

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.



Features

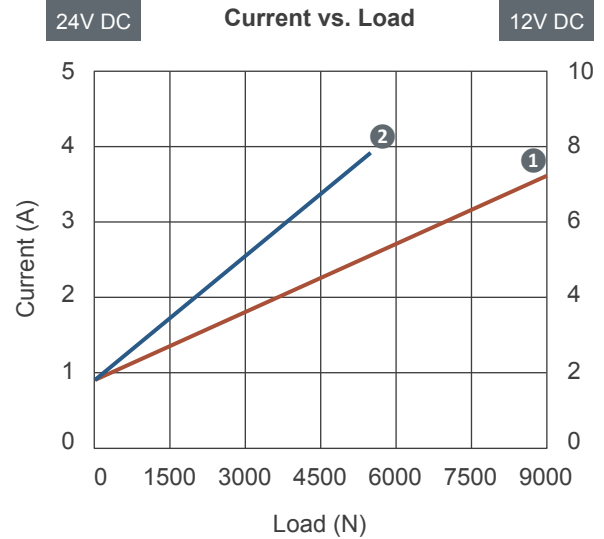
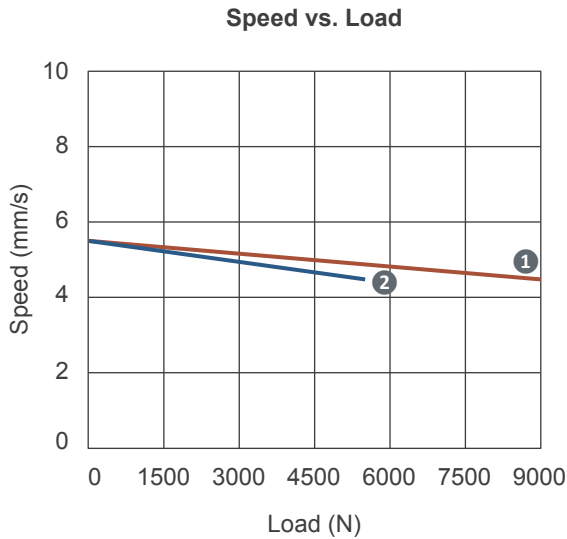
- Main application: Industrial, Solar tracker
- Input voltage: 12V DC / 24V DC
- Rated load: 7,000N (Ball Screw) / 4,500N (ACME)
- Max. static load: 17,100N (Ball Screw) / 13,600N(ACME)
- Max. dynamic load: 9,000N (Ball Screw) / 5,500N (ACME) in push and pull direction
- Max. speed at no load: 5.5 mm/sec
- 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
- Power cord length: 250 mm (with tinned wires)
- 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

Option

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

Performance Data

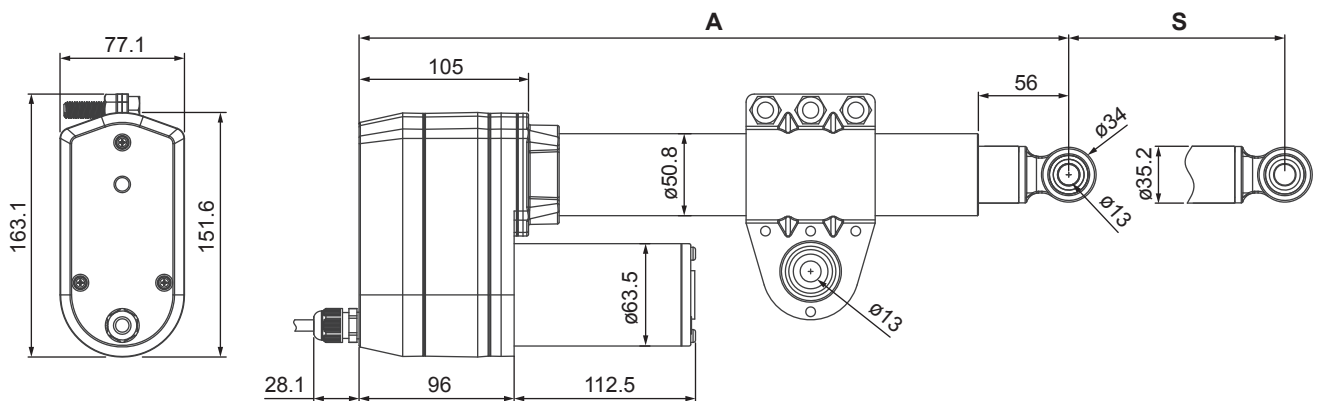
No.	Model No.	Spindle type	Max. load (N)	Typical Speed (mm/s)		Typical Current (A)			
				No load	Full load	No load		Full load	
						12V	24V	12V	24V
①	ID10S-XX40E5B	Ball Screw	9,000	5.5	4.4	1.8	0.9	7.2	3.6
②	ID10S-XX40E5A	ACME	5,500	5.5	4.4	1.8	0.9	7.8	3.9



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



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

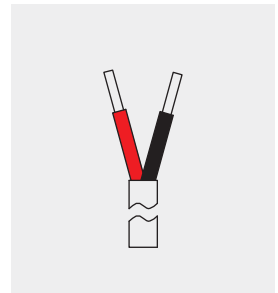
- *Remarks: As dimension "A" indicated in the figure above. (tolerance: $\pm 5\text{mm}$)

Wiring

Wire definitions:

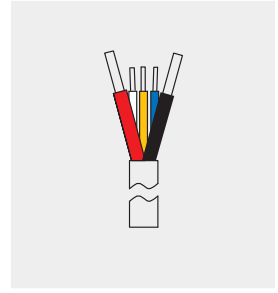
- Without positioning sensor feedback

Power	
Red	Black
M+	M-



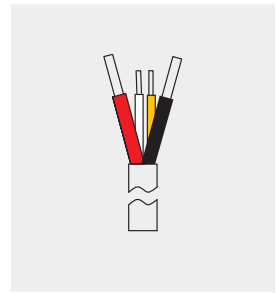
- With Hall effect sensor x 1
Resolution, 20PPI or 1.27mm/pulse

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



- With reed sensor
Resolution, 30PPI or 0.85mm/pulse

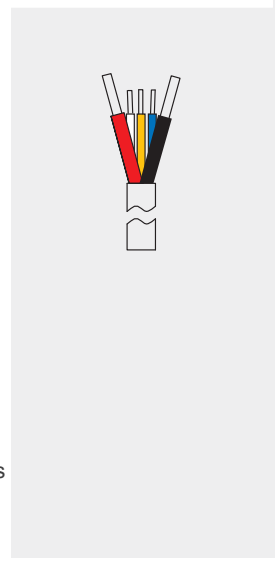
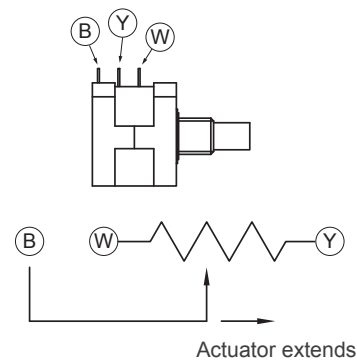
Power		Signal	
Red	Black	White	Yellow
M+	M-	GND	Data



- With 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 (tolerance: $\pm 0.3K\Omega$)
450	0.3 ~ 8.8
600	0.3 ~ 9.4
900	0.3 ~ 9.2



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

Certifications

The ID10S 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 EN 61000-4-2:2009 EN 61000-4-3:2006+A1:2008+A2:2010 EN 61000-4-8:2010

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 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.

MOTECK
www.moteck.com

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