

# Actuator ID16

ID16 is an actuator suitable for solar tracker application with maximum load of 5500N. There are various positioning feedback options available, such as dual Hall sensor, potentiometer and reed sensor.



## Features and Options

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**Main applications:** Industrial, Solar tracker

**Standard features:**

- Input voltage: 24V DC
- Rated load: 5,500N
- Max. static load: 13,600N
- Max. speed at no load: 3.3 mm/sec (typical value)
- Stroke: 450 / 600 / 900mm
- IP level: IP65
- ACME threaded spindle
- Preset limit switches
- Steel extension tube
- Color: Black
- Power cord length: 250mm (with bare wires)
- Duty cycle: 10%, max. 2 min. continuous operation in 20 min.
- Operating ambient temperature: -20°C ~ +65°C
- Certified: CE Marking, EMC Directive 2014/30/EU

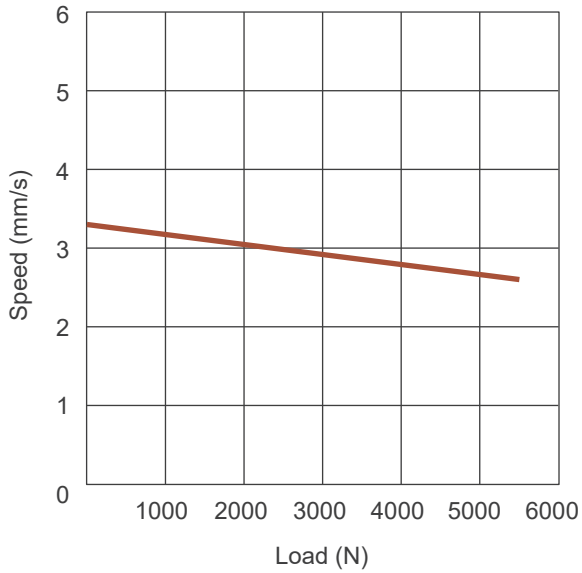
**Options:**

- Positioning signal feedback with Hall effect sensor x 2
- Positioning signal feedback with Reed sensor
- Analog positioning feedback with Potentiometer (POT)
- Clamp with spherical rod eye

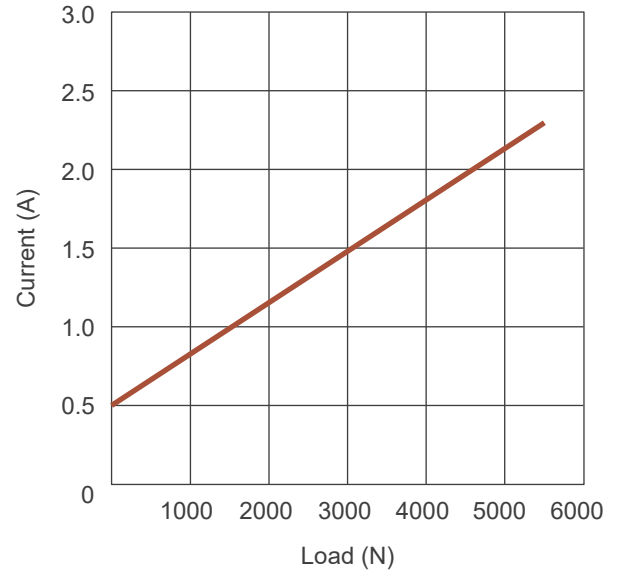
## Performance Data

Model No.	Push / Pull Max. (N)	* Typical Speed (mm/s)		* Typical Current (A) @ 24V DC	
		No load	Full load	No load	Full load
ID16	5500	3.3	2.6	0.5	2.3

Speed vs. Load



Current vs. Load



### 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.

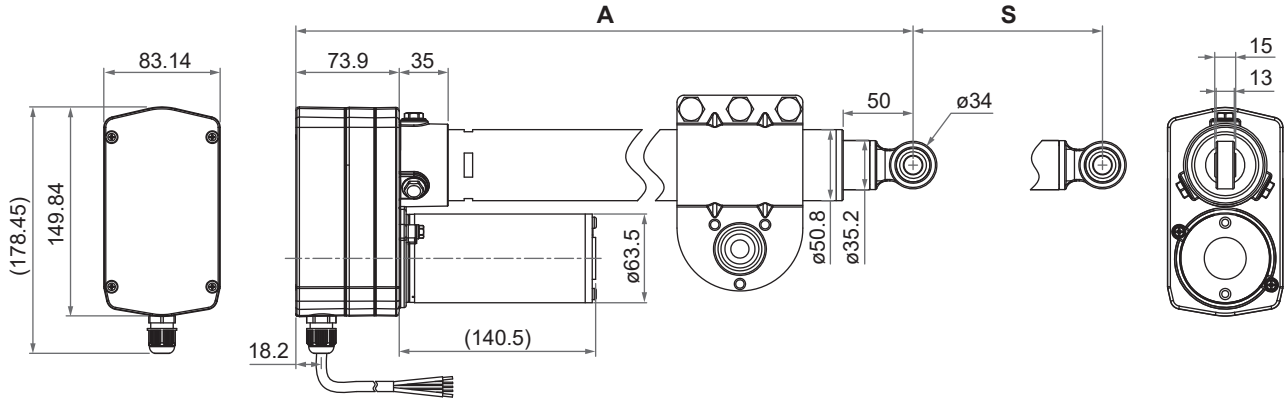
## Dimensions

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

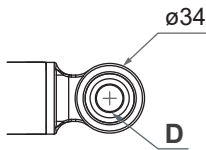
Stroke (S)	450mm (18")	600mm (24")	900mm (36")
Retracted length (A)	813mm	963mm	1263mm

