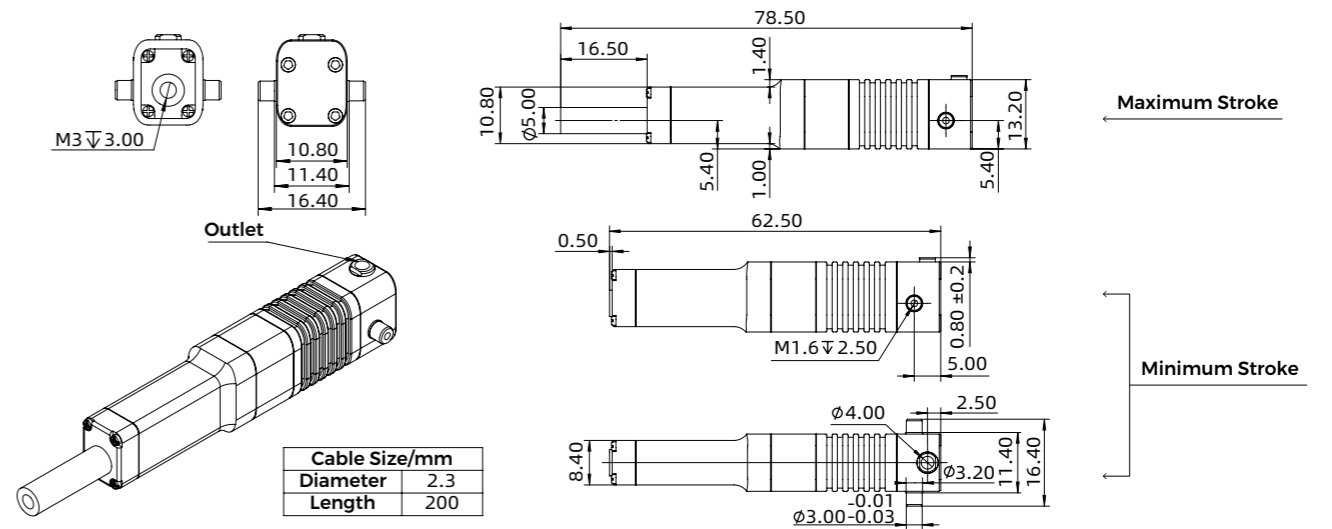
Ear Interface



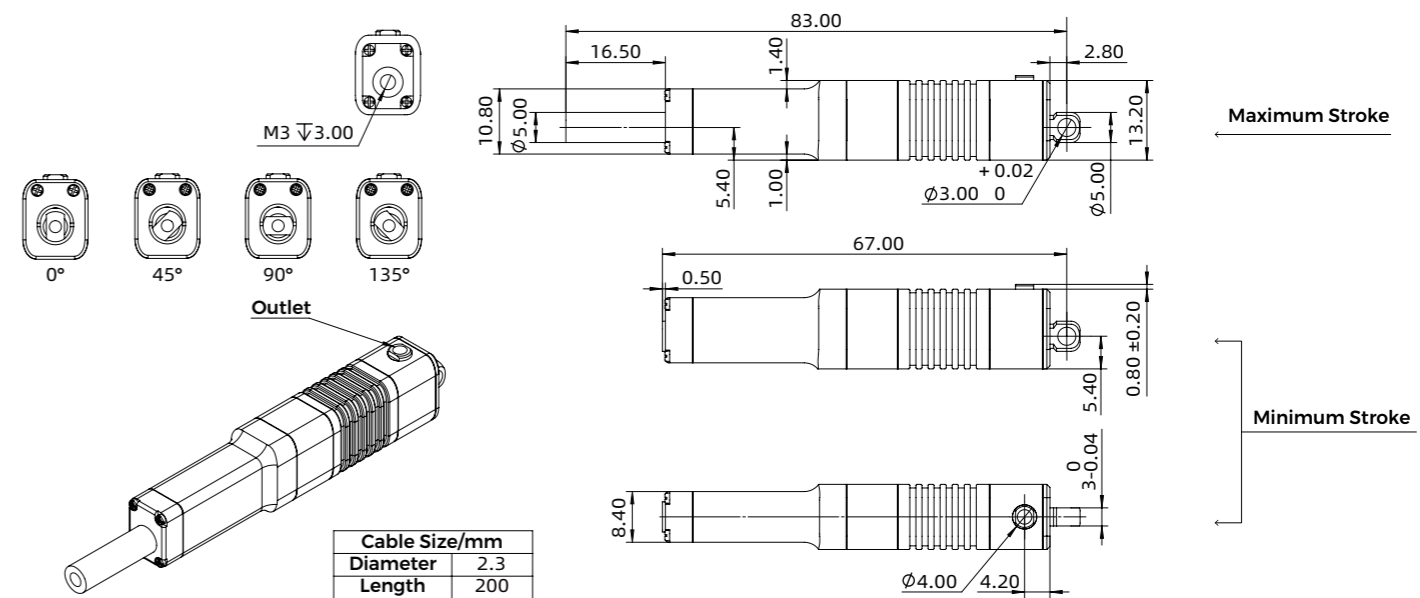
Octagonal Interface



Standard Interface



Ear Interface



Octagonal Interface



# LA30 Series

## Micro Linear Servo Actuator

### Model Instruction

|        |             |  |  |                                |
|--------|-------------|--|--|--------------------------------|
| Series | Speed Level | Mechanical Interface   | Electronic Interface                     | Model code<br><b>LA30-021D</b> |
| LA30   | 02          | 1  | D  |                                |
| Stroke | 02          | 1-Standard Interface<br>2-Ear Interface<br>3-Octagonal Interface | D-LVTTL Serial port<br>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            |



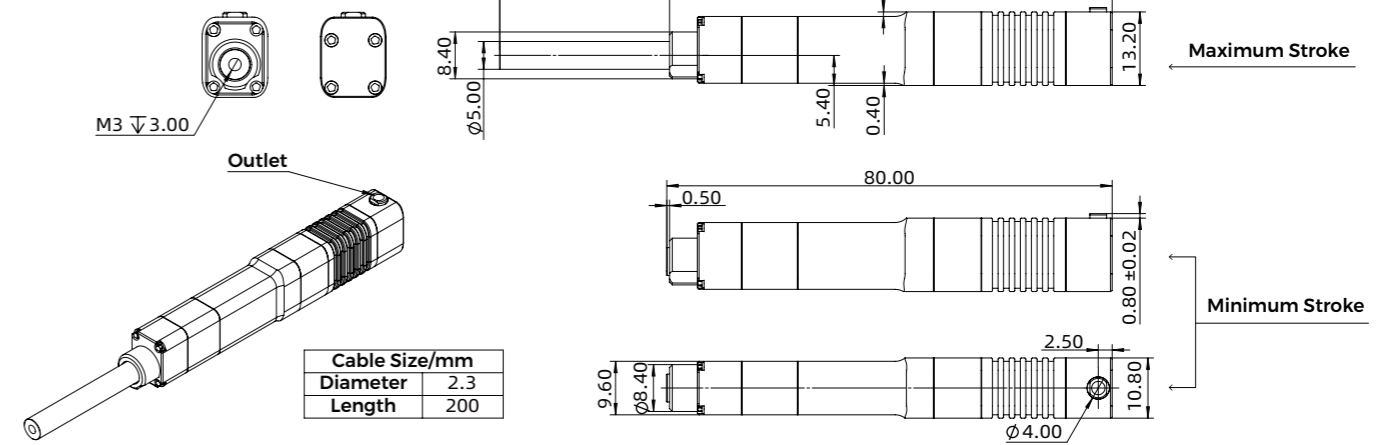
Standard Interface



Ear Interface

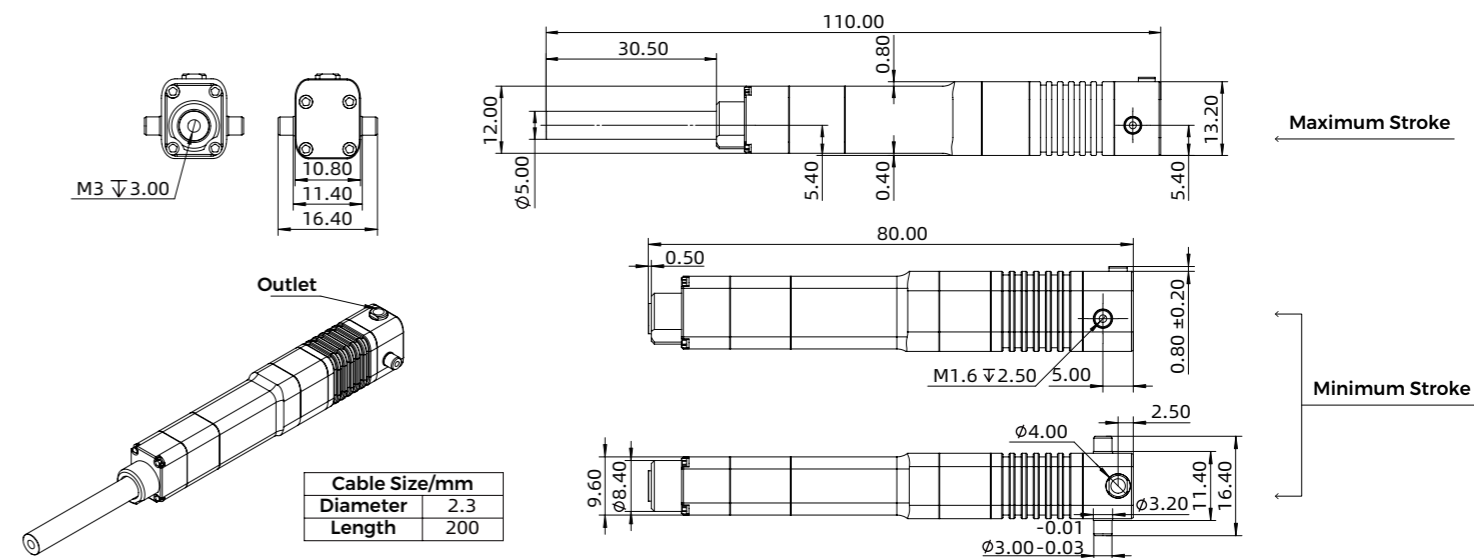


Octagonal Interface



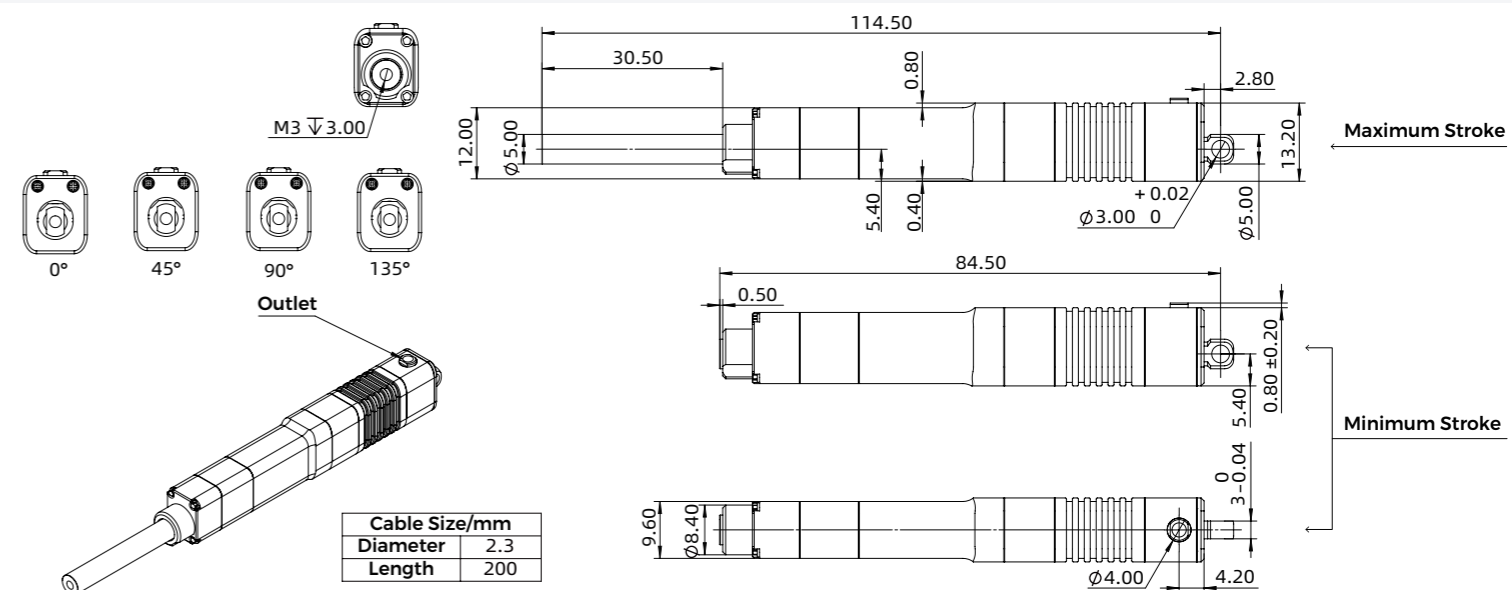
| Cable Size/mm |
|---------------|
| Diameter 2.3  |
| Length 200    |

