

# Actuator

## 01US10F

01US10F has similar appearance and waterproof performance as 01US10F. It adopts ACME lead screw design to achieve a maximum push-pull force of 9,000N and high speed, which is a good value actuator. For applications in various industrial fields, agriculture and construction machinery, 01US10F is a very competitive and good choice when high speed and high load capability are required.



### Features and Options

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**Main applications:** Industrial, Agriculture, Construction

**Standard features:**

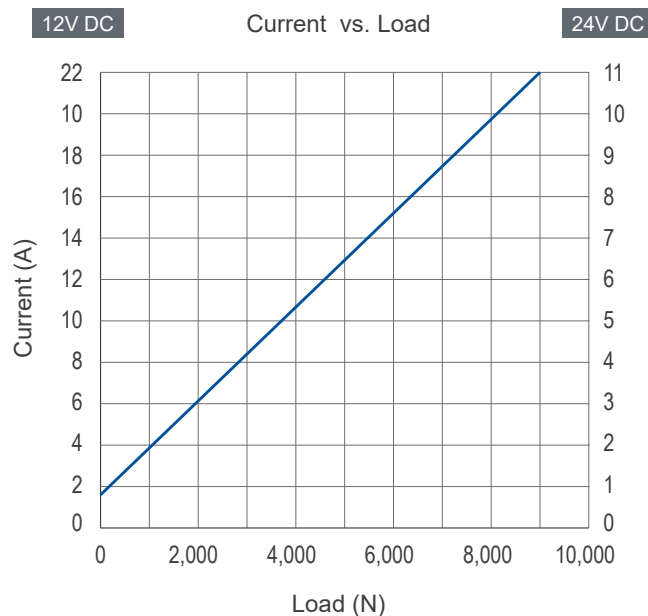
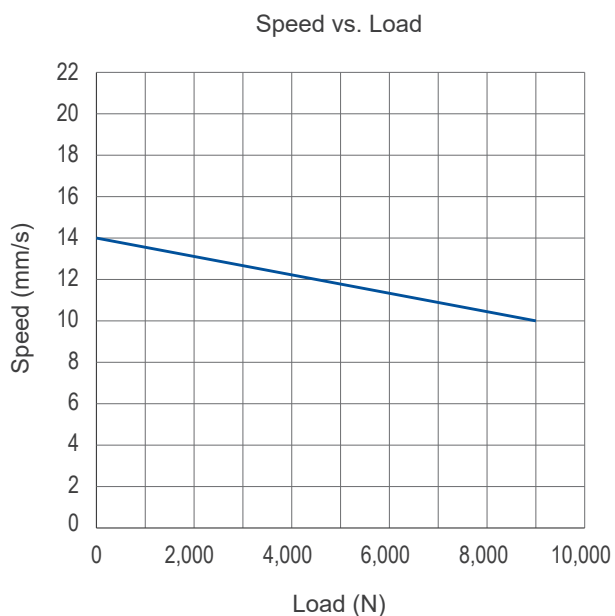
- Input voltage: 12 / 24V DC
- Max. rated load: 9,000N
- Max. static load: 18,000N
- Max. speed at no load: 14mm/sec (typical value)
- Stroke: 102 / 153 / 203 / 254 / 305 / 457 / 610mm
- IP level: IP65
- Overload protection by clutch
- Spindle type: ACME
- Extension tube material: Iron
- Color: Black
- Power cord length: 250mm (with tinned wires)
- Duty cycle: 10%, max. 2 min. continuous operation in 20 min.
- Operating ambient temperature: -25°C ~ +65°C

**Options:**

- Positioning signal feedback with Hall effect sensor x 1
- Analog and absolute positioning feedback with Potentiometer (POT)
- Preset limit switches
- 01NV30 mounting bracket

## Performance Data

Model No.	Push / Pull Max. (N)	*Typical speed (mm/s)		*Typical current (A)			
		No load	Full load	No load		Full load	
				12V	24V	12V	24V
01US10F	9,000	14	10	1.6	0.8	22	11



