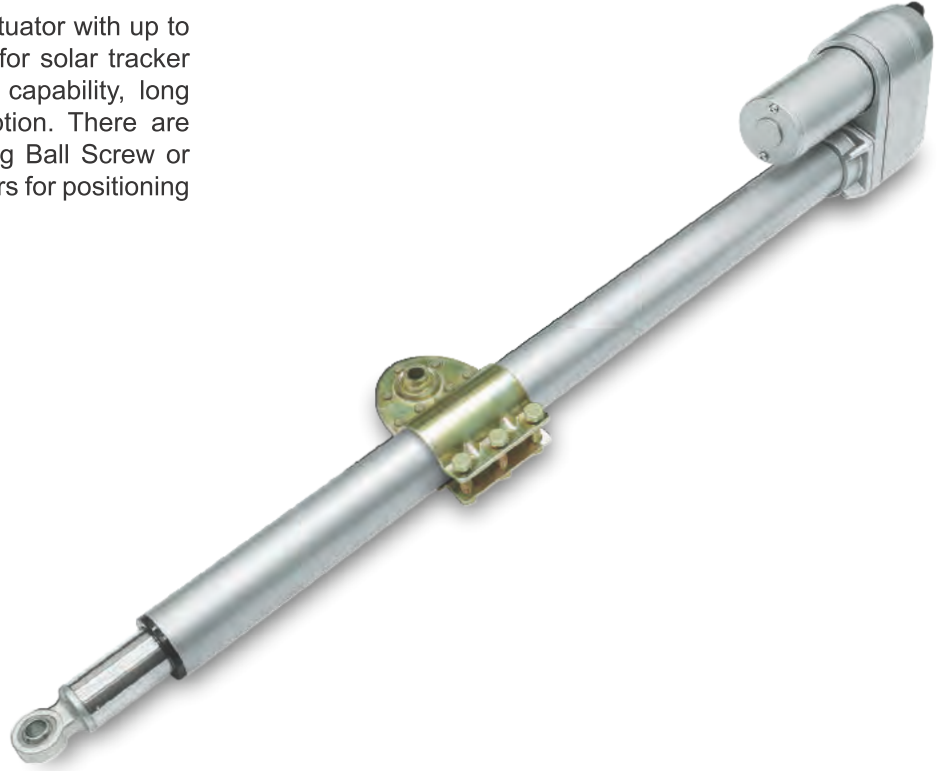


Actuator ID10S

ID10S is a robust and powerful actuator with up to 9,000N thrust, which is designed for solar tracker application. It features high load capability, long lifetime, and low power consumption. There are several options available, including Ball Screw or ACME spindle, and different sensors for positioning feedback.



Feature

- Main application: Industrial, Solar tracker
- Input voltage: 12V DC / 24V DC
- Rated load: 7,000N (Ball Screw) / 4,500N (ACME)
- Max. static load: 17,100N (Ball Screw) / 13,600N (ACME)
- Max. dynamic load: 9,000N (Ball Screw) / 5,500N (ACME) in push and pull direction
- Max. speed at no load: 5.5 mm/sec
- Max. speed at full load: 4.4 mm/sec @ 9,000N
- Stroke: 450 mm (18") / 600 mm (24") / 900 mm (36") (other strokes are available)
- IP Protection level: IP65
- Overload protection by clutch
- Steel extension tube
- Color: Silver
- Duty cycle: 25%, max. 4 min. continuous operation in 12 min.
- Ambient operation temperature: -25°C ~ +65°C
- Certified: CE Marking, EMC Directive 2014/30/EU and 2004/108/EC



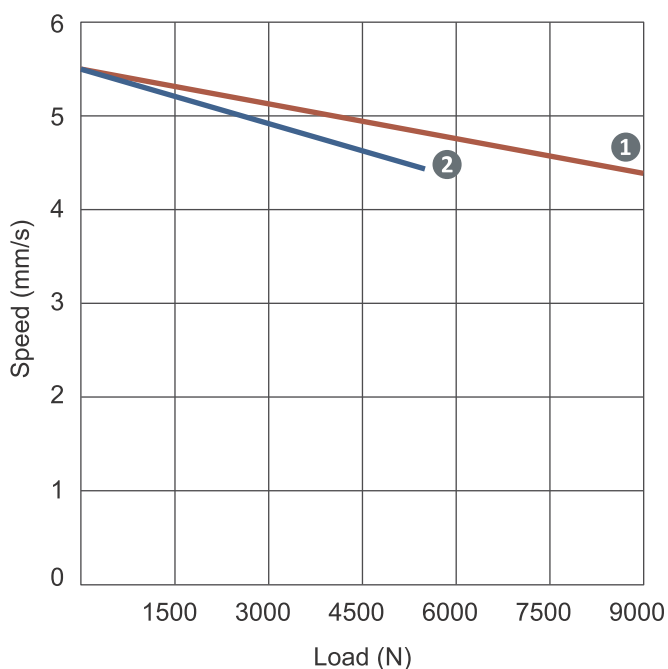
Option

- Positioning signal feedback with Hall effect sensor x 1
- Positioning signal feedback with Optical encoder
- Positioning signal feedback with Reed sensor
- Analog positioning feedback with Potentiometer (POT)
- Stainless steel extension tube
- Aluminum back cover

