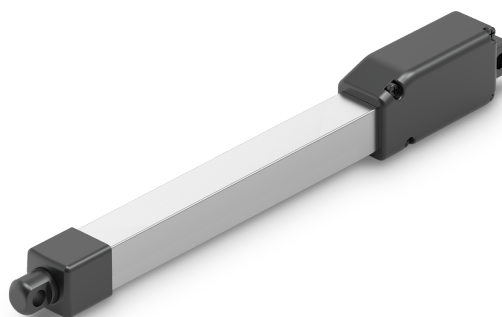# Actuator
MKS1

MKS1 is an in-line linear actuator characterized by its miniature size and waterproof. There are four stroke options and different speed options, with a maximum force (push/pull) of 80N. There are two function options in this model, you can choose with travel limit switch or with potentiometer positioning info.

Features

Main applications: Industry, Furniture, DIY application
Standard features:
● 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 / 100 mm
● Noise level: ≦55dB
● IP level: IP66/IP69K (static; non-action)
● Material: Aluminum extension and inner tube, plastic case.
● Duty cycle: 20%
● Operating ambient temperature: -10°C ～ +50°C

Options:
● MKS1-L version: With travel limit switch, which cuts off power and stop the motor automatically.
● MKS1-P version: With potentiometer positioning info, so that 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.
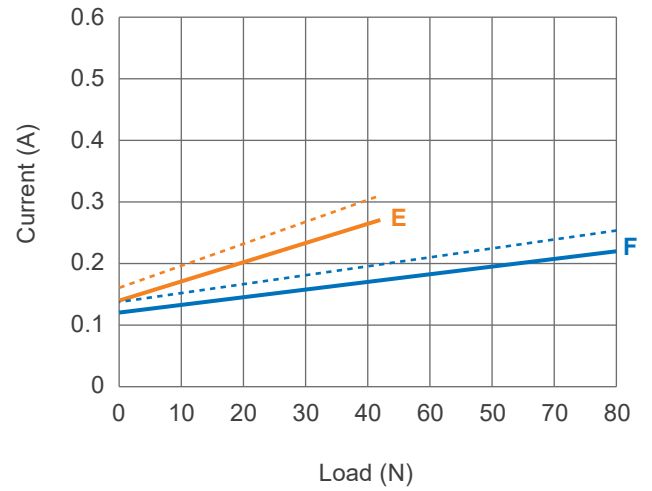
Performance Data

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

Speed VS. Load

Current VS. Load

Load (N)
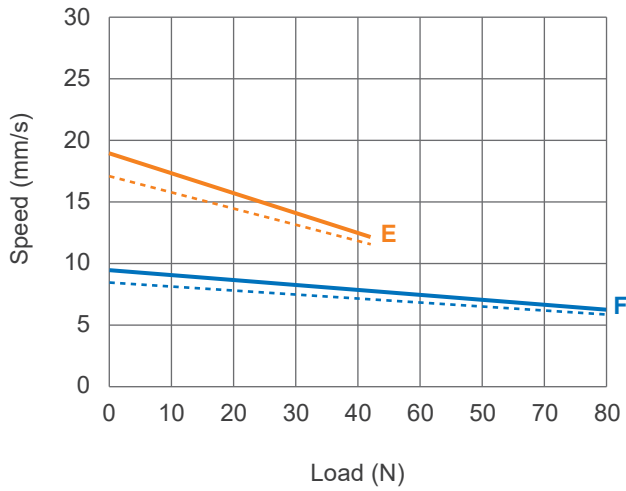
— Typical speed   ····· Min. speed

