

## Product Data Sheet

---

# Actuator 01FS70

01FS70 is a strong and powerful actuator up to 7000N thrust, designed for use in furniture, such as recliner or lift chair. There are many types of control boxes compatible with 01FS70 which are available for customers to choose.



## Features and Options

---

**Main applications:** Furniture, Home care

**Standard features:**

- Input voltage: 24V DC
- Max. load: 7000N (Push) / 5000N (Pull)
- Max. speed at no load: 7.7mm/sec (Typical value)
- Speed at full load: 2.9mm/sec (Typical value @7000N loaded)
- Stroke: 50 ~ 300mm
- Noise level:  $\leq 50$ dB
- IP level: IP43 (Static; non-action)
- Preset limit switches
- Duty cycle: 10%, max. 2 min. continuous operation in 20 min.
- Operating ambient temperature:  $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$
- Certified: CE Marking, EMC Directive 2014/30/EU,  
UL 962 Standard for Household and Commercial Furnishings.

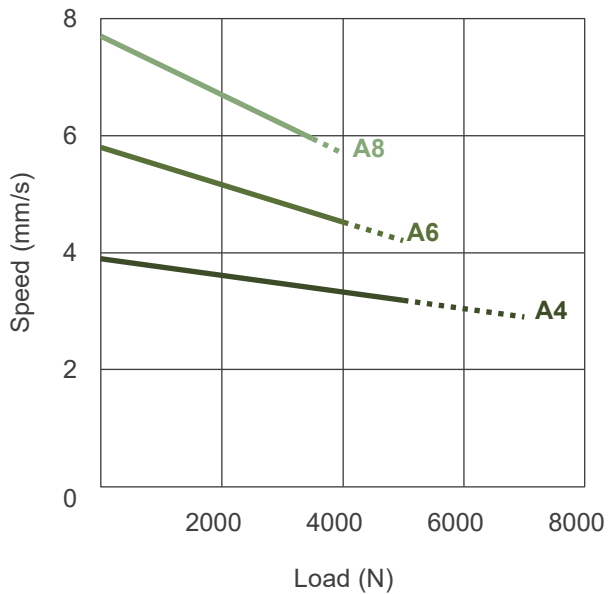
**Options:**

- Positioning signal feedback with Hall effect sensor x 1
- Positioning signal feedback with Hall effect sensor x 2
- Mechanical push only extension tube
- Mechanical brake

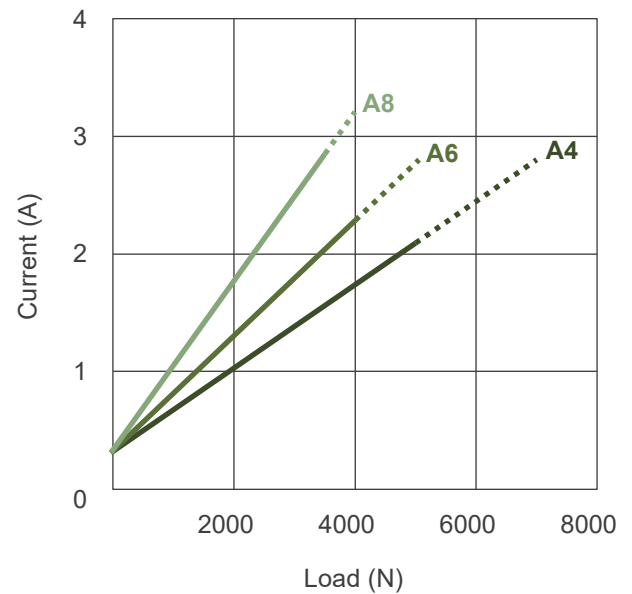
## Performance Data

Model No.	Max. Push (N)	Max. Pull (N)	Self-locking ability (N) *	Typical speed (mm/s) **		Typical current (A) @ 24V **	
				No load	Full load	No load	Full load
01FS70-24-A4-XXX-CXX	7000	5000	5000	3.9	2.9	0.3	2.8
01FS70-24-A6-XXX-CXX	5000	4000	2500	5.8	4.2	0.3	2.8
01FS70-24-A8-XXX-CXX	4000	3500	2000	7.7	5.7	0.3	3.2

### Speed VS. Load



### Current VS. Load



Push / Pull Load — Push Load - - -

### Remarks:

\* The self-locking ability is performed by short circuit the motor terminals when the actuator is powered off. All compatible control boxes are designed with this feature. Mechanical brake in push direction is available upon request, to further enhance the self-locking ability to maximum load.