Performance Data

No.	Model No.	Spindle type	Max. load (N)	Typical speed (mm/s)		Typical current (A)			
				No load	Full load	No load		Full load	
						12V	24V	12V	24V
①	ID10S-XX40E5B	Ball Screw	9,000	5.5	4.4	1.8	0.9	7.2	3.6
②	ID10S-XX40E5A	ACME	5,500	5.5	4.4	1.8	0.9	7.8	3.9

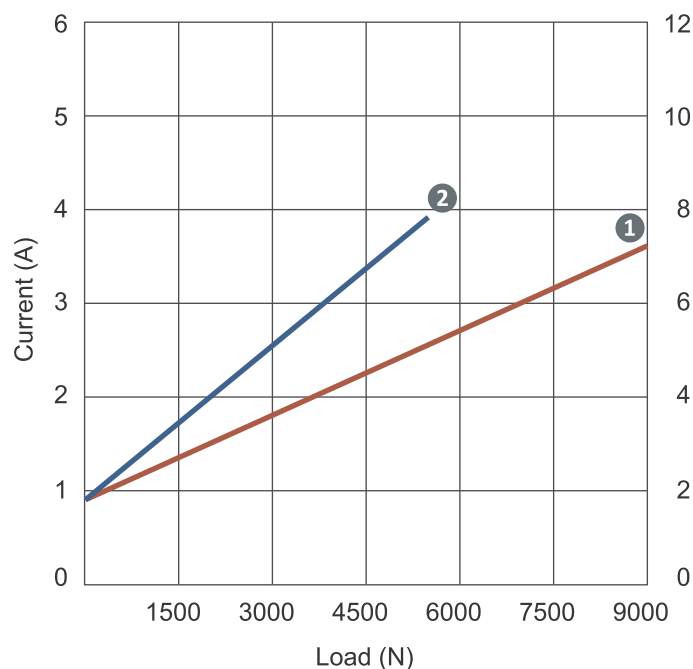
Speed vs. Load



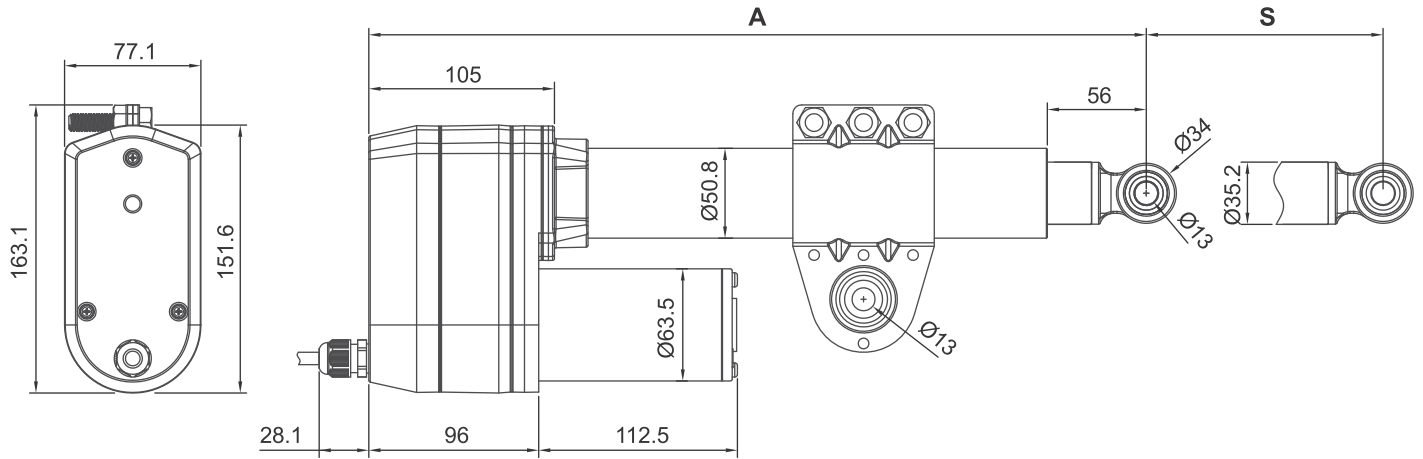
24V DC

Current vs. Load

12V DC



Dimensions



Installation Dimension

Model No.	Spindle type	Stroke (mm)	Retracted length (mm)*
ID10S-XX40E5B450-XXXXXXX	Ball Screw	450	810
ID10S-XX40E5B600-XXXXXXX	Ball Screw	600	963
ID10S-XX40E5B900-XXXXXXX	Ball Screw	900	1315
ID10S-XX40E5A450-XXXXXXX	ACME	450	764
ID10S-XX40E5A600-XXXXXXX	ACME	600	917
ID10S-XX40E5A900-XXXXXXX	ACME	900	1269

*Remarks:

As dimension "A" indicated in the figure above.



Wiring

Standard



Power	
Red	Black
M+	M-

With Hall effect sensor x 1

Resolution, 20PPI or 1.27mm/pulse



Power		Signal		
Red	Black	White	Yellow	Blue
M+	M-	VCC	Data	GND

With reed sensor

Resolution, 30PPI or 0.85mm/pulse



Power		Signal	
Red	Black	White	Yellow
M+	M-	GND	Data

With Optical encoder

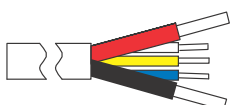
Resolution, 250PPI or 0.1016mm/pulse



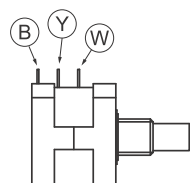
Power		Signal		
Red	Black	White	Yellow	Blue
M+	M-	VCC	Data	GND

With Potentiometer (POT)

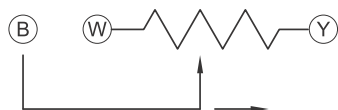
The resistance between blue and white wires increases when the actuator extends, and decreases when it retracts.



Power		Signal		
Red	Black	White	Yellow	Blue
M+	M-	GND	VCC	Data