**Remarks:**

- \* 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

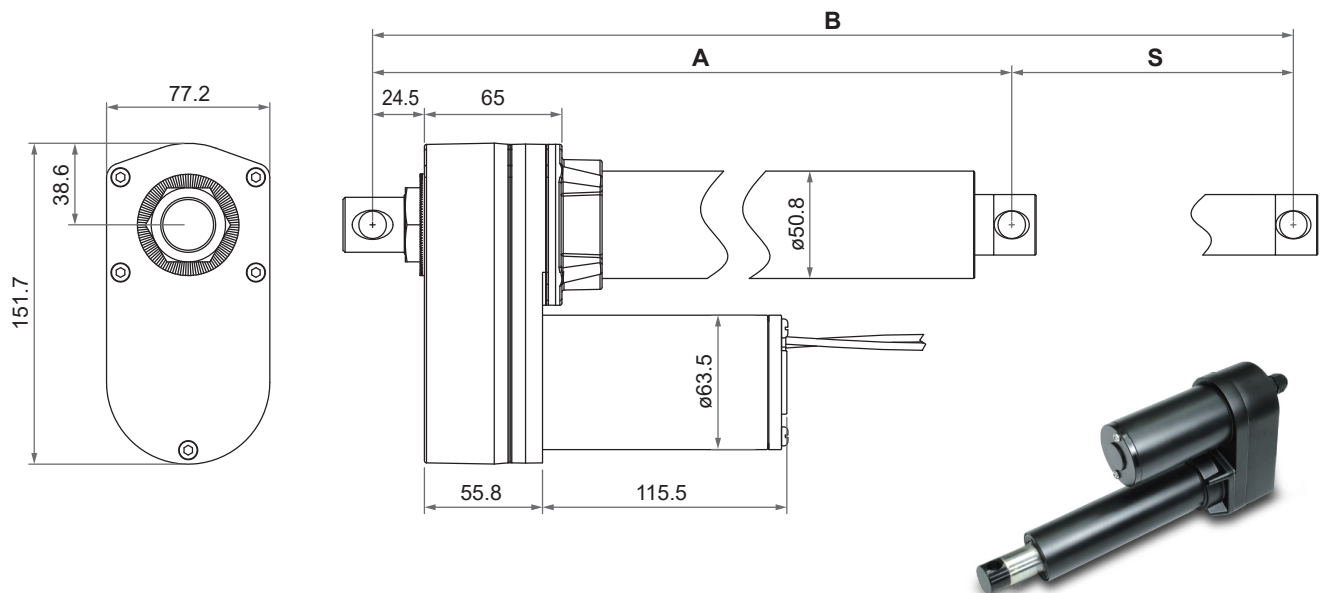
- Extended length (B) = Retracted length (A) + Stroke (S)
- Retracted length (A)

Option	Stroke (S)						
	102 (4")	153 (6")	203 (8")	254 (10")	305 (12")	457 (18")	610 (24")
Standard	302	353	404	455	506	735	888
With positioning feedback	342	393	444	495	546	775	928
With LT	399	450	501	552	680	832	985

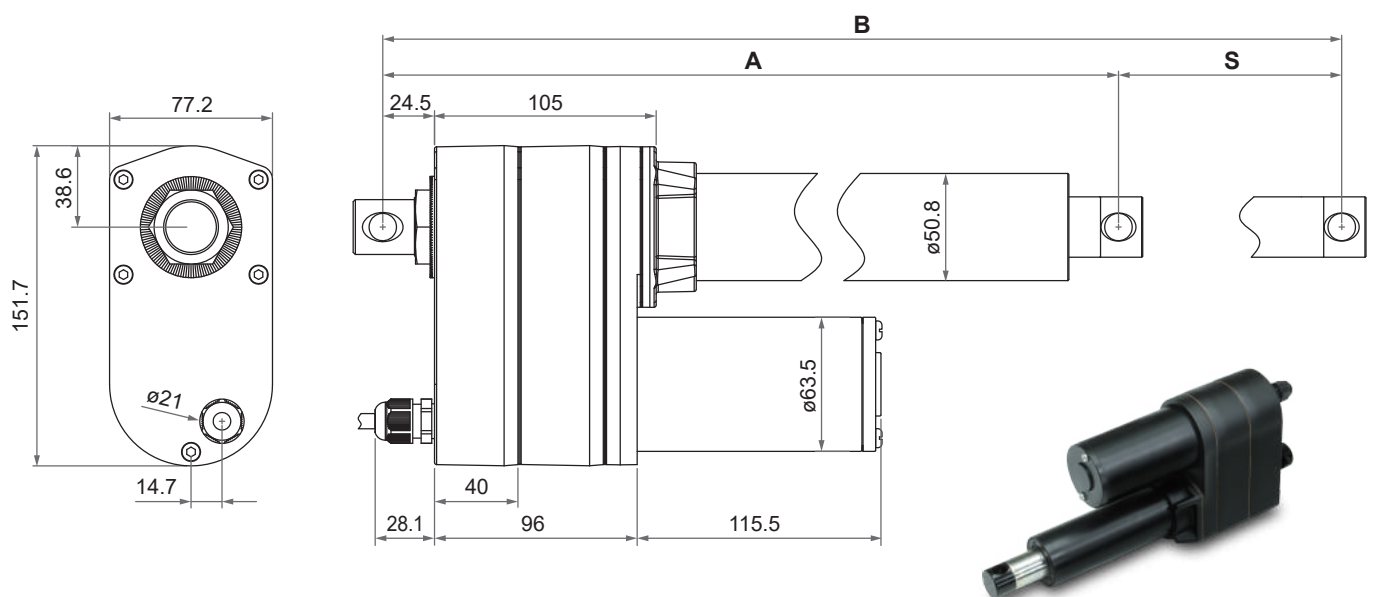
(Tolerance: ±5mm)