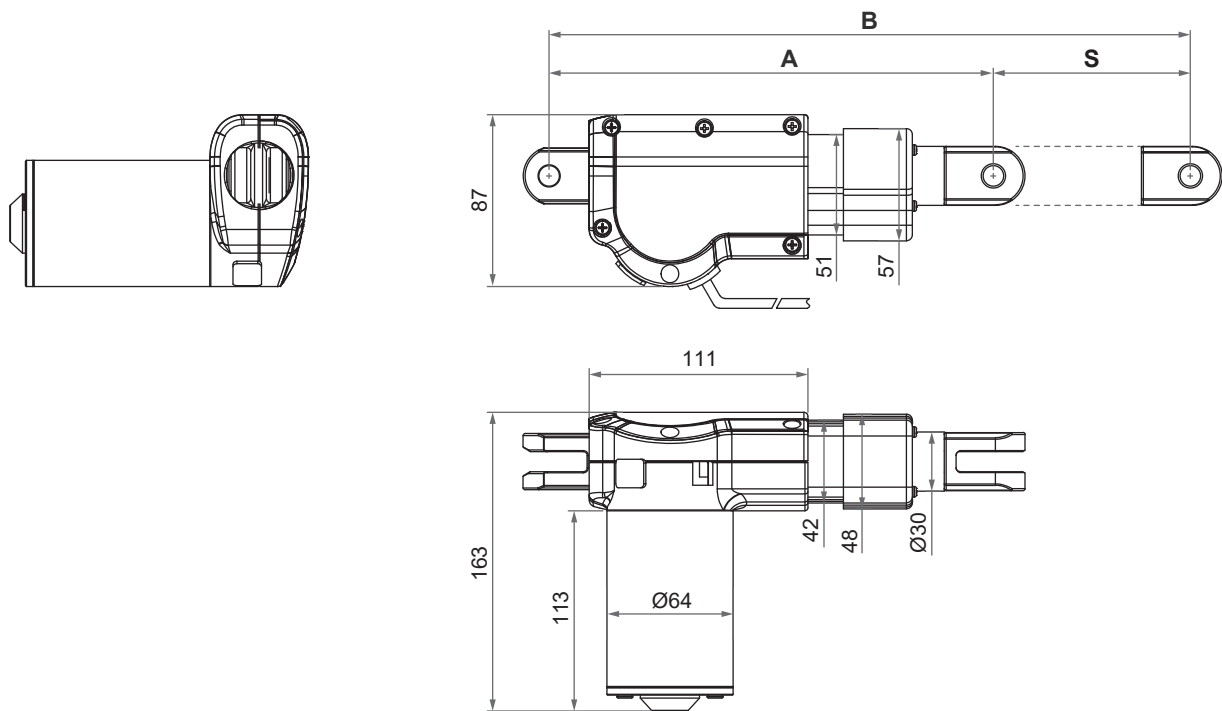
\*\* The typical speed or typical current means the average value neither upper limit nor lower limit. The performance curves are made with typical values.

## Dimensions

- Available stroke (S) range = 50 ~ 300mm (±3mm)
- Extended length (B) = Retracted length (A) + Stroke (S)
- Retracted length (A)

	Front connector code	Option	
		Standard	Push only
Retracted length (A)	3	$A \geq S + 150\text{mm}$ (±3mm)	Add 10mm to retracted length (A)
	4	$A \geq S + 160\text{mm}$ (±3mm)	
	6	$A \geq S + 188\text{mm}$ (±3mm)	