Standard Interface



| Cable Size/mm |
|---------------|
| Diameter 2.3  |
| Length 200    |

Ear Interface



| Cable Size/mm |
|---------------|
| Diameter 2.3  |
| Length 200    |

Octagonal Interface

# LA50 Series

## Micro Linear Servo Actuator

### Model Instruction

|        |             |  |  |                                |
|--------|-------------|--|--|--------------------------------|
| Series | Speed Level | Mechanical Interface   | Electronic Interface                     | Model code<br><b>LA50-021D</b> |
| LA50   | 02          | 1  | D  |                                |
| Stroke | 02          | 1-Standard Interface<br>2-Ear Interface<br>3-Octagonal Interface | D-LVTTL Serial port<br>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            |



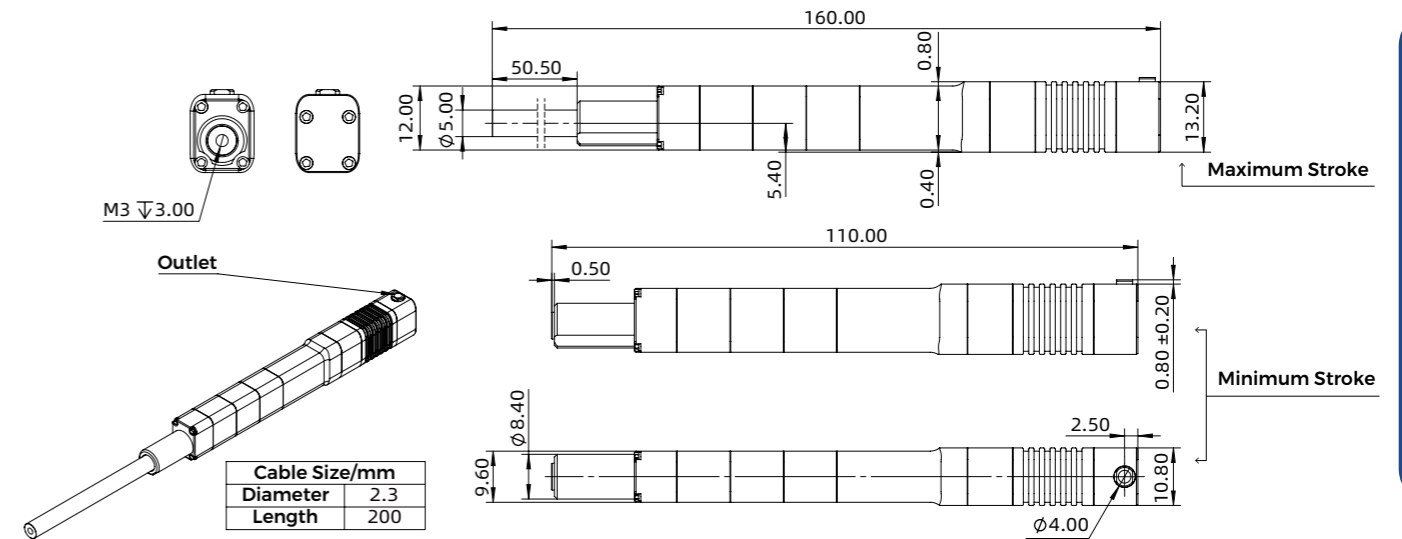
Standard Interface



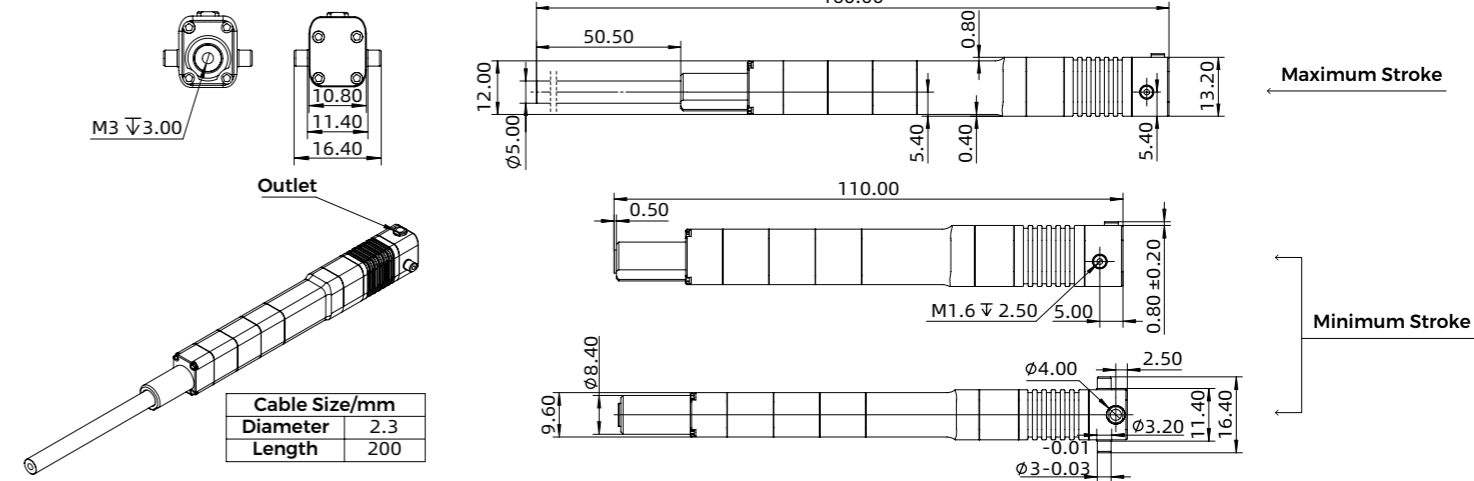
Ear Interface



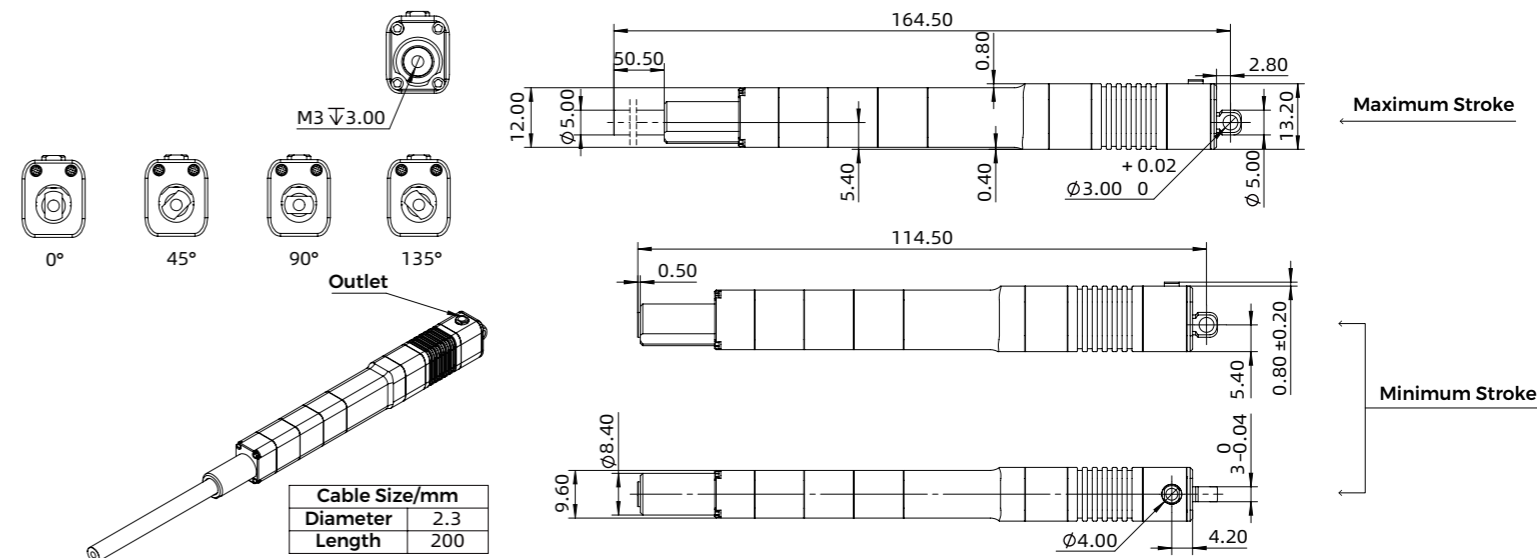
Octagonal Interface



Standard Interface



Ear Interface



Octagonal Interface

# LAS10 Series

## Micro Linear Servo Actuator

### Model Instruction

|        |             |                       |                      |                                 |
|--------|-------------|-----------------------|----------------------|---------------------------------|
| Series | Speed Level | Mechanical Interface  | Electronic Interface | Model code<br><b>LAS10-021D</b> |
| LAS10  | 02          | 1                     | D                    |                                 |
| 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 |
|--------|--------|-------------------|---------------|-----------------------------|-------------------|--------------|----------|
| 10mm   | 24g    | DC8V±10%          | ±0.02mm       | -10°C~+60°C                 | 0.02A             | 2A           | IP40     |

