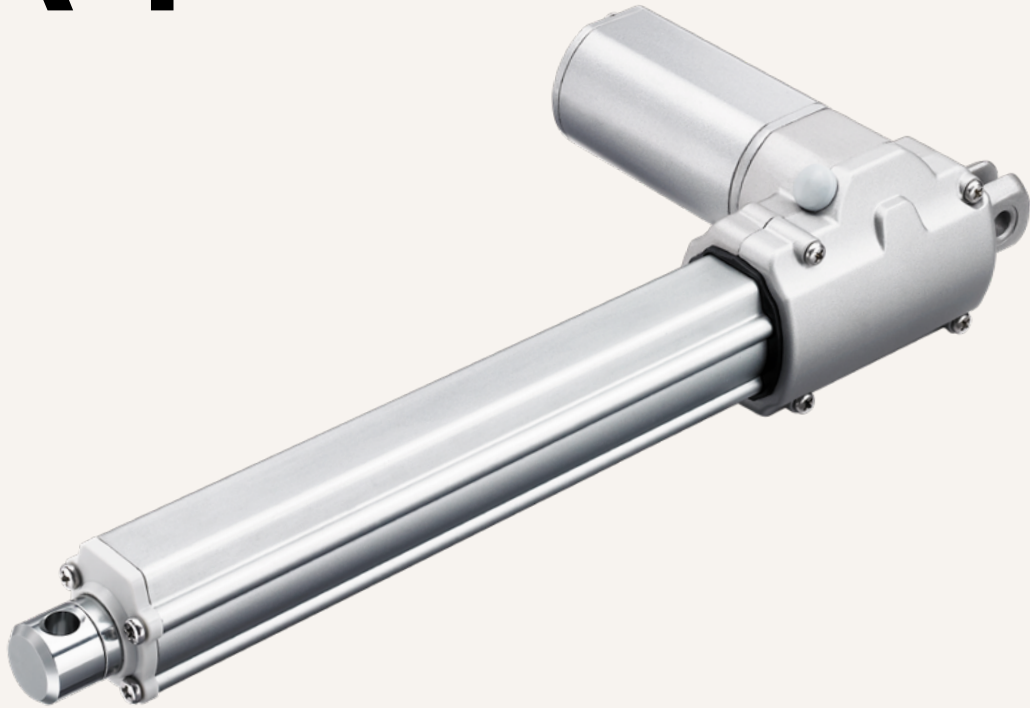


# TA4

series



## Product Segments

- **Comfort Motion**
- **Industrial Motion**

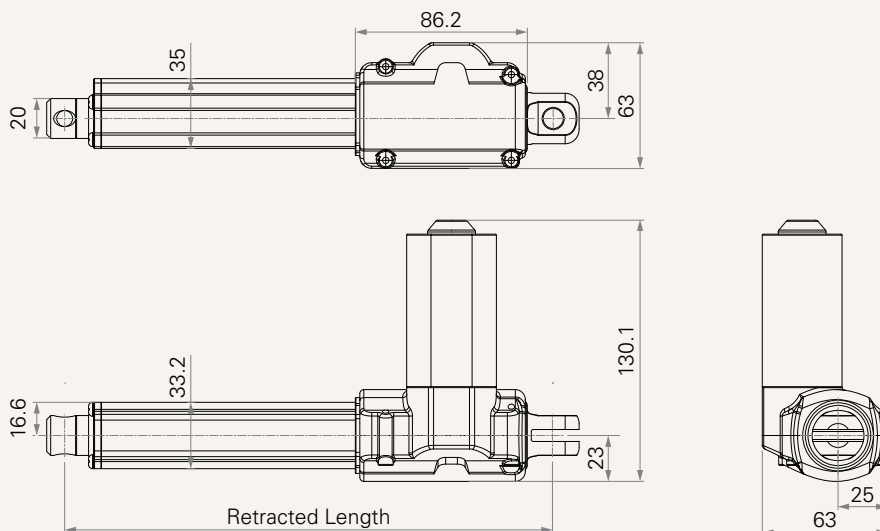
TiMOTION's TA4 series linear actuator is compact, quiet and powerful. It is designed to fit in an area specifically requiring a right angle motor and can be equipped with a Hall sensor for feedback. Certifications for the TA4 linear actuator include IEC60601-1, ES60601-1, UL73 and EMC. In addition, the TA4 is available with an optional IP54 or 66 rating.

