

Actuator

MD53

MD53 is designed to be used for fitness equipment, such as treadmills. There are preset limit switches included and POT that serves as an option to support customer control. In addition, this model is available with either 36VDC or 24VDC input voltage.



Feature

- Main applications: Fitness equipment, industrial
- Input voltage: 36V DC / 24V DC
- Max. load: 3500N (push) / 2000N (pull)
- Max. speed at no load: 10.5 mm/sec
- Max. speed at full load: 8.5 mm/sec @ 3500N
- Stroke: 100 ~ 300 mm
- Max. current: 3.5A @ 36V DC
- Noise level: ≤ 60 dB
- Color: Black
- Preset limit switches
- Duty cycle: 10%, max. 2 min. continuous operation in 20 min.
- Ambient operation temperature: -20°C ~ +65°C

Option

- Potentiometer

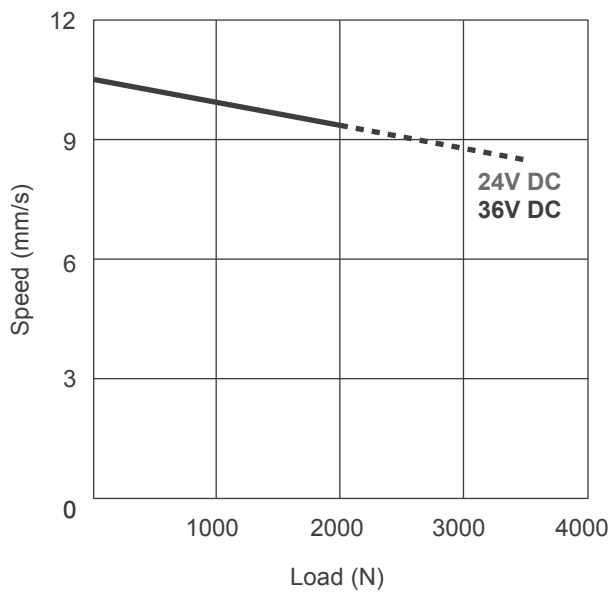
Compatibility

Product	Model	MD53 spec
Control box	T control	Without potentiometer 24V motor
	CIS3	With potentiometer 24V motor

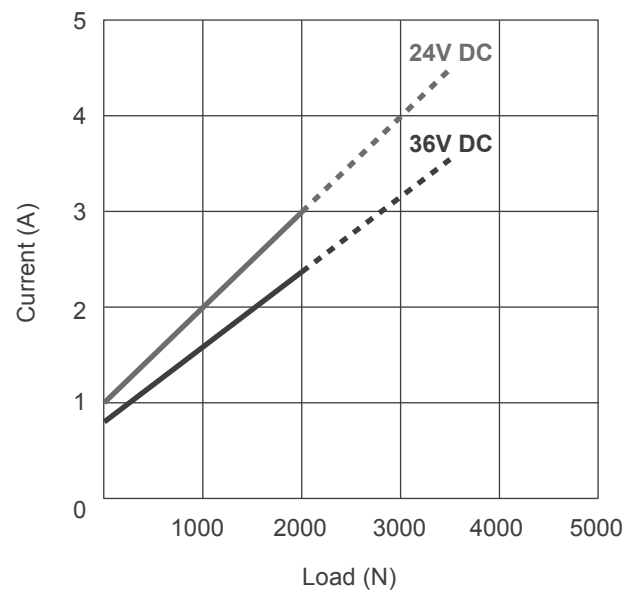
Performance Data

Model No.	Input voltage	Push Max. (N)	Pull Max. (N)	Typical speed (mm/s)		Typical current (A)	
				No load	Full load	No load	Full load
MD53-24-XXX.XXX-CXX	24	3500	2000	10.5	8.5	1.0	4.5
MD53-36-XXX.XXX-CXX	36	3500	2000	10.5	8.5	0.8	3.5