### Speed Levels and Associated Parameters

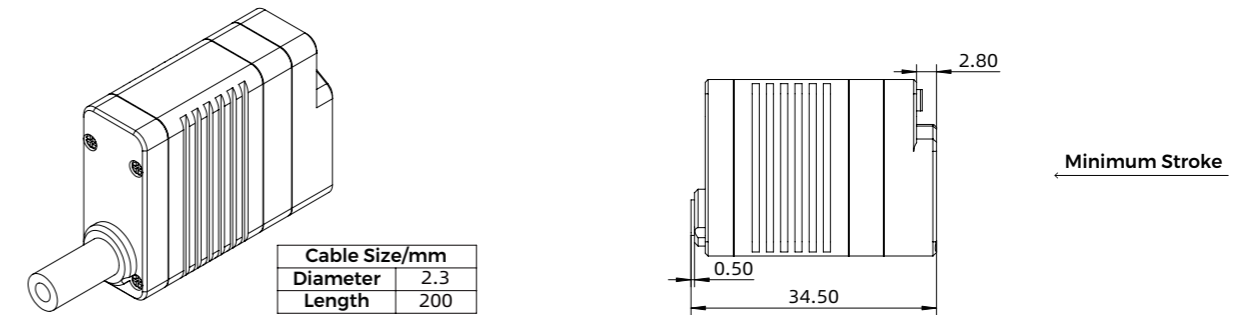
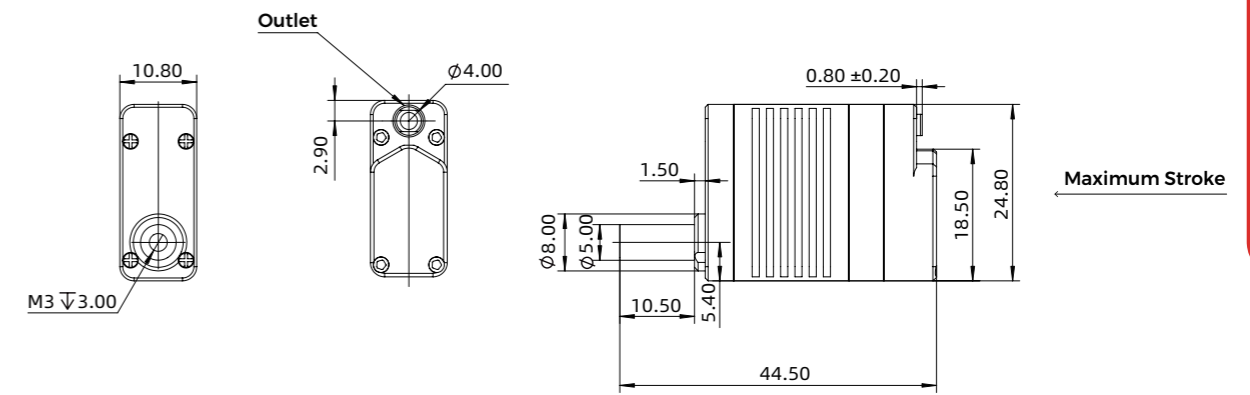
| Speed Level | Maximum Force | Locked-Rotor Force | Maximum Self-Locking Force | No-load Speed | Full Load Speed | No-Load Current |
|-------------|---------------|--------------------|----------------------------|---------------|-----------------|-----------------|
| 02          | 105N          | 150N               | 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            |



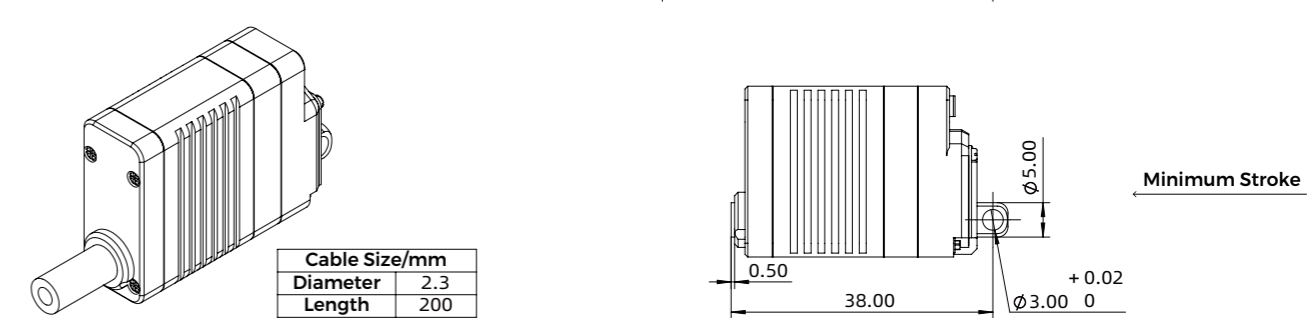
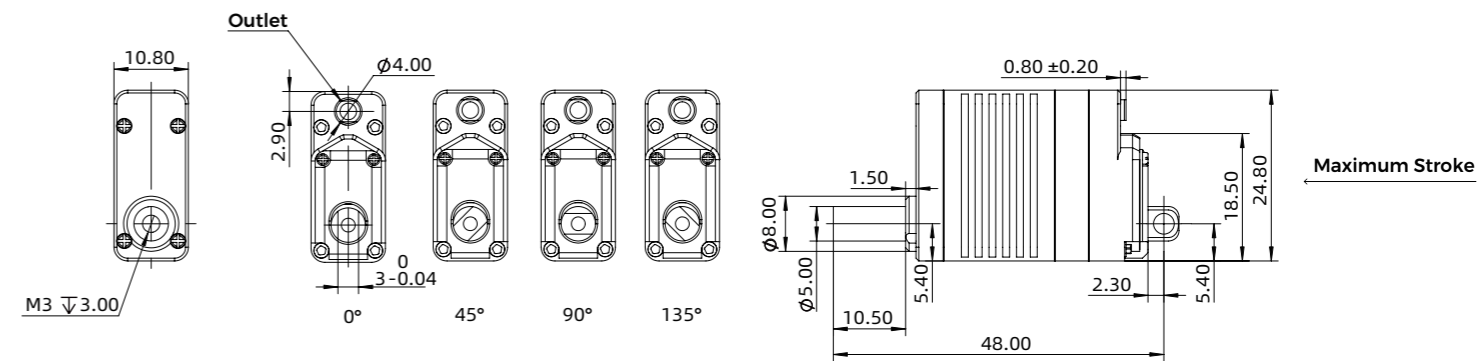
Standard Interface



Octagonal Interface



Standard Interface



Octagonal Interface

# LAS16 Series

## Micro Linear Servo Actuator

### Model Instruction

|        |             |                       |                      |                                 |
|--------|-------------|-----------------------|----------------------|---------------------------------|
| Series | Speed Level | Mechanical Interface  | Electronic Interface | Model code<br><b>LAS16-021D</b> |
| LAS16  | 02          | 1                     | D                    |                                 |
| 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

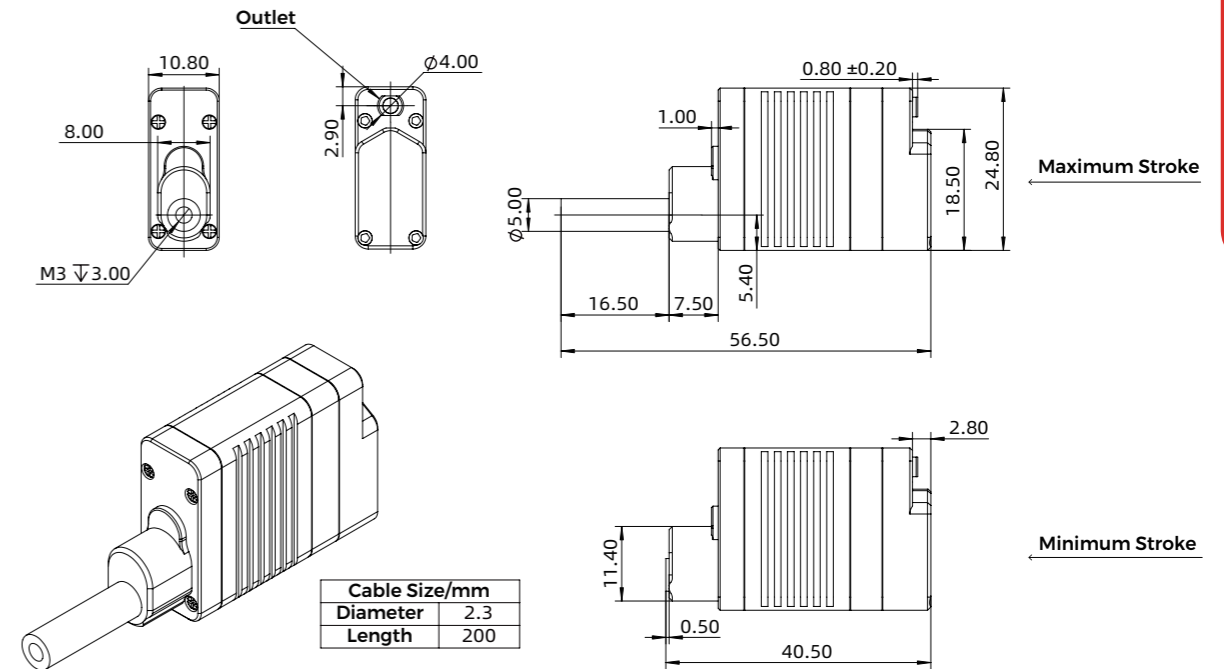
| Speed Level | Maximum Force | Locked-Rotor Force | Maximum Self-Locking Force | No-load Speed | Full Load Speed | No-Load Current |
|-------------|---------------|--------------------|----------------------------|---------------|-----------------|-----------------|
| 02          | 105N          | 150N               | 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            |



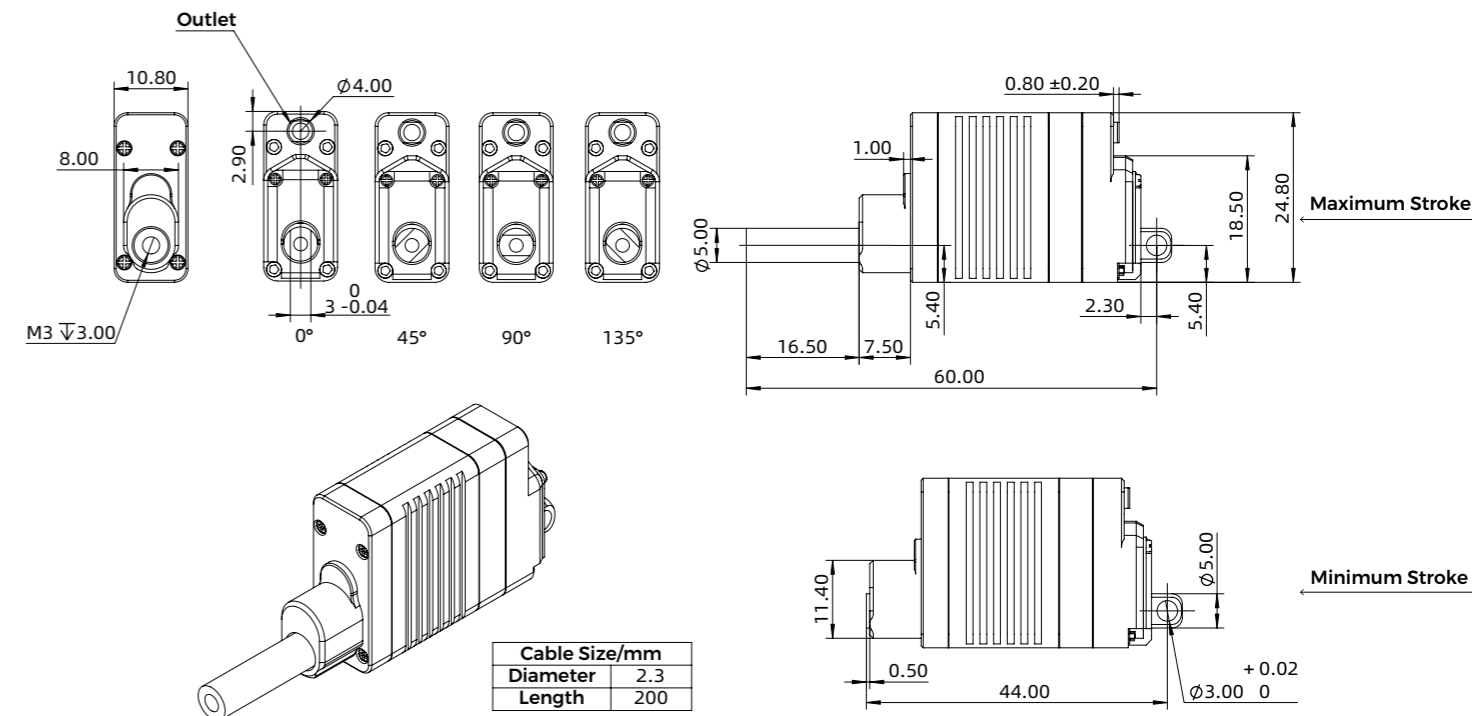
Standard Interface



Octagonal Interface



Standard Interface



Octagonal Interface



# LAS30 Series

## Micro Linear Servo Actuator

### Model Instruction

|        |             |   |  |                                 |
|--------|-------------|---|--|---------------------------------|
| Series | Speed Level | Mechanical Interface                          | Electronic Interface                     | Model code<br><b>LAS30-021D</b> |
| LAS30  | 02          | 1   | D  |                                 |
| Stroke | 02          | 1-Standard Interface<br>3-Octagonal Interface | D-LVTTL Serial port<br>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