### • Drawing



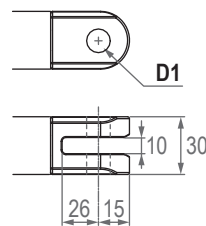
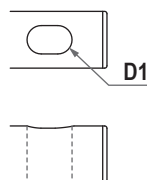
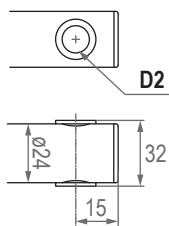
Unit: mm

### • Front connector

3: Drilled hole

4: Oval hole

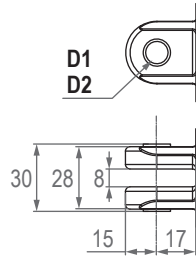
6: Enhanced plastic



Front connector code	Diameter of pivot without bushing (D1)	Diameter of pivot with bushing (D2)
3	N/A	Ø8, Ø10
4	Ø8x10	N/A
6	Ø10	N/A

• **Rear connector**

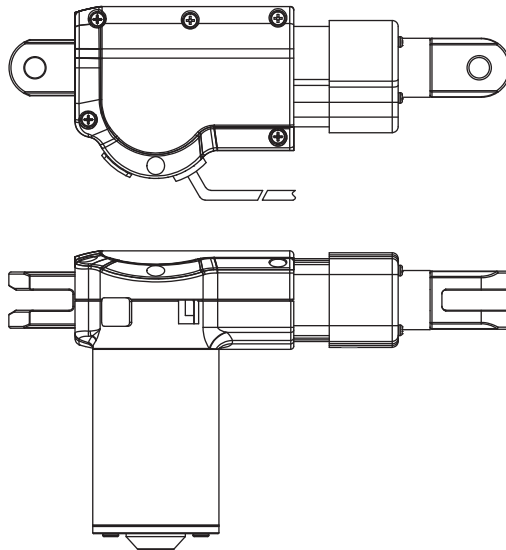
2: Zinc alloy clevis



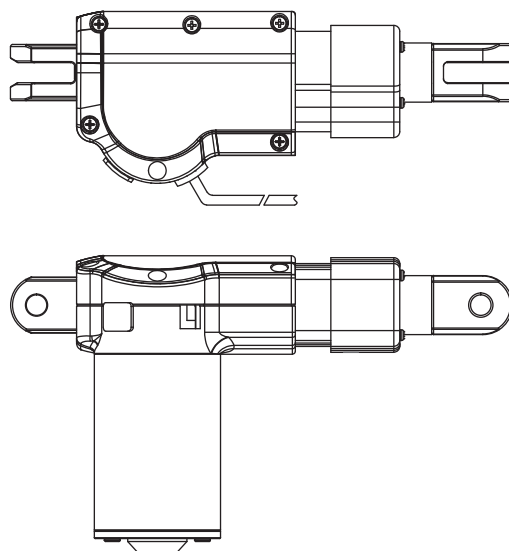
Rear connector code	Diameter of pivot without bushing (D1)	Diameter of pivot with bushing (D2)
2	Ø10, Ø12	Ø8, Ø10

• **Pivot orientation of rear connectors**

0° (standard)



90°



## Compatibility

Product	Model	GD70 spec
<b>Control box</b>	T-control, CS1, CS2, CB3T, CB4M, CBT2	<ul style="list-style-type: none"> <li>• Without positioning sensor</li> <li>• With F-type 4-pin DIN plug</li> </ul>
	CF11H, CF12H	<ul style="list-style-type: none"> <li>• Without positioning sensor</li> <li>• With L3-type minifit 6-pin plug</li> </ul>
	CB3T-SY, CB4M-S, CB4M-B	<ul style="list-style-type: none"> <li>• With dual Hall effect sensors for positioning</li> <li>• With F-type 6-pin DIN plug</li> </ul>
	CF11S, CF12S	<ul style="list-style-type: none"> <li>• With dual Hall effect sensors for positioning</li> <li>• With L3-type minifit 6-pin plug</li> </ul>
<b>Hand control</b>	Depend on control box	<ul style="list-style-type: none"> <li>• Powered by control box</li> </ul>
	HS15	<ul style="list-style-type: none"> <li>• With S-type DIN 41529 male plug <sup>(1)</sup></li> </ul>

### Remarks:

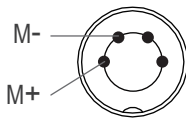
(1) The S-type DIN 41529 plug of the actuator is connected to the HS15 hand control directly, no control box.

