Actuator
ID18

ID18 is a robust and powerful actuator up to 18,000N thrust, which is designed for outdoor applications, such as solar tracker. There are several options available, including Ball screw spindle, ACME screw spindle, and different kinds of sensors for positioning feedback. The motor can be replaced directly without disassembling the actuator, which is convenient for maintenance.

Features and Options

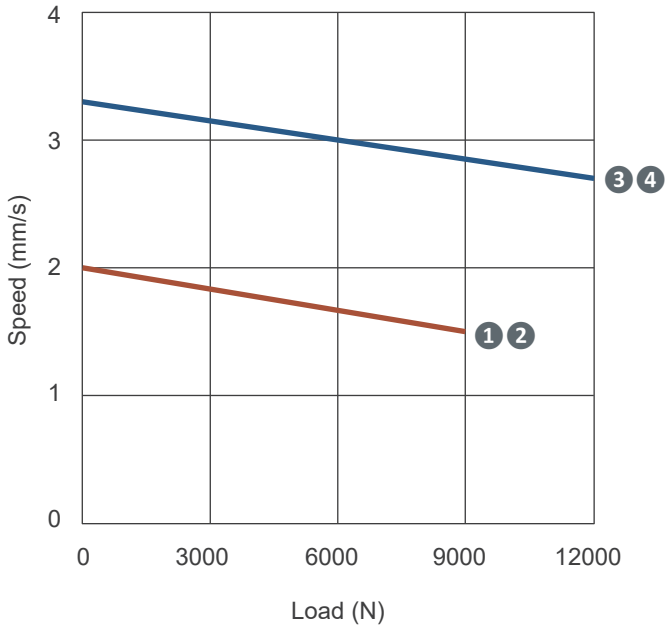
Main application: Industry, Solar tracker
Standard features:
- Input voltage: 24V DC / 36V DC
- Rated load: 9,000N (ACME screw) / 12,000N (Ball screw)
- Max. static load: 36,000N
- Max. dynamic load: 12,000N (ACME screw) / 18,000N (Ball screw) in push and pull direction
- Max. speed at no load: 3.3mm/sec (Typical value)
- Stroke: 610mm (24”) / 914mm (36”) / 1219mm (48”) (other strokes are available)
- IP level: IP65 (Static; non-action)
- Preset limit switches
- Steel extension tube
- Color: Black
- Power cord length: 250mm
- Side cable outlet
- Duty cycle: 10%, max. 2 min. continuous operation in 20 min.
- Operating ambient temperature: -25°C ~ +65°C
- Compliant with CE Marking, EMC Directive 2014/30/EU

Options:
- Relative positioning signal feedback with single Hall effect sensor
- Positioning signal feedback with Reed sensor
- Analog positioning feedback with Potentiometer (POT)
- Bottom cable outlet

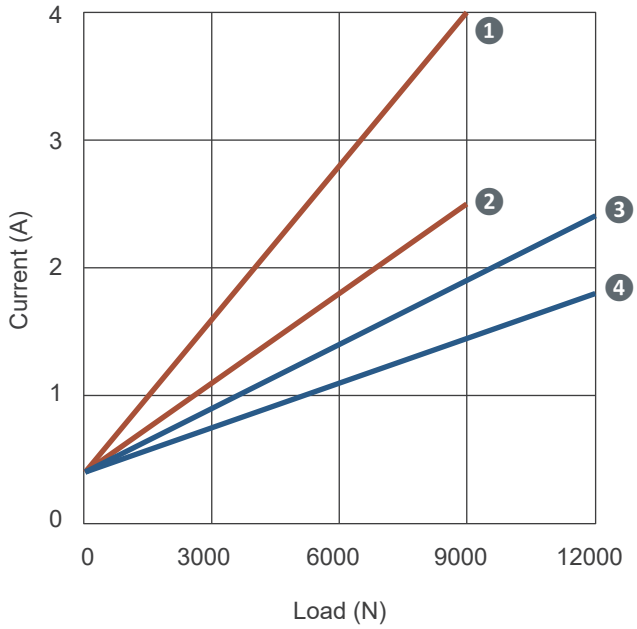
Performance Data

No.	Model No.	Input voltage (V)	Gear ratio	Motor code	Spindle type	Max. load (N)	Typical speed (mm/s)*		Typical current (A)*	
							No load	Full load	No load	Full load
1	ID18-2458S3A	24	58:1	S	ACME screw	9000	2.0	1.5	0.4	4.0
2	ID18-3658S3A	36	58:1	S	ACME screw	9000	2.0	1.5	0.4	2.5
3	ID18-2458S5B	24	58:1	S	Ball screw	12000	3.3	2.7	0.4	2.4
4	ID18-3658S5B	36	58:1	S	Ball screw	12000	3.3	2.7	0.4	1.8

