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

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

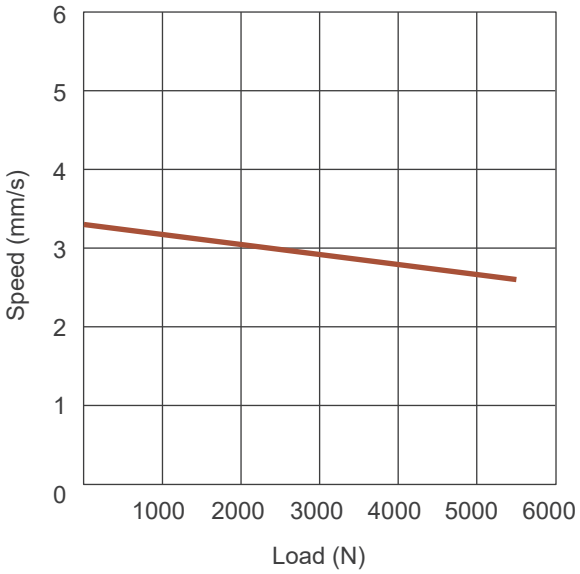
Options:

- 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

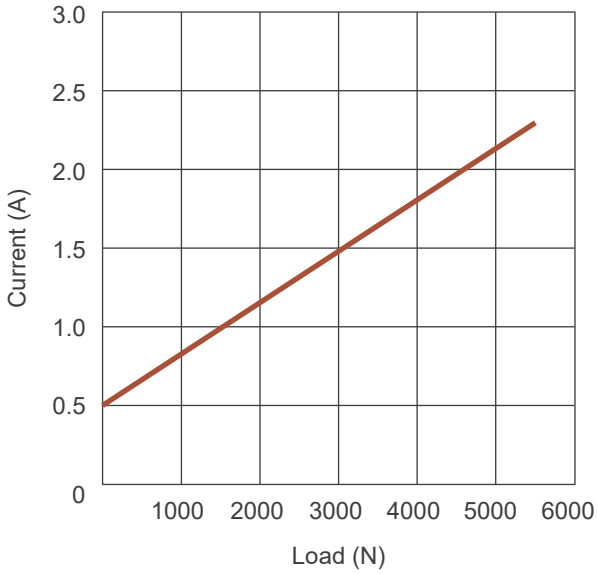
Performance Data

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.

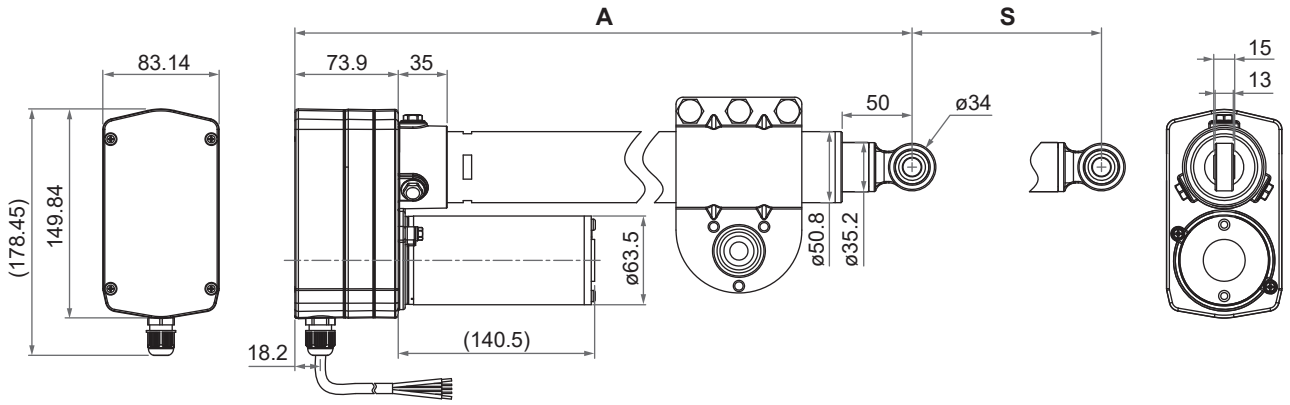
Dimensions

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

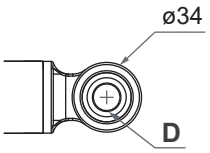
Stroke (S)	450mm (18”)	600mm (24”)	900mm (36”)
Retracted length (A)	813mm	963mm	1263mm