### • Drawing

- Standard (without limit switch nor positioning feedback)



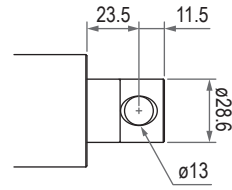
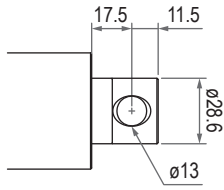
- With limit switches (LT) or positioning feedback



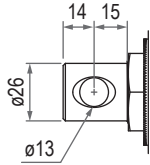
Unit: mm

● **Front connector**

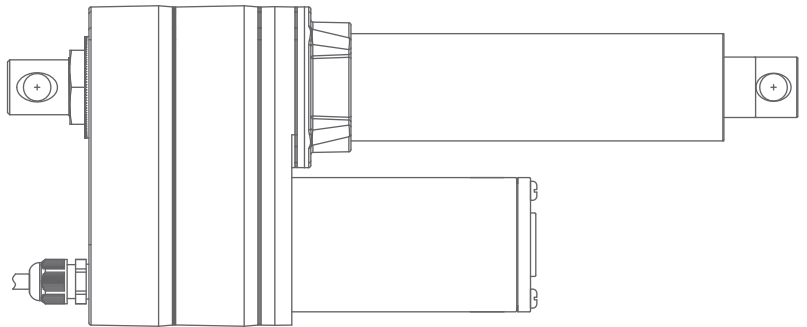
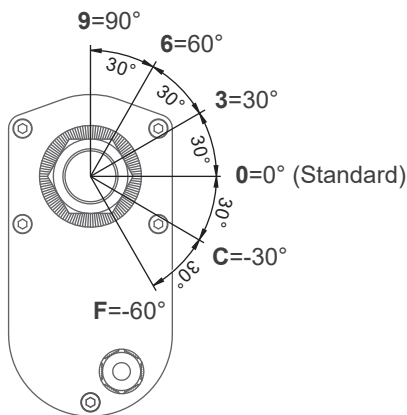
- Standard (without limit switch nor positioning feedback)
- With limit switches (LT) or positioning feedback



● **Rear connector**

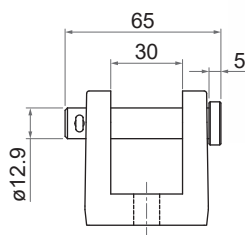
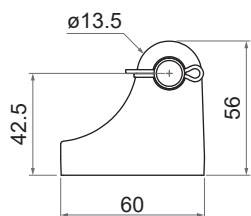
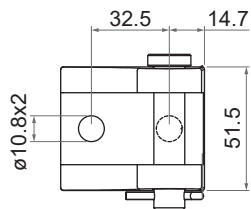


● **Pivot orientation of rear connector**



**Note:** As an example in 0° pivot of rear connector.

● **01NV30 mounting bracket**



Unit: mm

## Compatibility

Product	Model	01US10F spec
<b>Control box</b>	01XU10	<ul style="list-style-type: none"> <li>• 24V motor</li> <li>• With limit switches option</li> <li>• Without positioning sensor feedback</li> </ul>
	01XUA1	<ul style="list-style-type: none"> <li>• 24V motor</li> <li>• With single Hall effect sensor for positioning</li> </ul>
	01XUA2	<ul style="list-style-type: none"> <li>• 12V motor</li> <li>• With single Hall effect sensor for positioning</li> </ul>
	01XUA3	<ul style="list-style-type: none"> <li>• 24V motor</li> <li>• With potentiometer for positioning</li> </ul>