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

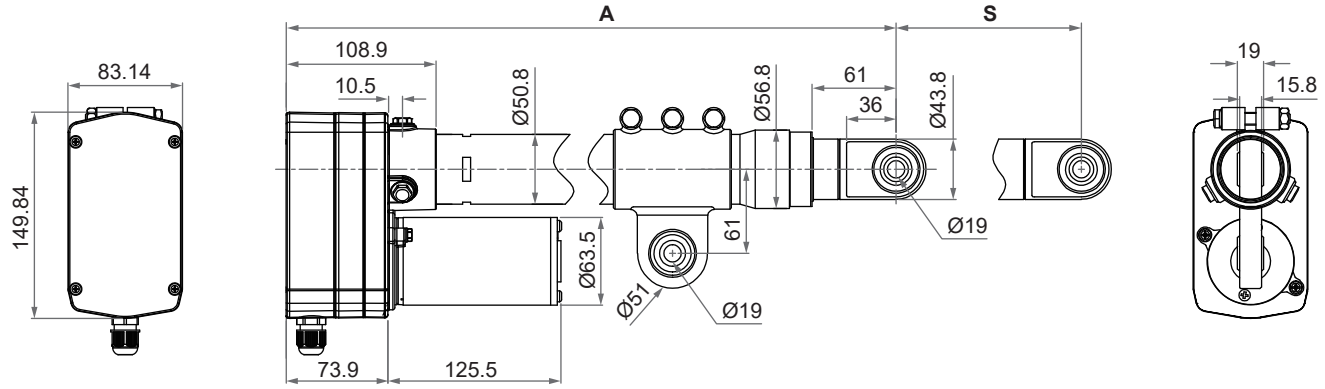
Retracted length (A)

Model No.	Spindle type	Stroke (S)	Retracted length (A)
ID18-XXXXX**5B610**-XXXXXXX	Ball screw	610	1116
ID18-XXXXX**5B914**-XXXXXXX	Ball screw	914	1420
ID18-XXXXX**5BC19**-XXXXXXX	Ball screw	1219	1725
ID18-XXXXX**3A610**-XXXXXXX	ACME screw	610	1063
ID18-XXXXX**3A914**-XXXXXXX	ACME screw	914	1367
ID18-XXXXX**3AC19**-XXXXXXX	ACME screw	1219	1672

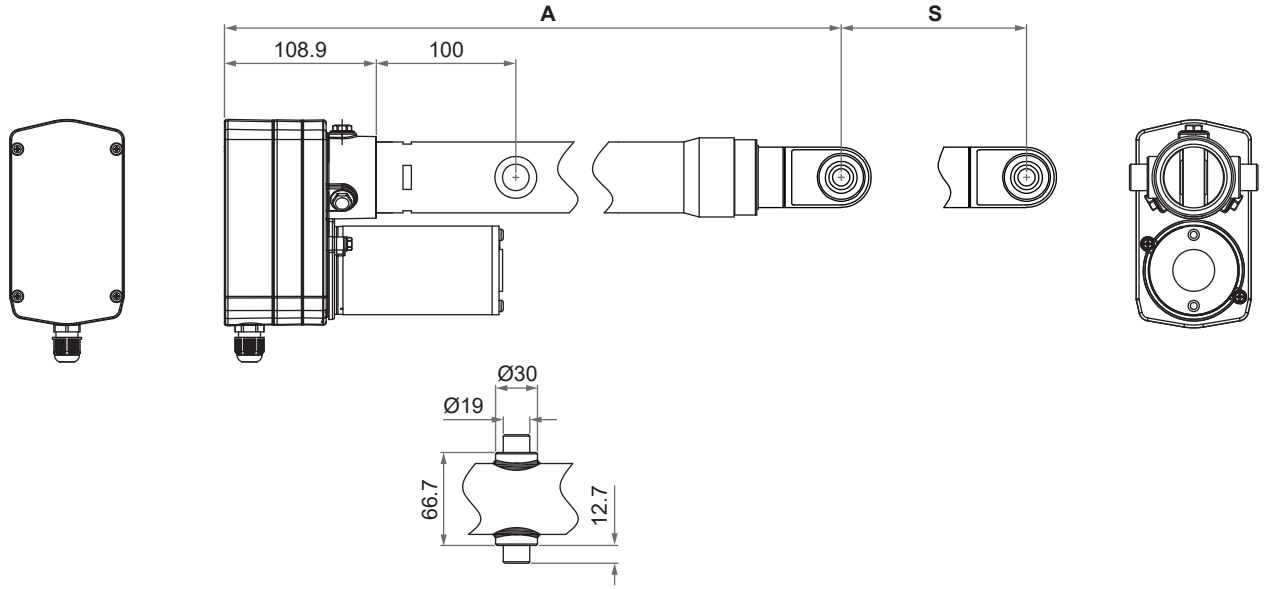
Remarks: Stroke tolerance is -0~+15mm, retracted length tolerance is ±5mm.