(tolerances: ±5mm)

### • Drawing

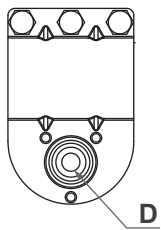


- Front connector  
Spherical rod eye

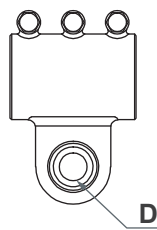


Code	Diameter of pivot (D)
0	ø13mm
1	ø12mm
2	ø16mm

- Rear connector  
Clamp with spherical rod eye



Standard



Option

Clamp type	Code	Diameter of pivot (D)
Standard	0	ø13mm
	1	ø12mm
	2	ø16mm
Option	3	ø19mm

Unit: mm

## Wiring

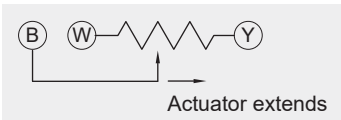
- Basic, without positioning feedback.

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

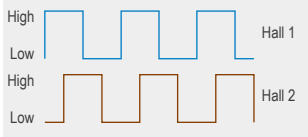
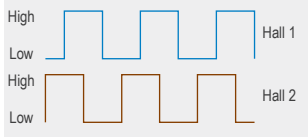
- With reed sensor

	Wire color	Definition	Descriptions
Power wires	Red	DC power	Connect red wire to "Vdc +" & black wire to "Vdc -" of DC power to extend the actuator. Switch the polarity of DC input to retract it.
	Black		
Signal wires	Yellow	Data	Resolution: 1.18 pulses/mm (30PPI)
	White	GND	

- With potentiometer (POT)

	Wire color	Definition	Descriptions								
Power wires	Red	DC power	Connect red wire to "Vdc +" & black wire to "Vdc -" of DC power to extend the actuator. Switch the polarity of DC input to retract it.								
	Black										
Signal wires	Yellow	Vin	Input voltage 70V max.								
	Blue	POT output	<p>Potentiometer specification:</p> <ul style="list-style-type: none"> <li>- 10K ohm, 10 turns.</li> <li>- Total resistance tolerance <math>\pm 5\%</math></li> </ul> <p>Output voltage: Between 0 ~ Vin</p> <p>The potentiometer resistance according to different strokes are as follows:</p> <table border="1"> <thead> <tr> <th>Stroke</th> <th>Resistance (tolerances: <math>\pm 0.3K\Omega</math>)</th> </tr> </thead> <tbody> <tr> <td>450mm</td> <td>0.3 ~ 7.9K</td> </tr> <tr> <td>600mm</td> <td>0.3 ~ 8.3K</td> </tr> <tr> <td>900mm</td> <td>0.3 ~ 7.4K</td> </tr> </tbody> </table> <p>The resistance between blue and white wires increases when the actuator extends, and decreases when it retracts.</p> 	Stroke	Resistance (tolerances: $\pm 0.3K\Omega$ )	450mm	0.3 ~ 7.9K	600mm	0.3 ~ 8.3K	900mm	0.3 ~ 7.4K
	Stroke	Resistance (tolerances: $\pm 0.3K\Omega$ )									
450mm	0.3 ~ 7.9K										
600mm	0.3 ~ 8.3K										
900mm	0.3 ~ 7.4K										
White	GND										

● With Hall effect sensor x 2

	Wire color	Definition	Descriptions
Power wires	Red	DC power	Connect red wire to "Vdc +" & black wire to "Vdc -" of DC power to extend the actuator. Switch the polarity of DC input to retract it.
	Black		
Signal wires	Orange	Vin	Voltage input range: 5 ~ 20V
	Blue	Hall 1 output	Hall effect sensor resolution: 11.42 pulses/mm (290PPI) 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>
	Brown	Hall 2 output	
	White	GND	

## Certifications

ID16 actuator is compliant with the following regulations, in terms of the essential conformity requirements of EMC Directive of 2014/30/EU.

Emission	Immunity
EN 61000-6-3:2007+A1:2011	EN 61000-6-1:2007 IEC 61000-4-2:2008 IEC 61000-4-3:2006+A1:2007+A2:2010 IEC 61000-4-8:2009

## Ordering Key

ID16 - 24 D 5A - 450 - 0 0 H 1 0 5 1	
<b>Input voltage</b>	24: 24V DC
<b>Motor code</b>	D
<b>Spindle type</b>	5A: ACME / 5TPI
<b>Stroke</b>	450: 450mm (18") 600: 600mm (24") 900: 900mm (36")
<b>Front connector</b> (Refer to Page 3)	<b>Spherical rod eye</b> 0: $\varnothing$ 13mm 1: $\varnothing$ 12mm 2: $\varnothing$ 16mm
<b>Rear connector</b> (Refer to Page 3)	<b>Clamp with spherical rod eye</b> 0: $\varnothing$ 13mm 1: $\varnothing$ 12mm 2: $\varnothing$ 16mm 3: $\varnothing$ 19mm
<b>Positioning feedback</b>	H: Hall effect sensor x 2 R: Reed sensor P: Potentiometer 0: None
<b>Cable</b>	1: Straight cable with bare wires, 250mm.
<b>Reserved</b>	0
<b>IP level</b>	5: IP65
<b>Others</b>	1: Cable outlet at body side with steel inner tube 2: Cable outlet at body side with stainless steel inner tube

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