## Wiring

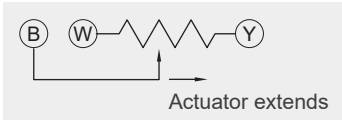
### • Standard (without limit switch nor positioning feedback)

	Wire color	Definition	Comments
<b>Power wires</b>	Red	DC Power	Connect red wire to '-' and black wire to '+' of DC power, the actuator will extend.
	Black		


### • With limit switches

	Wire color	Definition	Comments
<b>Power wires</b>	Red	DC Power	Connect red wire to '+' and black wire to '-' of DC power, the actuator will extend.
	Black		

• With potentiometer (POT) absolute positioning feedback

	Wire color	Definition	Comments															
Power wires	Red	DC Power	Connect red wire to '+' and black wire to '-' of DC power, the actuator will extend.															
	Black																	
Signal wires	White	GND																
	Yellow	Vin	Input voltage 70V max.															
	Blue	POT output	<p>Specification:</p> <ul style="list-style-type: none"> <li>- Potentiometer 10K ohm, 10 turns.</li> <li>- Total resistance tolerance <math>\pm 5\%</math></li> </ul> <p>Output voltage: Between 0 ~ Vin</p> <p>Potentiometer resistance:</p> <table border="1"> <thead> <tr> <th>Stroke (mm)</th> <th>Resistance (tolerance: <math>\pm 0.3K\Omega</math>)</th> </tr> </thead> <tbody> <tr> <td>102 (4")</td> <td>0.3 ~ 8.1K</td> </tr> <tr> <td>153 (6")</td> <td>0.3 ~ 8.7K</td> </tr> <tr> <td>203 (8")</td> <td>0.3 ~ 9.2K</td> </tr> <tr> <td>254 (10")</td> <td>0.3 ~ 7.4K</td> </tr> <tr> <td>305 (12")</td> <td>0.3 ~ 8.8K</td> </tr> <tr> <td>457 (18")</td> <td>0.3 ~ 9.4K</td> </tr> <tr> <td>610 (24")</td> <td>0.3 ~ 9.8K</td> </tr> </tbody> </table> <p>The resistance between blue and white wires increases when the actuator extends, and decreases when it retracts.</p> 	Stroke (mm)	Resistance (tolerance: $\pm 0.3K\Omega$ )	102 (4")	0.3 ~ 8.1K	153 (6")	0.3 ~ 8.7K	203 (8")	0.3 ~ 9.2K	254 (10")	0.3 ~ 7.4K	305 (12")	0.3 ~ 8.8K	457 (18")	0.3 ~ 9.4K	610 (24")
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• With single Hall effect sensor positioning feedback

	Wire color	Definition	Comments
Power wires	Red	DC Power	Connect red wire to '+' and black wire to '-' of DC power, the actuator will extend.
	Black		
Signal wires	White	GND	
	Yellow	Vin	Voltage input range (Vin): 3.5 ~ 20V
	Blue	Hall output	<p>Hall effect sensor resolution: 20ppi, 1.27mm/pulse (0.787pulses/mm)</p> <p>Output voltage of signal (DATA) = Vin</p> <p>Hall signal data:</p> 

## Ordering Key

01US10F-12-G8A-40-102-0-0-0-P-L-5-0

<b>Input voltage</b>	12: 12V DC 24: 24V DC
<b>Motor and spindle type</b>	G8A: 4500rpm / 8mm pitch / ACME
<b>Gear ratio</b>	40: 40:1
<b>Stroke</b>	102: 102mm (4") 153: 153mm (6") 203: 203mm (8") 254: 254mm (10") 305: 305mm (12") 457: 457mm (18") 610: 610mm (24")
<b>Front connector</b>	0: Standard B: 01NV30 mounting bracket
<b>Rear connector</b>	0: Standard B: 01NV30 mounting bracket
<b>Pivot orientation of rear connector</b> <i>(Please refer to Page 4)</i>	0: 0° (Standard) 3: 30° counter-clockwise 6: 60° counter-clockwise 9: 90° counter-clockwise C: -30° clockwise F: -60° clockwise
<b>Positioning feedback</b>	0: None P: Potentiometer (POT) H: Hall effect sensor x 1
<b>Limit switches</b>	0: None L: Limit switches
<b>IP level</b>	5: IP65
<b>Reserved</b>	