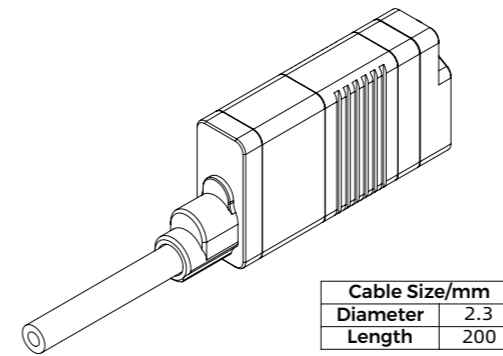
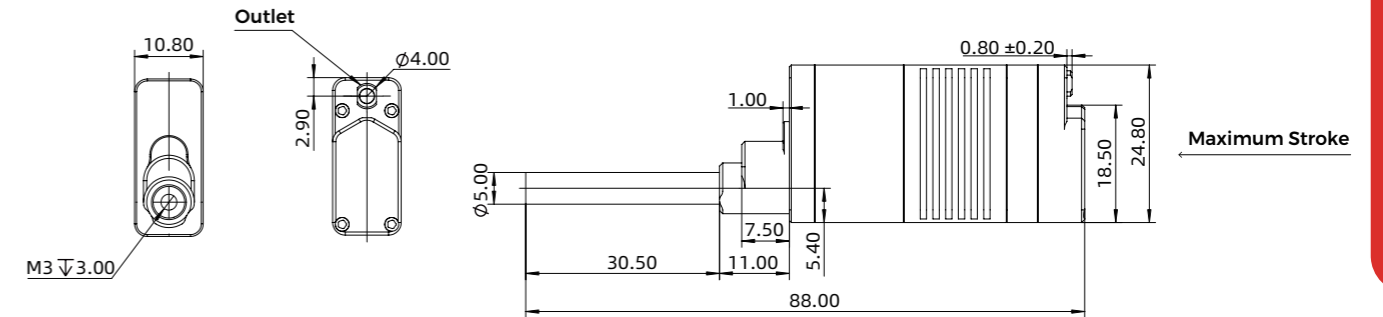
| Speed Level | Maximum Force | Locked-Rotor Force | Maximum Self-Locking Force | No-load Speed | Full Load Speed | No-Load Current |
|-------------|---------------|--------------------|----------------------------|---------------|-----------------|-----------------|
| 02          | 80N           | 110N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



Standard Interface

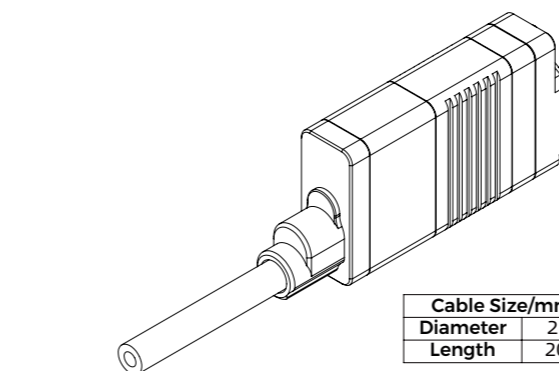
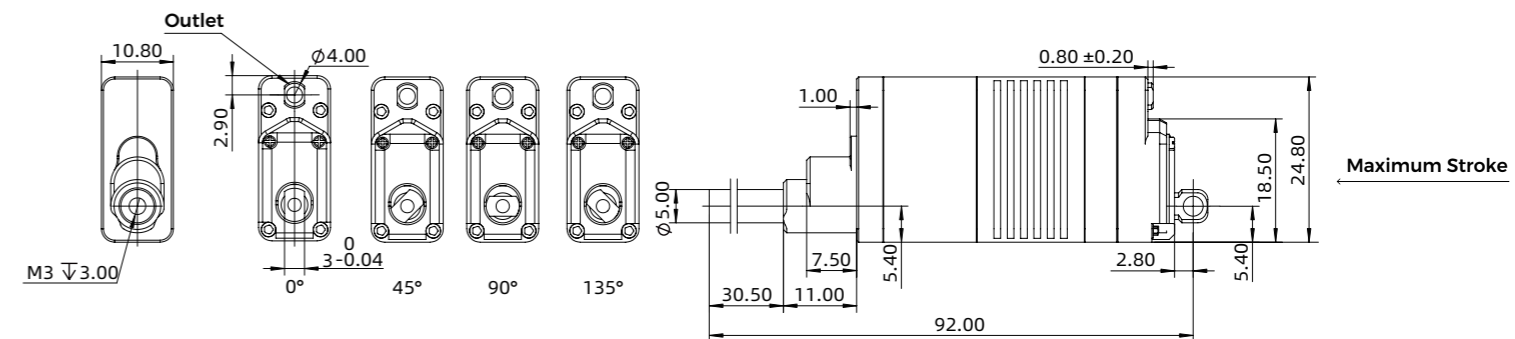
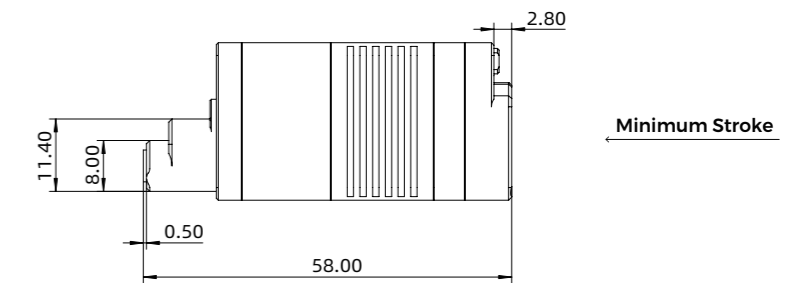


Octagonal Interface



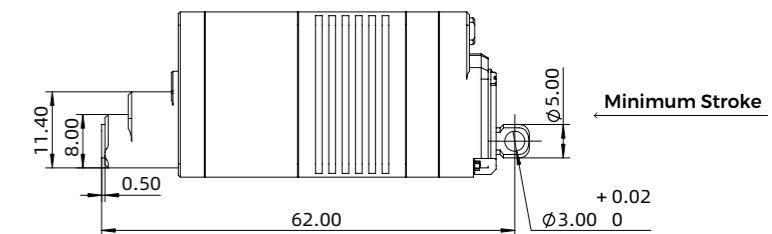
| Cable Size/mm |     |
|---------------|-----|
| Diameter      | 2.3 |
| Length        | 200 |

Standard Interface



| Cable Size/mm |     |
|---------------|-----|
| Diameter      | 2.3 |
| Length        | 200 |

Octagonal Interface



# LAF10 Series

## Micro Linear Servo Actuator

### Model Instruction

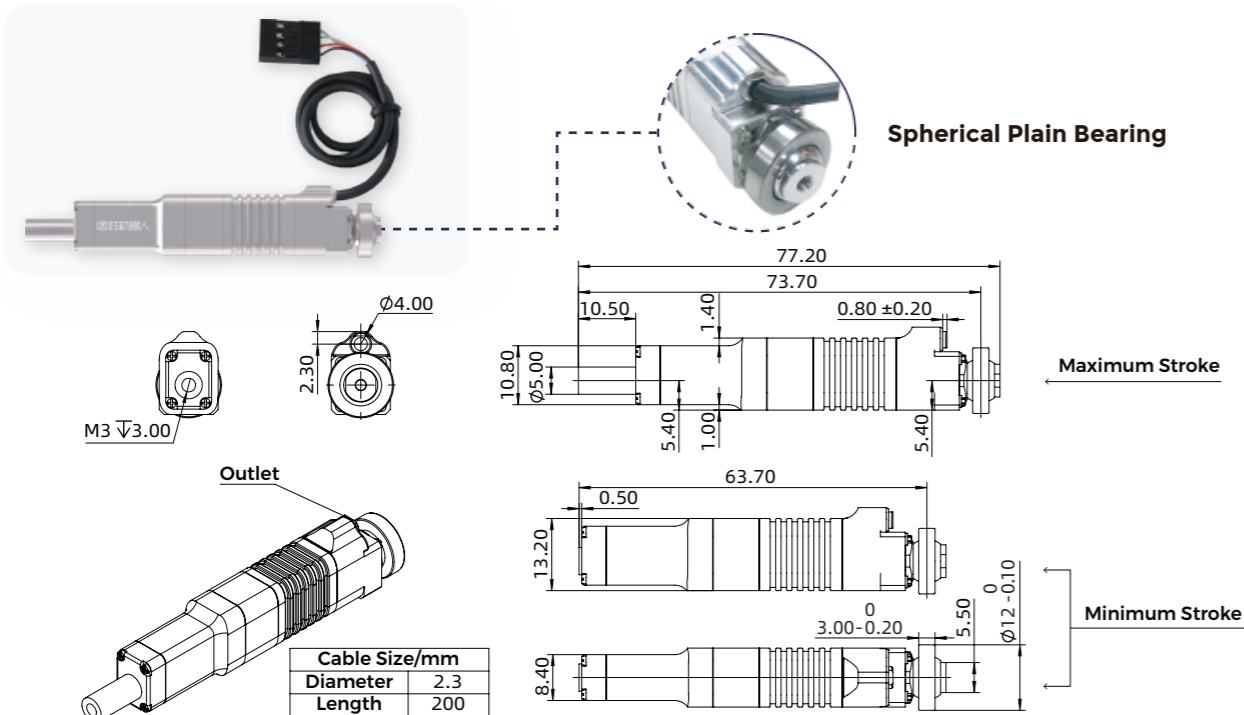
|        |                      |                           |                      |            |
|--------|----------------------|---------------------------|----------------------|------------|
| Series | Speed Level          | Mechanical Interface      | Electronic Interface | Model code |
| LAF10  | 02                   | 4                         | D                    | LAF10-024D |
| Stroke | 02<br>03<br>07<br>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           |



