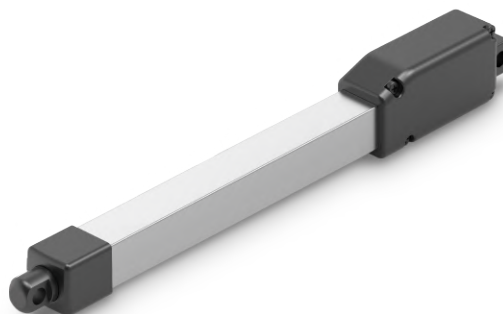


Actuator

MKS1

MKS1 is an in-line linear actuator characterized by its miniature size and waterproof. This model is available in four stroke and different speed options. In addition, there are two functional options, with end-of-stroke limit switches or with potentiometer for positioning.

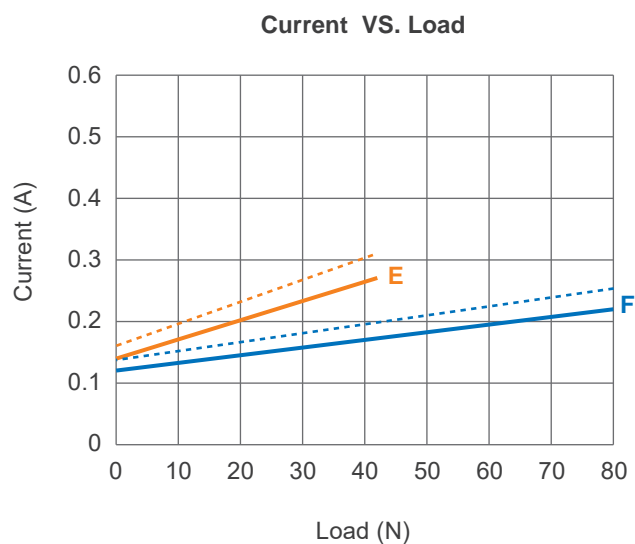
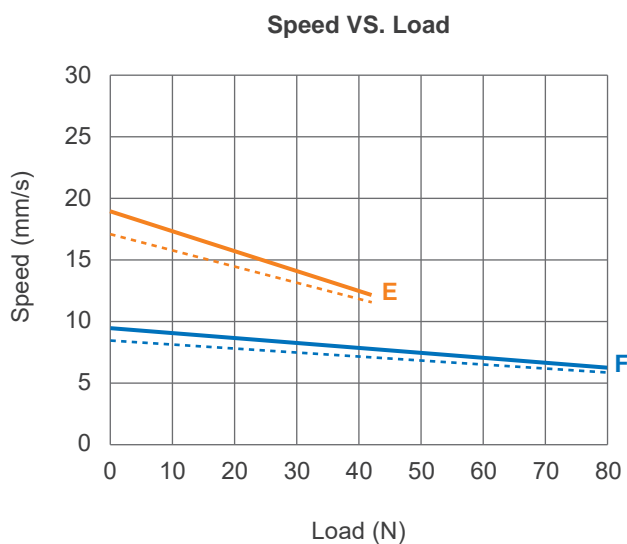


Features and Options

- Main applications: Industry, Furniture, DIY application
- Input voltage: 12V DC
- Max. load: 80N (Push/Pull)
- Max. static load: 40N
- Max. speed at no load: 19.0mm/sec (Typical value)
- Speed at max load: 6.3mm/sec (Typical value @80N Loaded)
- Stroke: 10 / 30 / 50 / 100mm
- Noise level: ≤ 55 dB
- IP level: IP66/IP69K (Static; non-action)
- Material: Aluminum extension and inner tube, plastic case.
- Duty cycle: 20%, max. 30 sec. continuous operation in 150 sec.
- Operating ambient temperature: $-10^{\circ}\text{C} \sim +50^{\circ}\text{C}$
- Storage ambient temperature: $-25^{\circ}\text{C} \sim +65^{\circ}\text{C}$
- Options:
 - MKS1-L version: With limit switches. When the actuator reaches the end of the stroke, the preset limit switch will cut off power and stop the motor automatically.
 - MKS1-P version: With potentiometer positioning info, so that the controller can detect the stroke position of the actuator at any time. And it is an absolute position information, which will not deviate due to power failure.

Performance Data

Model No.	Push/Pull Max. load (N)	Self-locking ability (N)	Typical speed (mm/s)		Typical current (A) @12V DC	
			No load	Full load	No load	Full load
MKS1-X-12-E-XXX-0XX	42	21	19.0	12.2	0.14	0.27
MKS1-X-12-F-XXX-0XX	80	40	9.5	6.3	0.12	0.22



— Typical speed - - - Min. speed

— Typical current - - - Max. current

• Inrush current



- When the actuator starts, an inrush current of about 0.2 seconds will be generated. The starting inrush current of MKS1 can reach 3 times of the maximum current under the rated load of the actuator.
- If a circuit board power supply is used, the specifications must be sufficient to handle the inrush current. If batteries are used as the power source, inrush current will not be a problem. Besides, the connectors, switches and relays selected by user must also be able to withstand the inrush current.