Stroke (mm)	Resistance ($\pm 0.3K\Omega$)
450	0.3 ~ 8.8
600	0.3 ~ 9.4
900	0.3 ~ 9.2



Actuator extends

Note:

Connect Red (M+) to '+' & Black (M-) to '-' of DC power, the actuator will extend.



Ordering Key

ID10S - 24 40 E 5A 450 - 0 0 H 1 S 5 0	
Input voltage	12: 12V DC 24: 24V DC
Gear ratio	40: 40:1
Motor code	E: Standard motor
Spindle type	5A: ACME / 5TPI 5B: Ball Screw / 5TPI
Stroke	450: 450 mm (18") 600: 600 mm (24") 900: 900 mm (36")
Front connector	Spherical rod eye 0: Ø13 mm (standard) 1: Ø12 mm 2: Ø1/2" 3: Ø16 mm (Refer to Dimension)
Rear connector	Tube clamp with spherical rod eye 0: Ø13 mm (standard) 1: Ø12 mm 2: Ø1/2" 3: Ø16 mm (Refer to Dimension)
Positioning feedback	H: Hall effect sensor x 1 R: Reed sensor P: Potentiometer G: Optical encoder 0: None
Cable	1: Bare wires / 250 mm / Black
Color	S: Silver (standard) B: Black
IP Protection level	5: IP65
Others	0: Aluminum back cover 2: Aluminum back cover + stainless steel extension tube



More information about usage is provided in ID10S User Guide, which can be downloaded from Moteck website.

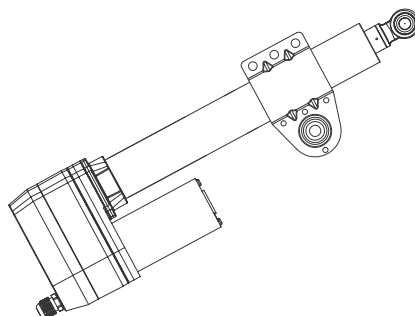


تلفن : (021) 33913364 - 33951660

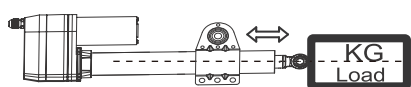
فکس : (021) 33985603

User Guide Industrial Actuator

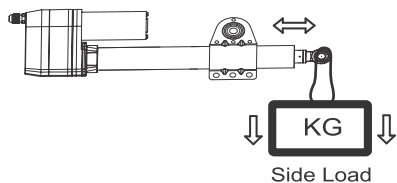
Model: ID10S



Caution: 1. Avoid in any case to cause side load on actuator, to prolong life of actuator

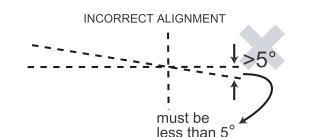
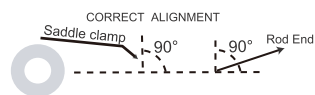


The load should be centered on the operating direction.