Spherical Plain Bearing Interface

# LAF16 Series

## Micro Linear Servo Actuator

### Model Instruction

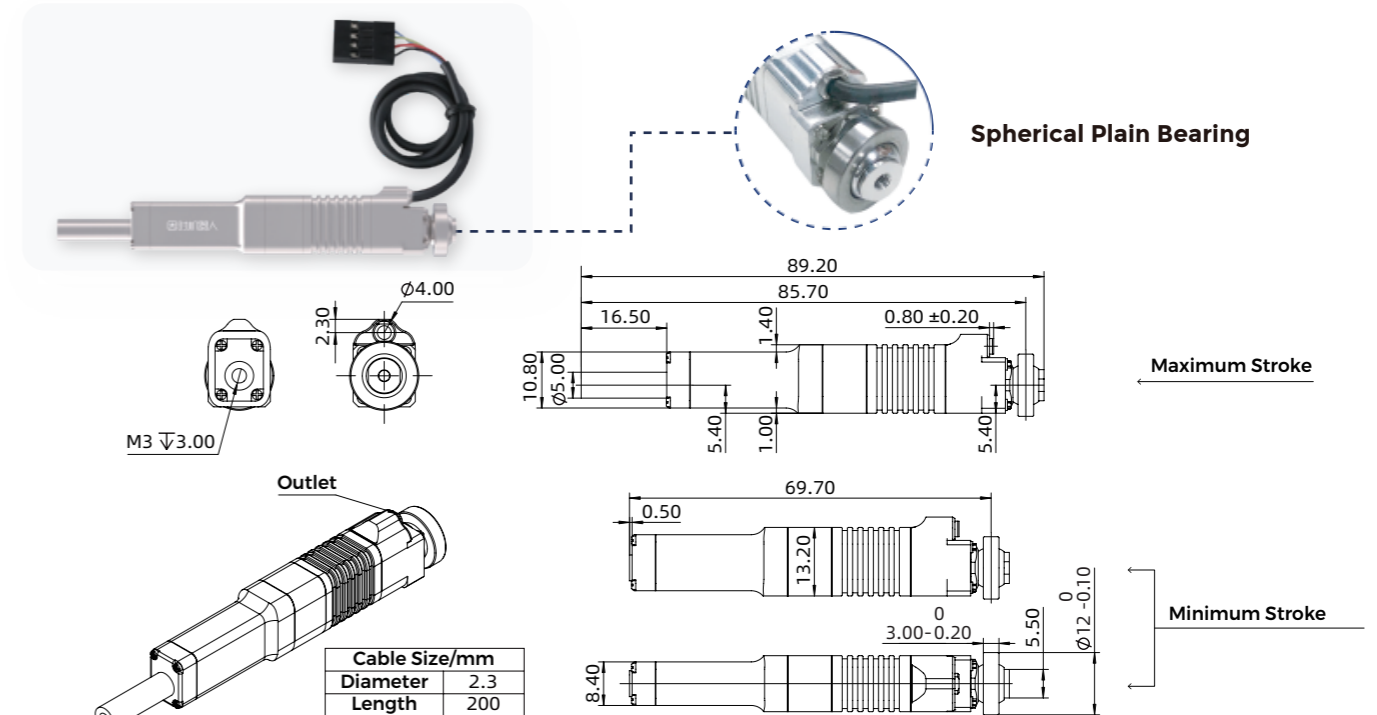
|        |                      |                           |                      |            |
|--------|----------------------|---------------------------|----------------------|------------|
| Series | Speed Level          | Mechanical Interface      | Electronic Interface | Model code |
| LAF16  | 02                   | 4                         | D                    | LAF16-024D |
| Stroke | 02<br>03<br>07<br>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           |



Spherical Plain Bearing Interface

# LAF30 Series

## Micro Linear Servo Actuator

### Model Instruction

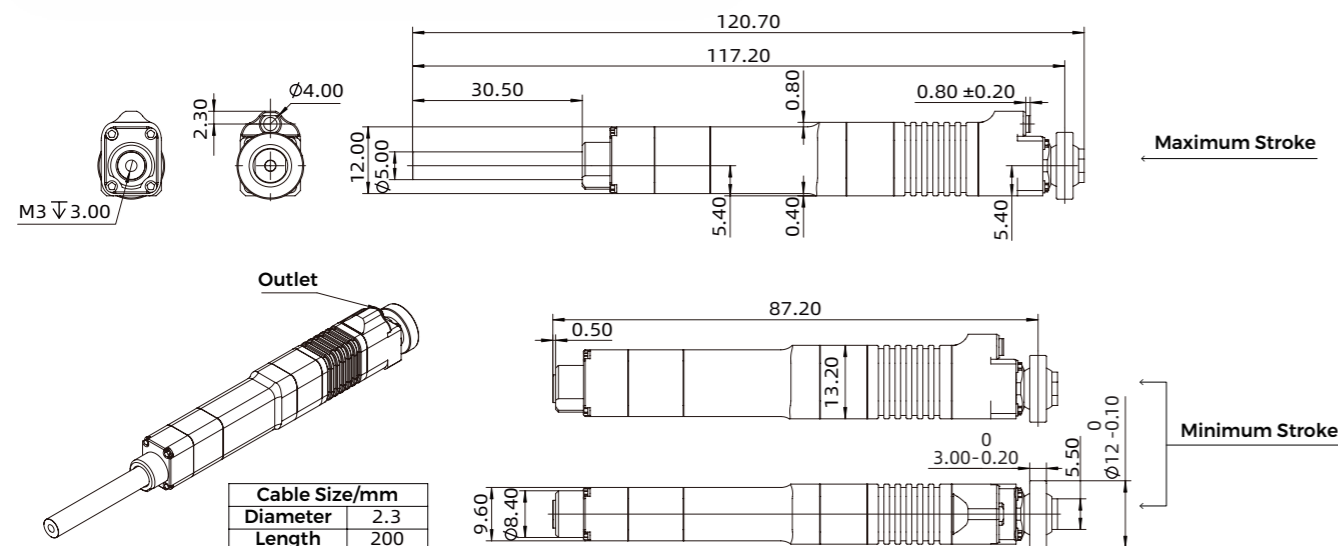
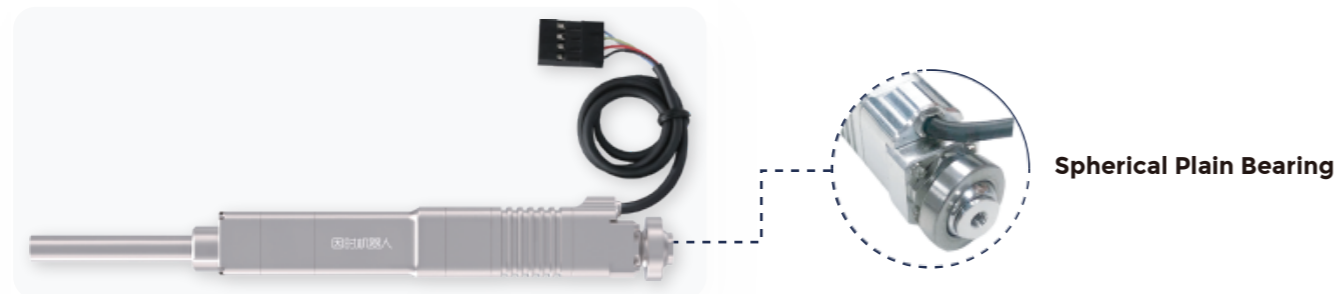
|        |             |                           |                      |            |
|--------|-------------|---------------------------|----------------------|------------|
| Series | Speed Level | Mechanical Interface      | Electronic Interface | Model code |
| LAF30  | 02          | 4                         | 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

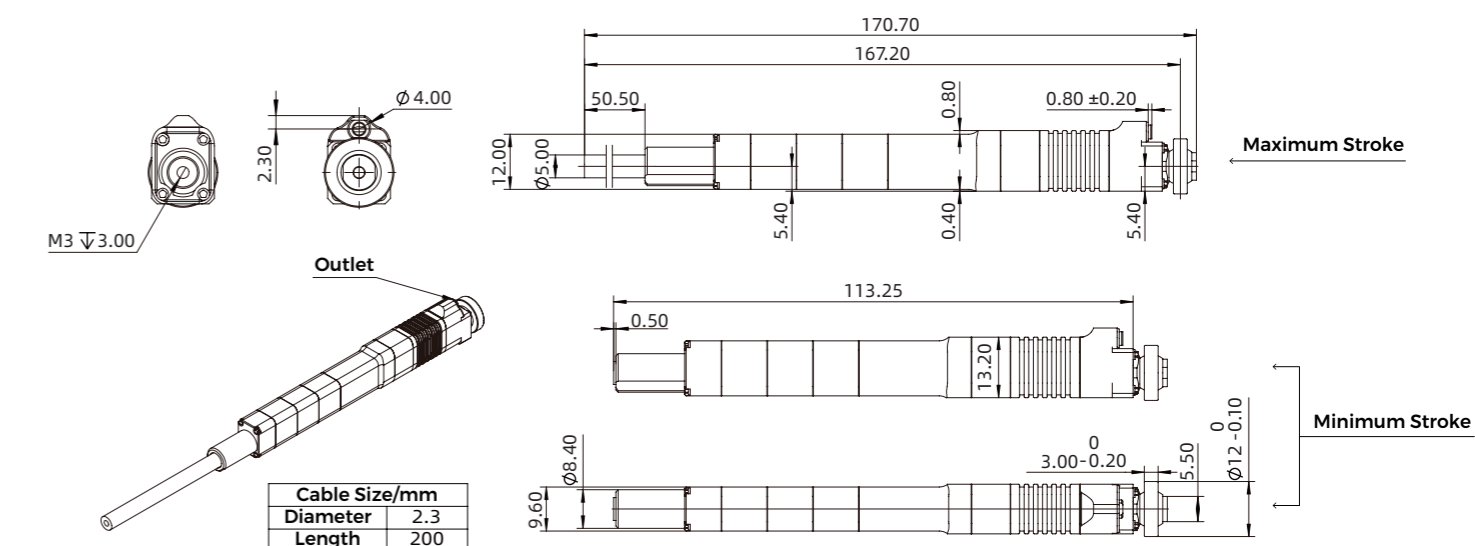
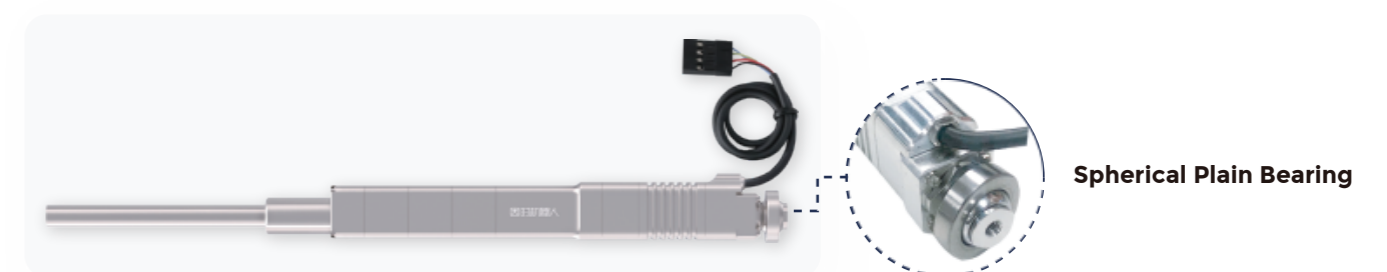
|        |             |                           |                      |            |
|--------|-------------|---------------------------|----------------------|------------|
| Series | Speed Level | Mechanical Interface      | Electronic Interface | Model code |
| LAF50  | 02          | 4                         | 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

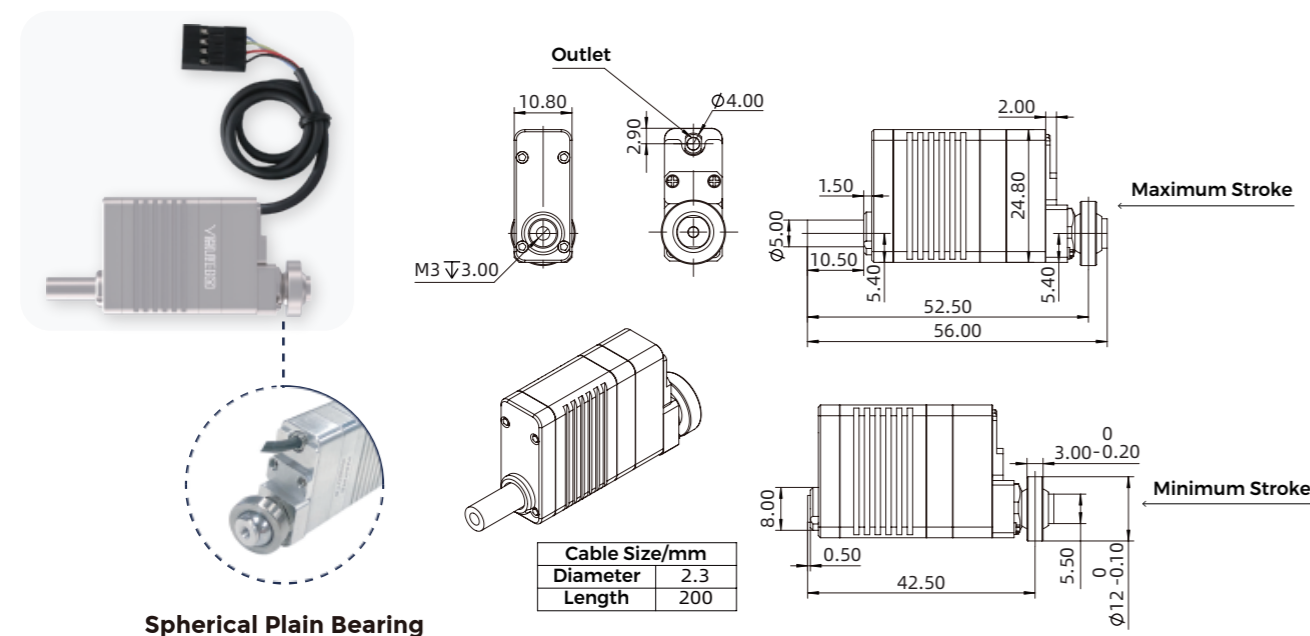
| Series | Speed Level                | Mechanical Interface      | Electronic Interface | Model code  |
|--------|----------------------------|---------------------------|----------------------|-------------|
| LASF10 | 02                         | 4                         | D                    | LASF10-024D |
| Stroke | 02<br>03<br>06<br>08<br>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