(tolerances: ±5mm)

- **Drawing**

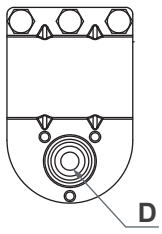


- **Front connector**
  Spherical rod eye

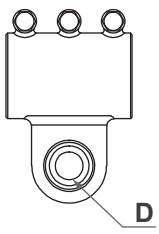


Code	Diameter of pivot (D)
0	ø13mm
1	ø12mm
2	ø16mm

- **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.**

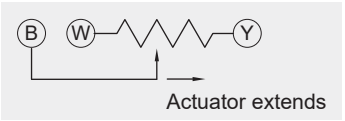
	Wire color	Definition	Descriptions
Power wires	Red	DC power	Connect red wire to “Vdc +” & black wire to “Vdc -“ of DC power to extend the actuator. Switch the polarity of DC input to retract it.
	Black		

- **With reed sensor**

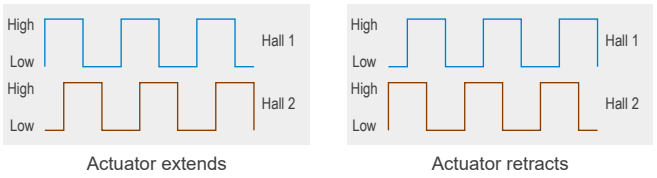
	Wire color	Definition	Descriptions
Power wires	Red	DC power	Connect red wire to “Vdc +” & black wire to “Vdc -“ of DC power to extend the actuator. Switch the polarity of DC input to retract it.
	Black		
Signal wires	Yellow	Data	Resolution: 1.18 pulses/mm (30PPI)
	White	GND	

- **With potentiometer (POT)**

<table>
<tr><th></th><th>Wire color</th><th>Definition</th><th>Descriptions</th></tr>
<tr><td rowspan="2">Power wires</td><td>Red</td><td rowspan="2">DC power</td><td rowspan="2">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.</td></tr>
<tr><td>Black</td></tr>
<tr><td rowspan="3">Signal wires</td><td>Yellow</td><td>Vin</td><td>Input voltage 70V max.</td></tr>
<tr><td>Blue</td><td>POT output</td><td>Potentiometer specification:
- 10K ohm, 10 turns.
- Total resistance tolerance ±5%
Output voltage: Between 0 ~ Vin

The potentiometer resistance according to different strokes are as follows:
<table>
<tr><th>Stroke</th><th>Resistance (tolerances: ±0.3KΩ)</th></tr>
<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>
</table>
The resistance between blue and white wires increases when the actuator extends, and decreases when it retracts.
 
</td></tr>
<tr><td>White</td><td>GND</td><td></td></tr>
</table>

- **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: 
	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

Input voltage	**24**: 24V DC
Motor code	**D**
Spindle type	**5A**: ACME / 5TPI
Stroke	**450**: 450mm (18”) **600**: 600mm (24”) **900**: 900mm (36”)
Front connector (Refer to Page 3)	**Spherical rod eye** **0**: ø13mm **1**: ø12mm **2**: ø16mm
Rear connector (Refer to Page 3)	**Clamp with spherical rod eye** **0**: ø13mm **1**: ø12mm **2**: ø16mm **3**: ø19mm
Positioning feedback	**H**: Hall effect sensor x 2 **R**: Reed sensor **P**: Potentiometer **0**: None
Cable	**1**: Straight cable with bare wires, 250mm.
Reserved	**0**
IP level	**5**: IP65
Others	**1**: Cable outlet at body side with steel inner tube **2**: Cable outlet at body side with stainless steel inner tube