Side Load is NO good for Actuator.

2. Avoid incorrect assembly of rod end and saddle clamp



When inspecting from the side, actuator should be as perpendicular as possible to the rod end and saddle clamp.



If there is blocking when actuator extends or retracts, put spacers or washers between mounting and clamp or rod end as shown in the left picture.

3. Lock the screws



Make sure all the holes of rod end and clamp are at the right position, then lock all the screws, and then confirm all of them are tightened enough. It is recommended to lock the screws of clamp first.



LIMIT SWITCH

Caution:

Make sure no rotating of the inner tube while the motor is running.

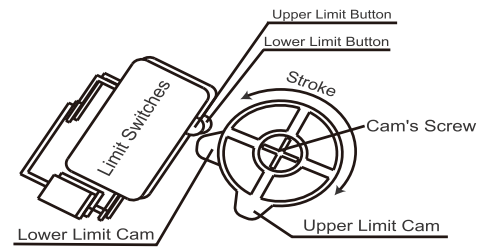
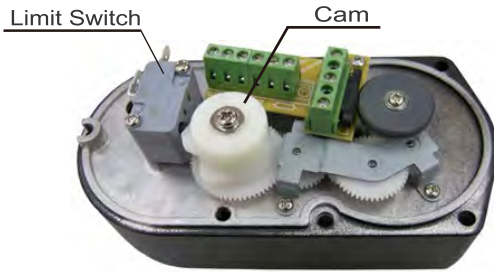
RESET LIMIT

The most extended position is defined by the "Upper Limit Cam", and the most retracted position is defined by the "Lower Limit Cam" as well. Please set the limit positions just follow the rules below, if necessary.

Step 1. If the actuator has been installed, uninstall it first and then remove the gearbox cover.

Step 2. Connect the power wire to correct DC power and let the actuator starts retracting till the switch of lower limit is pressed by Cam, then the motor stops immediately. Now you can turn the inner tube in clockwise or counter-clockwise direction to the demanded position. Then, the lower limit is set.

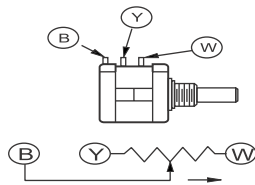
Step3. Let the actuator extends to the position you want, and adjust the "Upper Limit Cam" to press the upper limit switch directly, then the demanded stroke is done after you lock the Cam's screw.



Note 1 : To avoid damaging the plastic gears under the Limit Cam, please hold Upper & Lower Limit CAM when you tighten or loosen the cam's screw .

POTENTIOMETER

The resistance range is variable, according to the travel length, and stroke as below:

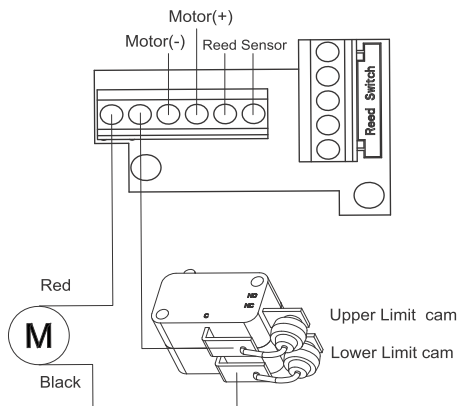


POT WIRING

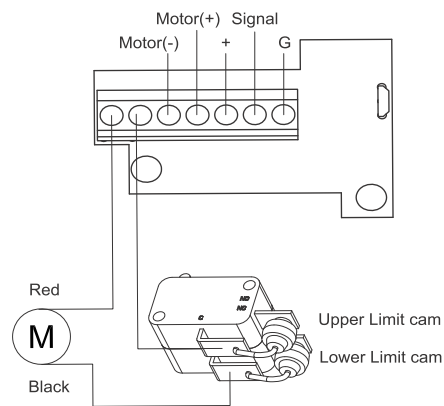
Value of Potentiometer	
The Ohm value between blue and white wire	
Stroke(mm)	Resistance
100	0.3-8.0 K
150	0.3-8.5 K
200	0.3-9.1 K
300	0.3-8.6 K
457	0.3-9.2 K
610	0.3-9.8 K
900	0.3-9.2 K
Tolerance: ± 0.3 K	

WIRE CONNECTION FOR SENSORS

Reed Sensor Connection:



Hall Sensor Connection:



NOTE

This appliance cannot be used by children or persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.