Dimensions

Installation dimension:

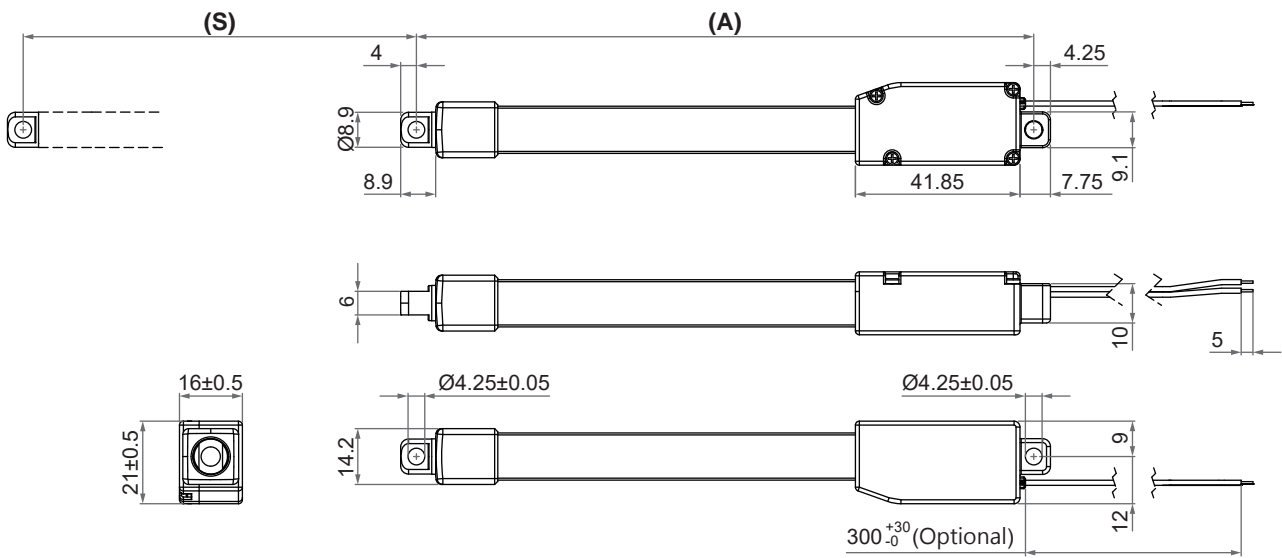
- Extended length = Retracted length (A) + Stroke (S)
- Minimum retracted length (A) of various options

	Version	Stroke (S)			
		10	30	50	100
Retracted length (A)	MKS1-L	67	87	107	157
	MKS1-P	N/A	87	107	157

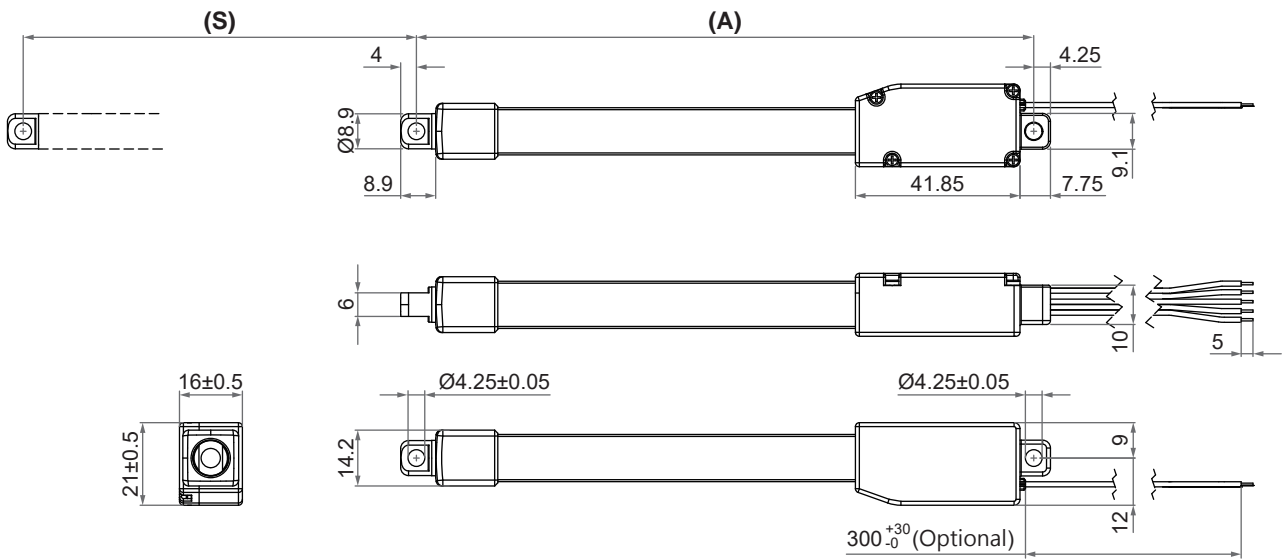
(Tolerance: ±1mm)

Drawing

- MKS1-L



- MKS1-P



Unit: mm

Wiring with Flying Leads

- MKS1-L (With limit switches)

	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		

- MKS1-P (With potentiometer positioning info)

	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 any stable high reference voltage <30V
	Blue	POT output	1. Potentiometer specification: Total resistance 11K Ω ±40% 2. Output voltage: As the actuator extends, the voltage (resistance) read between the blue and white wires increases linearly. Conversely, decrement when retracting. <div data-bbox="857 851 1189 956" data-label="Diagram"> </div>
	White	GND	Any stable low reference voltage (e.g. grounding)

Ordering Key

	MKS1- L - 12 - E - 030 - 0 0 3
Version	L: With limit switches P: With potentiometer positioning info
Input voltage	12: 12V DC
Performance	E, F (refer to p.2 Performance Data)
Stroke	010: 10mm 030: 30mm 050: 50mm 100: 100mm
Reserved	0
Reserved	0
Cable length	0: 300mm straight 3: 900mm straight