# LASF16 Series

## Micro Linear Servo Actuator

### Model Instruction

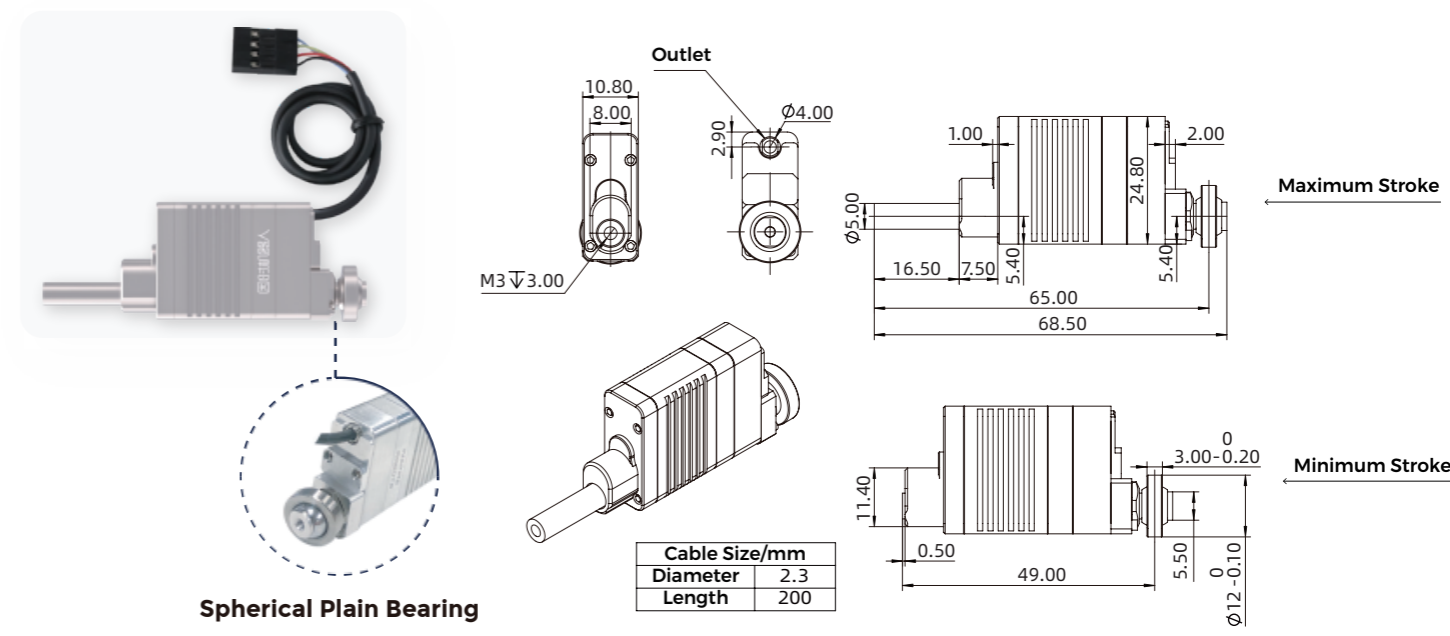
| Series | Speed Level                | Mechanical Interface      | Electronic Interface | Model code  |
|--------|----------------------------|---------------------------|----------------------|-------------|
| LASF16 | 02                         | 4                         | D                    | LASF16-024D |
| Stroke | 02<br>03<br>06<br>08<br>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

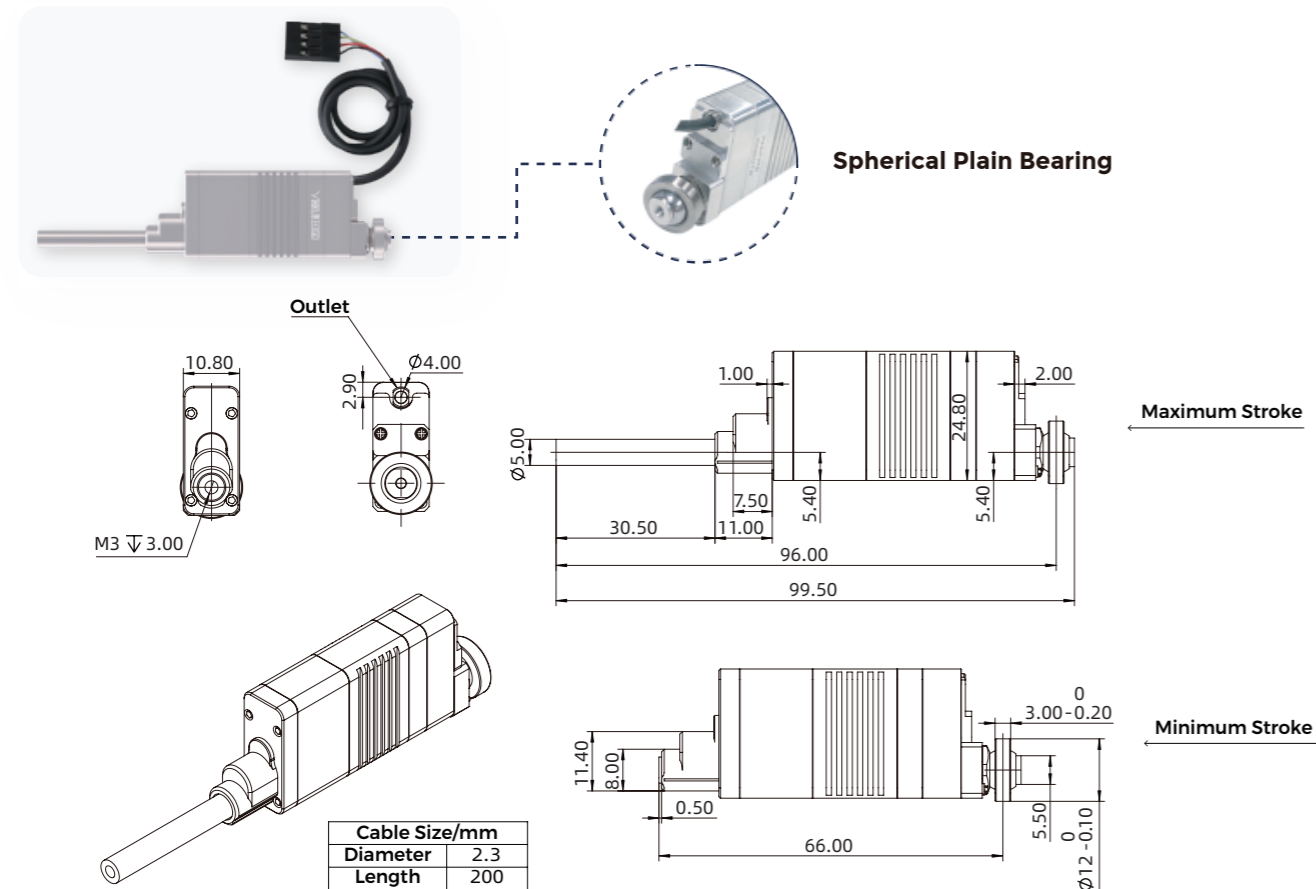
|        |             |                           |                      |             |
|--------|-------------|---------------------------|----------------------|-------------|
| Series | Speed Level | Mechanical Interface      | Electronic Interface | Model code  |
| LASF30 | 02          | 4                         | 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

# Accessories

## Micro Linear Servo Actuator

### Octagonal Joint

MODEL : AMI-LA-ACBO-S20/S30/T20/T25/T30

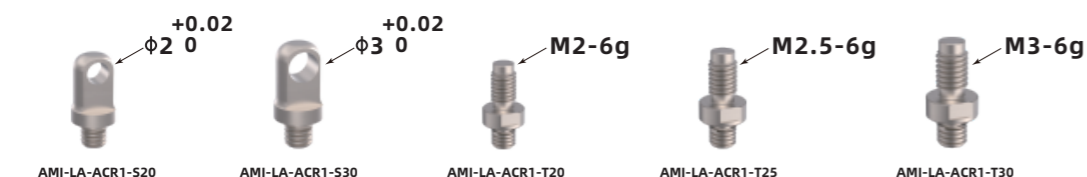
Attention : The octagonal interface comes standard with an AMI-LA-ACBO-S30 octagonal joint, and the installation angle of the octagonal joint can be adjusted as required. In addition to AMI-LA-ACBO-S30, you can also purchase the following types of octagonal joints as needed.



### Actuator Joint

MODEL : AMI-LA-ACR1-S20/S30/T20/T25/T30

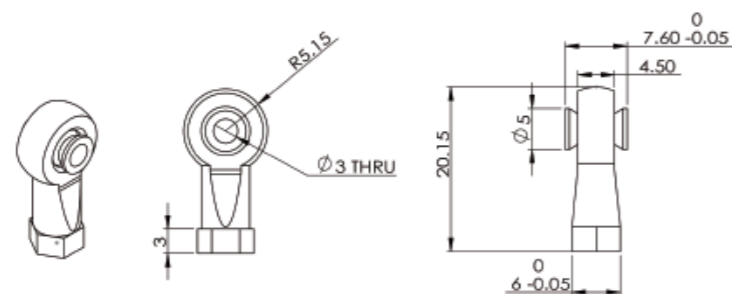
All models of actuators come standard with M3 standard internal thread, with a depth of 3mm, and actuator joint can be selected as required.



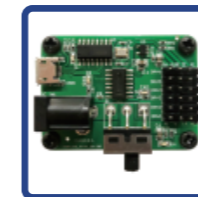
### Ball Joint

MODEL : AMI-LA-BR-P30

The front end of the actuator joint can also be equipped with a ball joint if needed. The ball joint have to be used with the actuator joint AMI-LA-ACR1-T30.



Dimensions of ball joint AMI-LA-BR-P30



### USB to LVTTTL Converter

MODEL : AES-LA-31-06 DIMENSIONS : 45X33X32MM

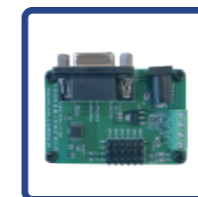
AES-LA-31-06 Converter converts USB signal input to LVTTTL 3.3V signal output, enabling drive control, parameter modification, and status query. Can connect to six micro linear servo actuators with different IDs.



### Joystick Controller

MODEL : AEC-LA-B1-02 DIMENSIONS : 60X30X50MM

AEC-LA-B1-02 Joystick Controller enables micro linear servo actuator control in two modes: manual joystick control and autonomous reciprocating motion.



### RS232 to LVTTTL Converter

MODEL : AES-LA-11-06 DIMENSIONS : 60X40X35MM

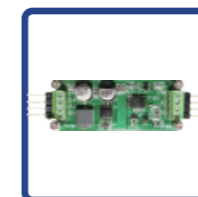
AES-LA-11-06 Converter converts RS232 level signal to LVTTTL 3.3V level signal to enable actuator control via RS232 Serial Port Signal.