Drawing

- Standard



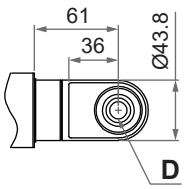
- With trunnion mount



Unit: mm

Front connector

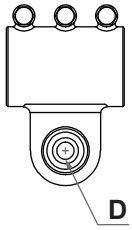
- Spherical rod eye



Diameter code	Diameter of pivot (D)
1	Ø19mm (standard)
0	Ø12.7mm

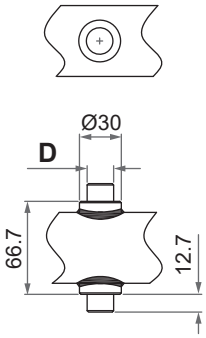
Rear connector

- Tube clamp with spherical rod eye (standard)



Diameter code	Diameter of pivot (D)
1	Ø19mm (standard)
0	Ø12.7mm

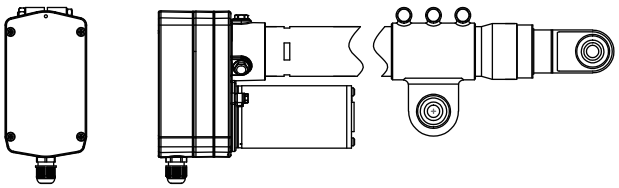
- With trunnion mount



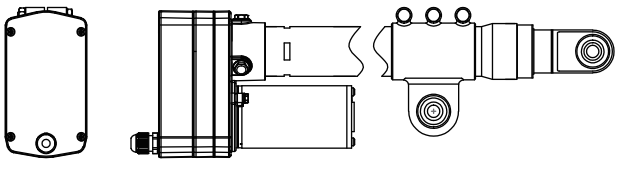
Diameter code	Diameter of pivot (D)
T	Ø19mm

Location of cable outlet

1: Side cable outlet (standard)



0: Botton cable outlet

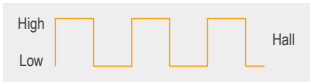


Cable with Flying Leads

- **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		

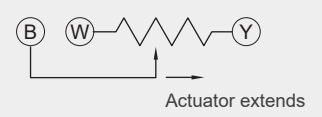
- **With single Hall effect sensor positioning feedback**

	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		
Signal wires	White	Vin	Voltage input range: 5 ~ 20V
	Yellow	Hall output	High= Input - 1.2V (±0.6V) Low= GND Hall signal data:  Resolution: Ball screw 20 PPI, ACME screw 32 PPI
	Blue	GND	

- **With reed sensor positioning feedback**

	Wire color	Definition	Descriptions
Power wires	Red	DC output	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: Ball screw 30 PPI, ACME screw 48 PPI
	White	GND	

● **With Potentiometer (POT) absolute positioning feedback**

<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>1. Potentiometer specification:
- 10K ohm, 10 turns.
- Tolerance ±5%
2. Output voltage: The voltage (resistance) between blue and white increases linearly from about 0 when the actuator extends, and decreases when it retracts.
 

3. There are different resolutions according to the stroke length (as table below)
<table><tr><th>Spindle type</th><th>Stroke (mm)</th><th>Resistance (tolerance: ±0.3KΩ)</th></tr><tr><td rowspan="3">Ball screw</td><td>610</td><td>0.3 ~ 8.6</td></tr><tr><td>914</td><td>0.3 ~ 7.7</td></tr><tr><td>1219</td><td>0.3 ~ 8.4</td></tr><tr><td rowspan="3">ACME screw</td><td>610</td><td>0.3 ~ 8.1</td></tr><tr><td>914</td><td>0.3 ~ 7.9</td></tr><tr><td>1219</td><td>0.3 ~ 8.1</td></tr></table></td></tr>
<tr><td>White</td><td>GND</td><td></td></tr>
</table>

Ordering Key

	ID18 -	24	58	S	3A	C19	-	1	1	H	1	B	5	1

Input voltage	**24**: 24V DC **36**: 36V DC
Gear ratio	**58**: 58:1
Motor code	**S**: Standard motor (2300rpm)
Spindle type	**3A**: ACME screw, 3.175mm pitch **5B**: Ball screw, 5.08mm pitch
Stroke	**610**: 610mm (24”) **914**: 914mm (36”) **C19**: 1219mm (48”)
Front connector (Refer to Page 4)	**1**: Spherical rod eye, Ø19mm (3/4”) (standard) **0**: Spherical rod eye, Ø12.7mm (1/2”)
Rear connector (Refer to Page 4)	**1**: Tube clamp with spherical bearing, Ø19mm (3/4”) (standard) **0**: Tube clamp with spherical bearing, Ø12.7mm (1/2”) **T**: With trunnion mount, Ø19mm (3/4”)
Positioning feedback	**H**: Single Hall effect sensor **R**: Reed sensor **P**: Potentiometer **0**: None
Cable	**1**: Bare wires / 250mm / Black
Color	**B**: Black
IP level	**5**: IP65
Location of cable outlet (Refer to Page 4)	**1**: Cable outlet at body side (standard) **0**: Cable outlet at body bottom