## Cable Plug

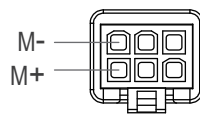
### Connecting control devices that provide power

#### 1. With F-type or L3-type plug

- Without positioning feedback



F-type 4-pin DIN plug

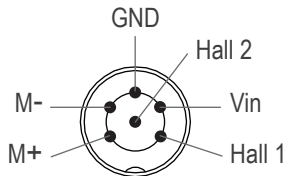


L3-type Minifit 6-pin plug

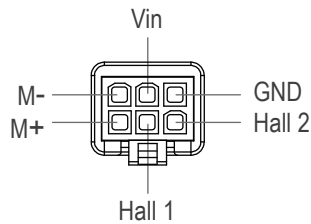


F-type plug

- Positioning feedback with dual Hall effect sensors



F-type 6-pin DIN plug



L3-type Minifit 6-pin plug



L3-type plug

#### 2. With S-type DIN 41529 2-pin male plug



S-type plug

**Note:** Pin definition


	Definition	Descriptions								
Power	M+	Connect M+ to "Vdc +" & M- to "Vdc -" of DC power to extend the actuator. Switch the polarity of DC input to retract it.								
	M-									
Signal	Vin	Voltage input range: 5 ~ 20V								
	Hall 1 output	High= Input - 1.2V (±0.6V) Low= GND Hall signal data: <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>Actuator extends</p> </div> <div style="text-align: center;"> <p>Actuator retracts</p> </div> </div>								
	Hall 2 output	Hall effect sensor resolution: <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Model No.</th> <th>Resolution (Pulses/mm)</th> </tr> </thead> <tbody> <tr> <td>01FS70-24-A4-XXX-CXX-HSX</td> <td>10.00</td> </tr> <tr> <td>01FS70-24-A6-XXX-CXX-HSX</td> <td>6.67</td> </tr> <tr> <td>01FS70-24-A8-XXX-CXX-HSX</td> <td>5.00</td> </tr> </tbody> </table>	Model No.	Resolution (Pulses/mm)	01FS70-24-A4-XXX-CXX-HSX	10.00	01FS70-24-A6-XXX-CXX-HSX	6.67	01FS70-24-A8-XXX-CXX-HSX	5.00
	Model No.	Resolution (Pulses/mm)								
01FS70-24-A4-XXX-CXX-HSX	10.00									
01FS70-24-A6-XXX-CXX-HSX	6.67									
01FS70-24-A8-XXX-CXX-HSX	5.00									
GND										

## Cable with Flying Leads

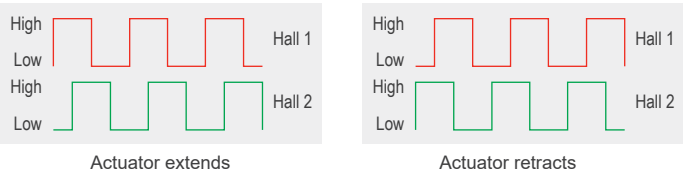
- Basic, without positioning feedback.

	Wire color	Definition	Descriptions
Power wires	White	DC Power	Connect white wire to "Vdc +" & black wire to "Vdc -" of DC power to extend the actuator. Switch the polarity of DC input to retract it.
	Black		