### STM32 Controller

MODEL : AES-LA-71-0C DIMENSIONS : 60X40X50MM

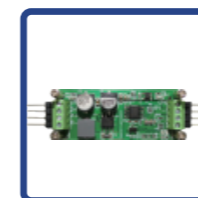
AES-LA-71-0C is a STM32F103C8T6 controller with RS232 input and 12 channel LVTTTL 3.3V output, capable of simultaneous control for up to 12 micro linear actuators.



### RS485 to LVTTTL Converter

MODEL : AED-LA-82-12 DIMENSIONS : 50X20X25MM

AED-LA-82-12 Converter converts RS485 level to LVTTTL 3.3V level for RS485 micro linear servo control, and/or acting as a 24V to 8V step-down module.



### Modbus RTU to LVTTTL Converter

MODEL : AED-LA-92-12 DIMENSIONS : 50X20X25MM

AED-LA-92-12 Converter converts RS485 level to LVTTTL 3.3V level for RS485 servo control via Modbus RTU standard protocol, and/or acting as a 24V to 8V step-down module.

# The Dexterous Hands

The Dexterous Hand features an innovative linear drive design, combining integrated force sensors, mixed force-position control algorithm, 6 degrees of freedom, and 12 moving joints, the Dexterous Hands can simulate human hands with accurate grasping motion.

Support ROS, ROS plug-ins available.

## APPLICATIONS

Humanoid service robots

Education and scientific research

Prosthetics



### RH56BFX Series

High movement speed,  
moderate grip force,  
integrated force sensor,  
suitable for piano playing,  
gesture interaction, etc.

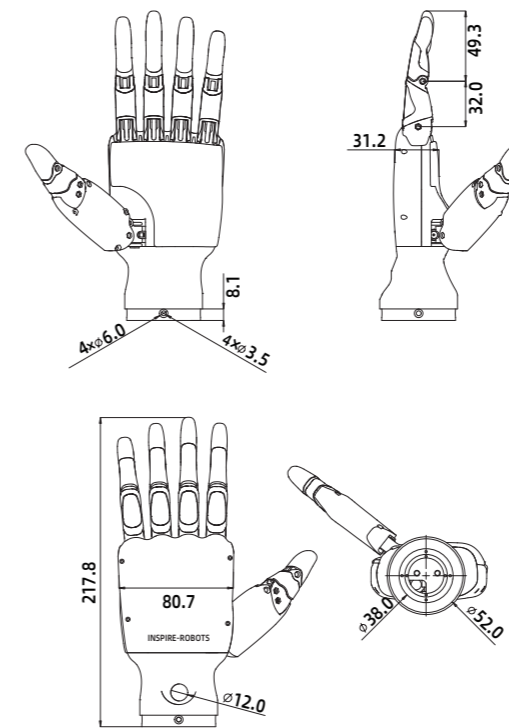
### RH56DFX Series

Moderate Speed,  
strong grip,  
integrated force sensor,  
suitable for grasping operations  
for robots and prosthetics.

## The Dexterous Hands

Dexterous Hand series RH56BFX, known as “the Pianist” , features high movement speed, integrated force sensor, and slightly reduced grip force, suitable for gesture interactions including piano playing.

Support ROS, ROS plug-ins available.



The Dexterous Hands Dimensions

| Model                        | RH56BFX-2L    | RH56BFX-2R     |
|------------------------------|---------------|----------------|
| Side                         | The left hand | The right hand |
| Control interface            | RS485         | RS485          |
| Degrees of freedom           | 6             | 6              |
| Numbers of joints            | 12            | 12             |
| Weight                       | 540g          | 540g           |
| Operating voltage            | DC24V±10%     | DC24V±10%      |
| Quiescent current            | 0.2A          | 0.2A           |
| Peak current                 | 2A            | 2A             |
| Repeatability                | ±0.2mm        | ±0.2mm         |
| Maximum thumb grip           | 6N            | 6N             |
| Maximum palm finger grip     | 4N            | 4N             |
| Force resolution             | 0.5N          | 0.5N           |
| Thumb lateral rotation range | > 65°         | > 65°          |
| Thumb lateral rotation speed | 235°/s        | 235°/s         |
| Thumb bend speed             | 150°/s        | 150°/s         |
| Palm finger bend speed       | 570°/s        | 570°/s         |

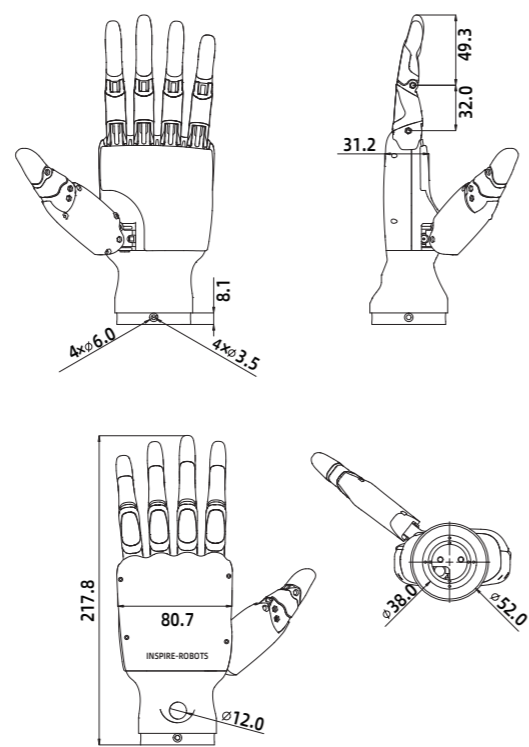


## The Dexterous Hands

RH56DFX series Dexterous Hand features strong grip, integrated force sensor, and moderate speed, suitable for grasping operations for robots and prosthetics.

Support ROS, ROS plug-ins available

| Model                        | RH56DFX-2L    | RH56DFX-2R     |
|------------------------------|---------------|----------------|
| Side                         | The left hand | The right hand |
| Control interface            | RS485         | RS485          |
| Degrees of freedom           | 6             | 6              |
| Numbers of joints            | 12            | 12             |
| Weight                       | 540g          | 540g           |
| Operating voltage            | DC24V±10%     | DC24V±10%      |
| Quiescent current            | 0.2A          | 0.2A           |
| Peak current                 | 2A            | 2A             |
| Repeatability                | ±0.2mm        | ±0.2mm         |
| Maximum thumb grip           | 15N           | 15N            |
| Maximum palm finger grip     | 10N           | 10N            |
| Force resolution             | 0.5N          | 0.5N           |
| Thumb lateral rotation range | > 65°         | > 65°          |
| Thumb lateral rotation speed | 107°/s        | 107°/s         |
| Thumb bend speed             | 70°/s         | 70°/s          |
| Palm finger bend speed       | 260°/s        | 260°/s         |



The Dexterous Hands Dimensions

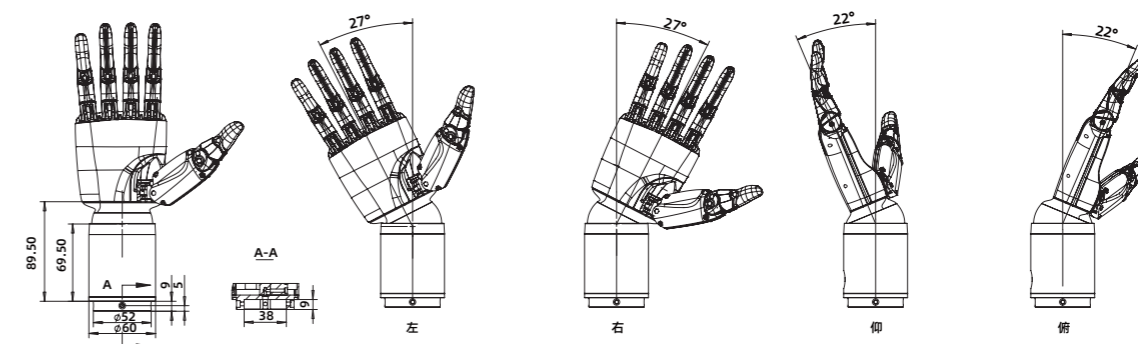


## Wrist with Double Degree of Freedom

MODEL : AMW-RH-12-2



|                   |  |             |
|-------------------|--|-------------|
| Degree of freedom | 2  |             |
| Yaw movement      | Unloaded single-stroke motion period: 0.8s/54° | Range: ±27° |
| Pitch movement    | Unloaded single-stroke motion period: 0.8s/44° | Range: ±22° |
| Load torque       | 2NM (Excluding hand weight)                    |             |
| Weight            | 220g (wrist only) 650g (hand + wrist)          |             |





# Electric gripper

Electric Gripper features controller integrated design, large stroke range, precise force and position control, drop detection, and self-lock even during power loss. Application includes biomedical automated inspection, automated sorting and loading/unloading on production lines, precision assembly, unmanned retail, service robotics, etc.

## APPLICATIONS

- 3C semiconductor
- New energy industry
- Automotive parts
- Precision machining and assembly
- Unmanned retail
- Biomedical laboratory

## EXAMPLES

Loading and unloading    Sorting    Parts assembly    Unmanned retail    Scientific research experiments

## FEATURES OF ELECTRIC GRIPPER

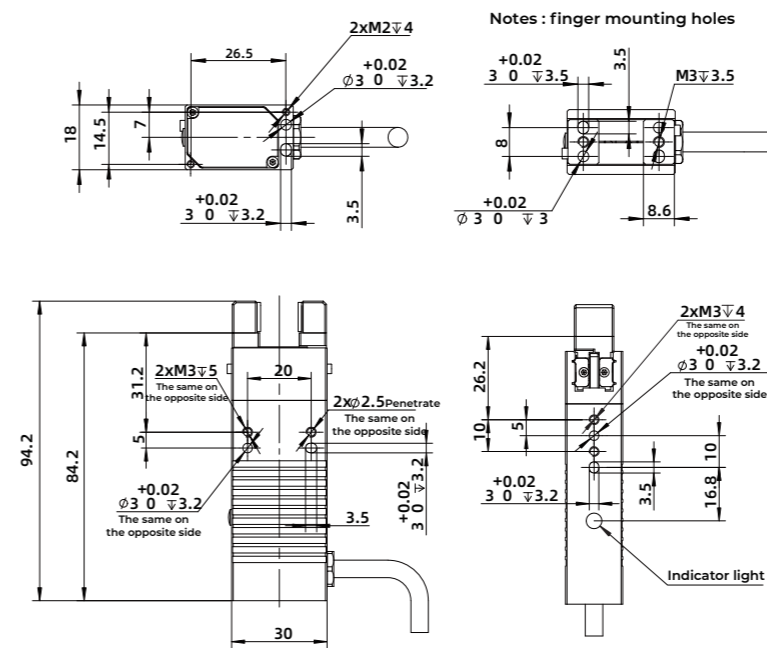
Controller integrated    Large stroke, precisely    Grip force precisely and controllable    Power-off Self-locking



# EG2-1C2

Electric Gripper

**Features: Flexible gripping, compact structure, five-sided flexible installation, controller integrated design, fast, efficient, high force repeatability.**



|                                 |                        |
|---------------------------------|------------------------|
| Grip force                      | 2-30N                  |
| Full stroke (both side)         | 0-12mm                 |
| Positioning repeatability       | $\pm$ 0.01mm           |
| Force repeatability             | $\pm$ 0.2N             |
| Weight                          | $\leq$ 0.15Kg          |
| Size                            | 84.2*30*18mm           |
| Full stroke closing time        | 0.125                  |
| Communication interface         | RS485 (Modbus RTU) /IO |
| Operating voltage               | DC24V $\pm$ 10%        |
| Unloaded current                | 0.04A                  |
| Idling current                  | 0.03A                  |
| Peak current                    | 0.8A                   |
| Recommended working temperature | 0-40°C, Below 85% RH   |
| Protection level                | IP40                   |