Speed vs. Load

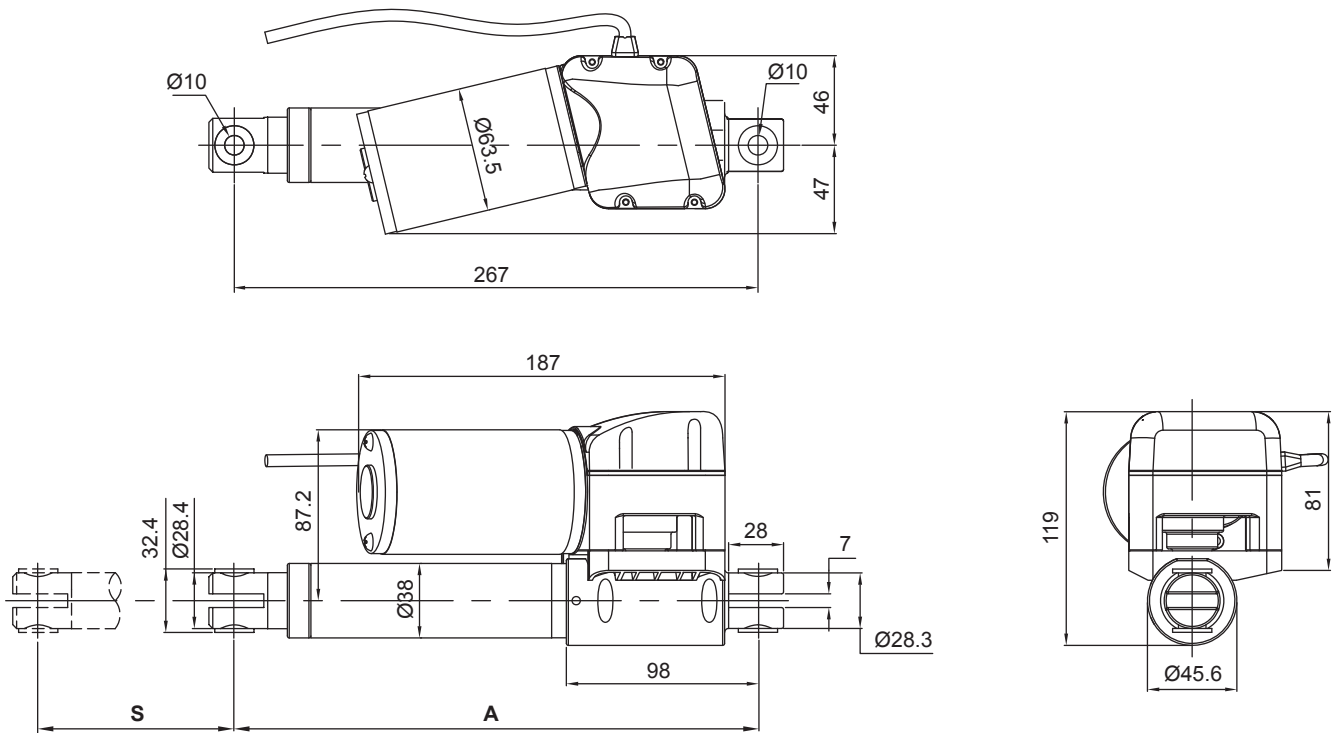


Current vs. Load



Push / Pull Load — Push Load - - -

Dimensions



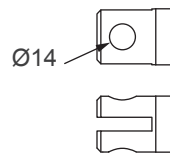
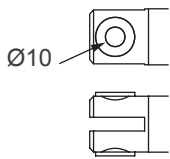
Stroke (S)	100	150	200	250	300
Retracted Length (A)	267	317	367	417	467

Available stroke (S) range = 100 ~ 300 mm
 Extended length = S + A

Front Connector

1: Metal with plastic bushing

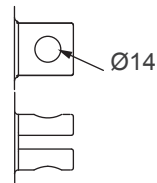
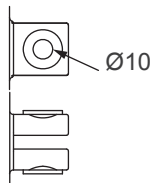
2: Metal without bushing



Rear Connector

1: Metal with plastic bushing

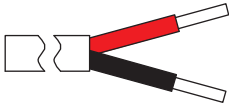
2: Metal without bushing



Wiring & Cable plug

Without positioning feedback

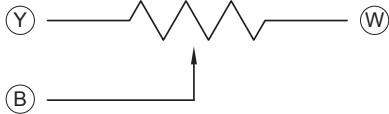
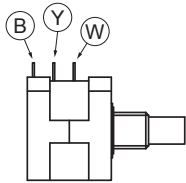
Connect Red (M+) to '+' & Black (M-) to '-' of DC power, the actuator will extend.



Power	
Red	Black
M+	M-

With potentiometer (POT)

The POT resistance value between blue and white wires increases when actuator extends. Meanwhile, resistance value between blue and yellow wires decreases.



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

Value of Potentiometer	
Stroke (mm)	Resistance (Unit: Ω , Tolerance: $\pm 22\Omega$)
0	0
100	428
150	642
200	856
250	785
300	879

Ordering Key

MD53 - 24 - 267 - 367 - C 1 1 - POT

Input voltage	24: 24V DC 36: 36V DC
Retracted length	XXX (Refer to Dimensions)
Extended length	XXX (Refer to Dimensions)
Front connector type	1: Metal with plastic bushing 2: Metal without bushing
Rear connector type	1: Metal with plastic bushing 2: Metal without bushing
Option	Blank: None POT: Potentiometer

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