- With single Hall effect sensor for positioning

	Wire color	Definitions	Descriptions								
Power wires	Blue	DC Power	Connect blue wire to "Vdc +" & brown wire to "Vdc -" of DC power to extend the actuator. Switch the polarity of DC input to retract it.								
	Brown										
Signal wires	Yellow	Vin	Voltage input range: 3.5 ~ 20V								
	Red	Hall output	<p>High= Input - 1.2V (<math>\pm 0.6V</math>)            Low= GND            Hall signal data:</p>  <p>Hall effect sensor resolution:</p> <table border="1"> <thead> <tr> <th>Model No.</th> <th>Resolution (pulses/mm)</th> </tr> </thead> <tbody> <tr> <td>01FS70-24-A4-XXX-CXX-HS</td> <td>10.00</td> </tr> <tr> <td>01FS70-24-A6-XXX-CXX-HS</td> <td>6.67</td> </tr> <tr> <td>01FS70-24-A8-XXX-CXX-HS</td> <td>5.00</td> </tr> </tbody> </table>	Model No.	Resolution (pulses/mm)	01FS70-24-A4-XXX-CXX-HS	10.00	01FS70-24-A6-XXX-CXX-HS	6.67	01FS70-24-A8-XXX-CXX-HS	5.00
	Model No.	Resolution (pulses/mm)									
01FS70-24-A4-XXX-CXX-HS	10.00										
01FS70-24-A6-XXX-CXX-HS	6.67										
01FS70-24-A8-XXX-CXX-HS	5.00										
Black	GND										

• With dual Hall effect sensors for positioning

	Wire color	Definitions	Descriptions								
Power wires	Blue	DC Power	Connect blue wire to "Vdc +" & brown wire to "Vdc -" of DC power to extend the actuator. Switch the polarity of DC input to retract it.								
	Brown										
Signal wires	Yellow	Vin	Voltage input range: 3.5 ~ 20V								
	Red	Hall 1 output	<p>High= Input - 1.2V (<math>\pm 0.6V</math>)            Low= GND            Hall signal data:</p> 								
	Green	Hall 2 output	<p>Hall effect sensor resolution:</p> <table border="1"> <thead> <tr> <th>Model No.</th> <th>Resolution (pulses/mm)</th> </tr> </thead> <tbody> <tr> <td>01FS70-24-A4-XXX-CXX-HS2</td> <td>10.00</td> </tr> <tr> <td>01FS70-24-A6-XXX-CXX-HS2</td> <td>6.67</td> </tr> <tr> <td>01FS70-24-A8-XXX-CXX-HS2</td> <td>5.00</td> </tr> </tbody> </table>	Model No.	Resolution (pulses/mm)	01FS70-24-A4-XXX-CXX-HS2	10.00	01FS70-24-A6-XXX-CXX-HS2	6.67	01FS70-24-A8-XXX-CXX-HS2	5.00
	Model No.	Resolution (pulses/mm)									
01FS70-24-A4-XXX-CXX-HS2	10.00										
01FS70-24-A6-XXX-CXX-HS2	6.67										
01FS70-24-A8-XXX-CXX-HS2	5.00										
Black	GND										

## Certifications

01FS70 actuator is compliant with the following regulations, in terms of the essential conformity requirements of EMC Directive of 2014/30/EU.

Emission	Immunity
EN55014-1:2017+A11:2020	EN 55014-2:2015



## Ordering Key

01FS70 - 24 - A4 - 388 - 588 - C 3 2 - HS - PO-BK 0	
<b>Input voltage</b>	<b>24:</b> 24V DC
<b>Motor and Spindle type</b>	<b>A4:</b> 2500rpm / 4mm pitch <b>A6:</b> 2500rpm / 6mm pitch <b>A8:</b> 2500rpm / 8mm pitch
<b>Retracted length</b> <i>(Refer to page 3)</i>	<b>XXX</b>
<b>Extended length</b> <i>(Refer to Page 3)</i>	<b>XXX</b>
<b>Front connector</b> <i>(Refer to Page 3)</i>	<b>3:</b> Drilled hole <b>4:</b> Oval hole <b>6:</b> Enhanced plastic
<b>Rear connector</b> <i>(Refer to Page 4)</i>	<b>2:</b> Zinc alloy clevis
<b>Positioning feedback</b>	<b>Blank:</b> None <b>HS:</b> Hall effect sensor x 1 <b>HS2:</b> Hall effect sensor x 2
<b>Option</b> <i>(Multiple choice is allowed)</i>	<b>Blank:</b> None <b>PO:</b> Mechanical push only extension tube <b>BK:</b> Mechanical brake
<b>Cable length</b>	<b>0:</b> 300mm straight <b>1:</b> 1000mm straight <b>A:</b> 450mm with 300mm coiled