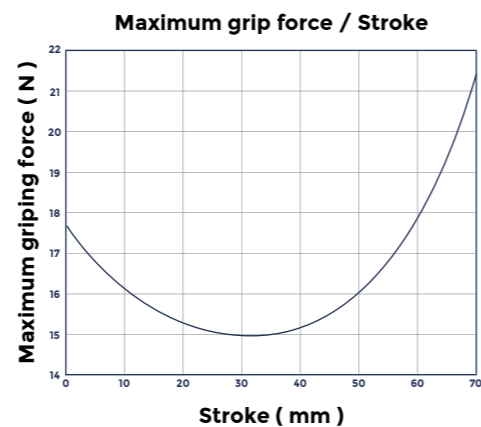
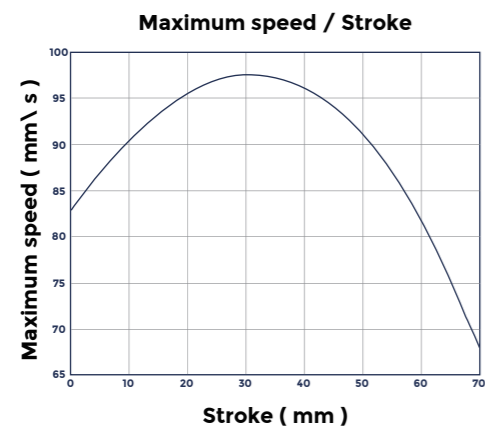
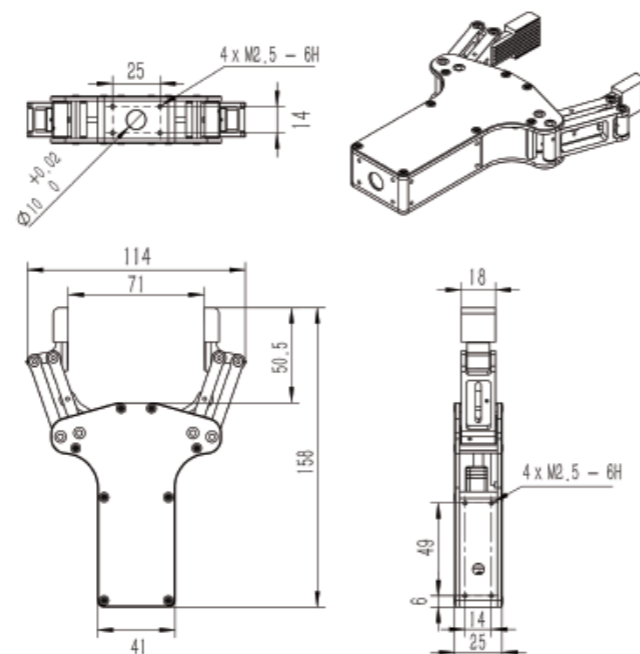
# EG2-4B2

## Electric Gripper



**Features: innovative linear mechanical linkage design, force and position control, large stroke, light weight, power off self-locking.**

|                                 |           |
|---------------------------------|-----------|
| Model                           | EG2-4B2   |
| Communication interface         | RS485     |
| Full stroke (both side)         | 70mm      |
| Weight                          | 223g      |
| Grip force                      | 0-15N     |
| Force repeatability             | ±1N       |
| Operating voltage               | DC24V±10% |
| Peak current                    | 0.7A      |
| Positioning repeatability       | ±0.5mm    |
| Maximum speed                   | 97mm/s    |
| Full stroke closing time        | 0.85s     |
| Protection level                | IP40      |
| Recommended working temperature | 0-40°C    |



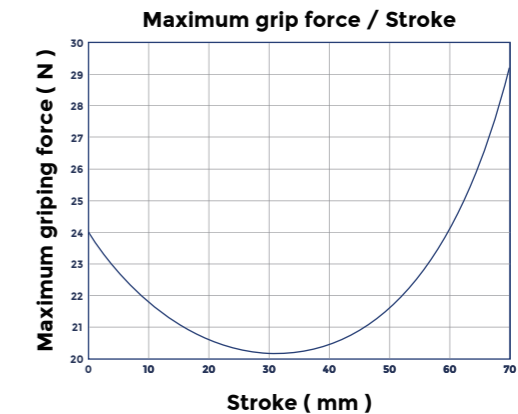
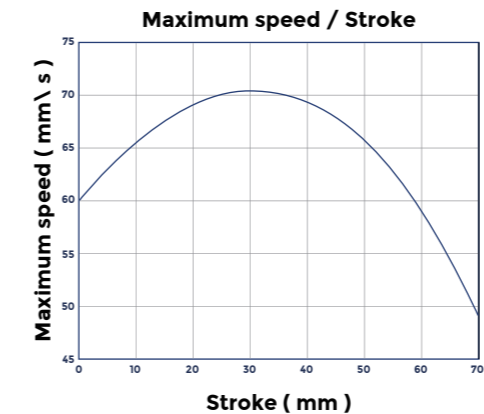
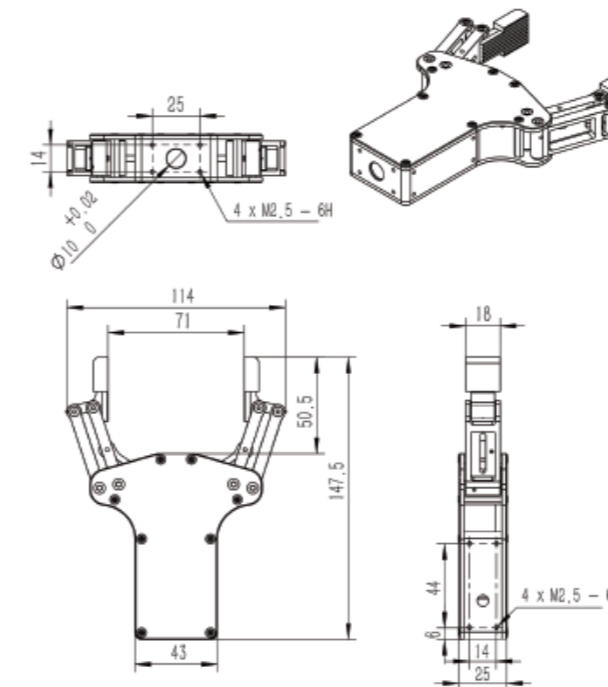
# EG2-4C2

## Electric Gripper



**Features: innovative linear mechanical linkage design, force and position control, large stroke, light weight, power off self-locking.**

|                                 |           |
|---------------------------------|-----------|
| Model                           | EG2-4C2   |
| Communication interface         | RS485     |
| Full stroke (both side)         | 70mm      |
| Weight                          | 231g      |
| Grip force                      | 0-20N     |
| Force repeatability             | ±1N       |
| Operating voltage               | DC24V±10% |
| Peak current                    | 0.7A      |
| Positioning repeatability       | ±0.5mm    |
| Maximum speed                   | 70mm/s    |
| Full stroke closing time        | 1.3s      |
| Protection level                | IP40      |
| Recommended working temperature | 0-40°C    |



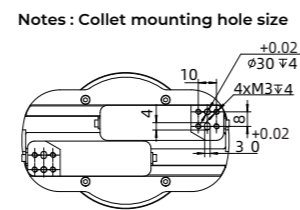
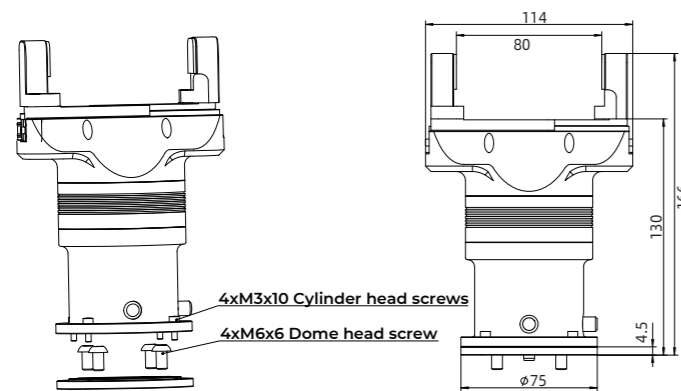
# EG2-4E2

## Electric Gripper



**Features: Large stroke at 80mm, flexible gripping, swift, safe, and stable operation.**

|                                 |   |
|---------------------------------|---|
| Grip force                      | 5-80N   |
| Force repeatability             | ±3N   |
| Full stroke (both side)         | 0-80mm  |
| Positioning repeatability       | ±0.03mm   |
| Full stroke closing time        | 0.5s  |
| Weight                          | ≤1.1kg  |
| Communication interface         | RS485(Modbus RTU)   |
| Operating voltage               | DC24V±10%   |
| Unloaded current                | 0.2A  |
| Idling current                  | 0.05A   |
| Peak current                    | 1.7A  |
| Recommended working temperature | 0-40 °C, Below 85%RH  |
| Protection level                | IP44  |
| Featured functions              | 1. Self-lock even during power loss<br>2. Integrated force sensor |

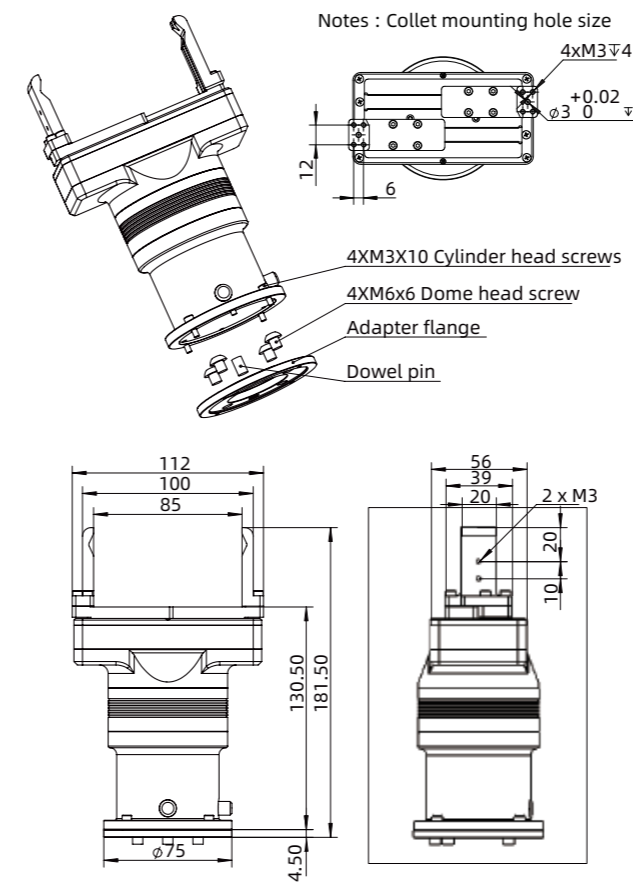


# EG2-5E2

## Electric Gripper



**Features: Large stroke at 85mm, flexible gripping, swift, safe, and stable operation, dust-proof end effector.**



|                                 |   |
|---------------------------------|---|
| Grip force                      | 5-80N   |
| Force repeatability             | ±3N   |
| Full stroke (both side)         | 0-85mm  |
| Positioning repeatability       | ±0.03mm   |
| Full stroke closing time        | 0.6s  |
| Weight                          | ≤1.2kg  |
| Communication interface         | RS485 (Modbus RTU)  |
| Operating voltage               | DC24V±10%   |
| Unloaded current                | 0.2A  |
| Idling current                  | 0.05A   |
| Peak current                    | 1.7A  |
| Recommended working temperature | 0-40 °C, Below 85%RH  |
| Protection level                | IP54  |
| Featured functions              | 1. Self-lock even during power loss<br>2. Integrated force sensor<br>3. Rail protection |