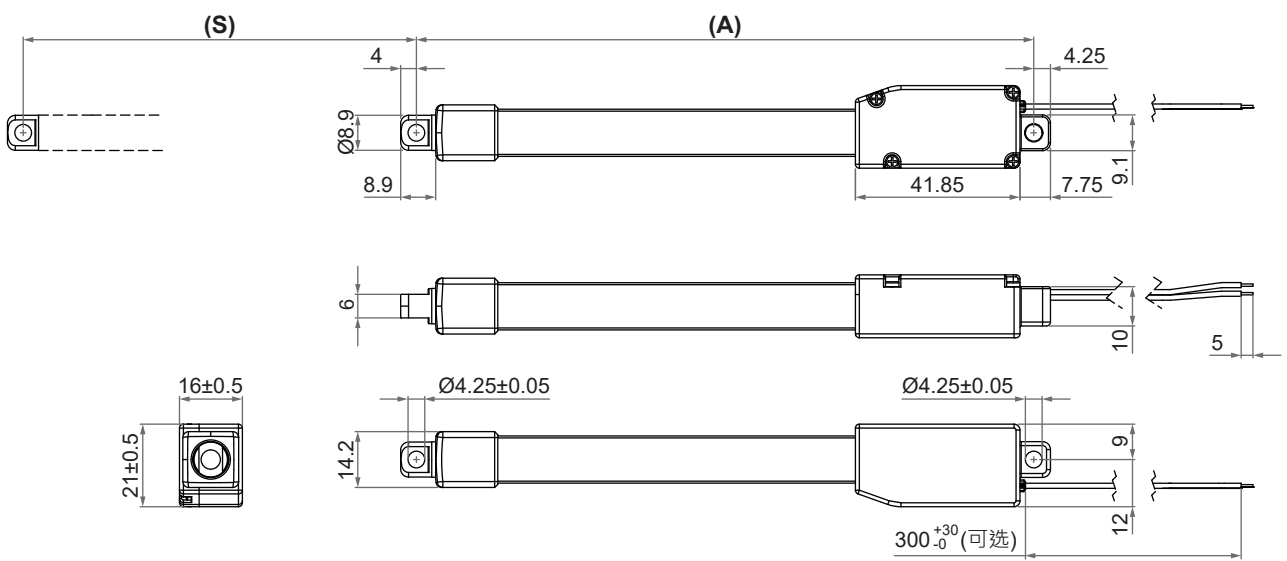— Typical current   ····· Max. current

Dimensions

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

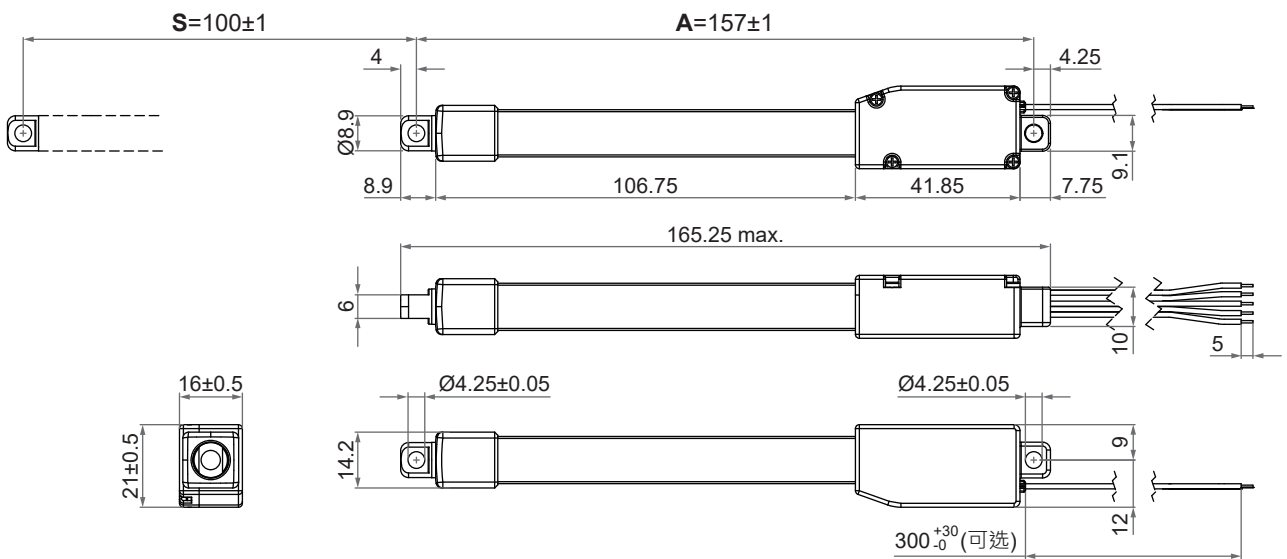| Version	Stroke (S)			
	10	**30**	**50**	**100**
MKS1-L	67	87	107	157
MKS1-P	N/A	N/A	N/A	157

(Tolerance: ±1mm)

Drawing

- MKS1-L

- MKS1-P (only one size)

Unit: mm

Wiring with Flying Leads

● MKS1-L (with limit switches)

	Wire color	Definition	Descriptions
Power wires	Red / Black	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.

● MKS1-P (with potentiometer positioning info)

	Wire color	Definition	Descriptions
Power wires	Red / Black	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.
Signal wires	Yellow	Vin	Input any stable high reference voltage <30V
	Blue	POT output	1. Potentiometer specification: Total resistance 11KΩ±40% 2. Output voltage: As the actuator extends, the voltage (resistance) read between the blue and white wires increases linearly. Conversely, decrement when retracting. B — W —◁\/\/\/◁— Y Actuator extends
	White	GND	Any stable low reference voltage (e.g. grounding)
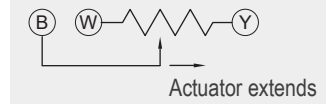
Ordering Key

MKS1- L - 12 - E - 030 - 0 0 3

Version	**L:** Preset power switches for stroke end limits **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

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