### General Features

Voltage of motor	12V DC or 24V DC
Maximum load	3,500N in push
Maximum load	2,000N in pull
Maximum speed at full load	16.6mm/s (with 800N in a push or pull condition)
Minimum installation dimension	≥ Stroke + 140mm
Color	Silver
IP rating	Up to IP66
Certificate	IEC60601-1, ES60601-1, UL73, EMC
Operational temperature range	+5°C~+45°C
Options	Hall sensors
Low noise	

## Drawing

Standard Dimensions  
(mm)



## Load and Speed

CODE	Load (N)		Self Locking Force (N)	Typical Current (A)		Typical Speed (mm/s)	
	Push	Pull		No Load 32V DC	With Load 24V DC	No Load 32V DC	With Load 24V DC
<b>Motor Speed (4100RPM, duty cycle 10%)</b>							
<b>A</b>	2000	2000	2000	1.0	2.5	9.4	5.0
<b>B</b>	1500	1500	1500	1.0	2.5	13.8	6.8
<b>C</b>	1000	1000	1000	1.0	3.0	26.1	11.6
<b>D</b>	800	800	800	1.0	2.8	36.9	16.6
<b>E</b>	3500	2000	3500	1.0	2.8	6.1	2.3
<b>Motor Speed (3800RPM, duty cycle 10%)</b>							
<b>G</b>	2500	2000	2500	1.1	2.7	9.3	5.1
<b>H</b>	2000	2000	2000	1.1	2.9	13.2	7.0
<b>I</b>	1500	1500	1500	1.1	3.5	26.0	12.5
<b>J</b>	3500	2000	3500	1.1	2.8	6.2	3.1
<b>Motor Speed (3400RPM, duty cycle 10%)</b>							
<b>M</b>	1500	1500	1500	0.8	1.6	8.1	3.8
<b>N</b>	1000	1000	1000	0.8	1.4	11.6	5.9
<b>O</b>	500	500	500	0.8	1.4	21.9	11.3
<b>Motor Speed (2200RPM, duty cycle 10%)</b>							
<b>R</b>	1500	1500	1500	0.8	1.4	8.1	3.7
<b>S</b>	1000	1000	1000	0.8	1.5	16.5	6.9
<b>T</b>	800	800	800	0.8	1.4	22.5	10.0

## Note

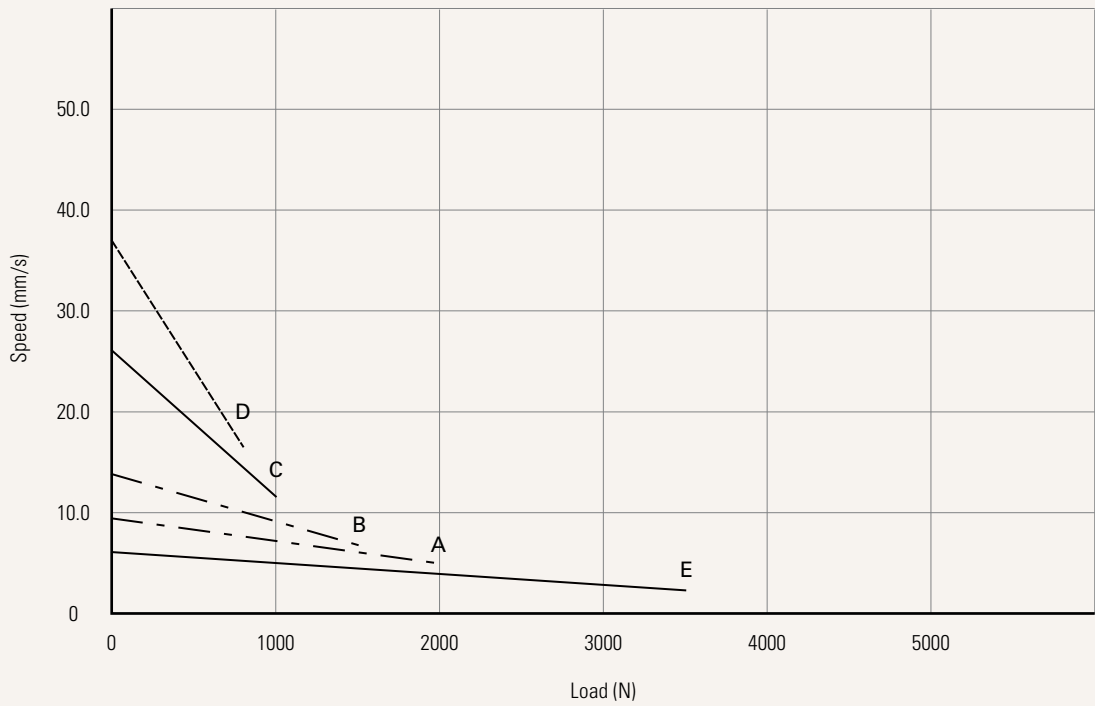
- 1 Please refer to the approved drawing for the final authentic value.
- 2 Standard stroke: Min.  $\geq 20$ mm, Max. please refer to below table.
- 3 This self-locking force level is reached only when a short circuit is applied on the terminals of the motor. All the TiMOTION control boxes have this feature built-in.
- 4 The current & speed in table are tested with 24V DC motor. With a 12V DC motor, the current is approximately twice the current measured in 24V DC; speed will be similar for both voltages.
- 5 The current & speed in table are tested when the actuator is extending under push load.
- 6 The current & speed in table and diagram are tested with TiMOTION control boxes, and there will be around 10% tolerance depending on different models of the control box. (Under no load condition, the voltage is around 32V DC. At rated load, the voltage output will be around 24V DC)

CODE	Load (N)	Max Stroke (mm)
<b>C, D, F, K, L, N, O, P, Q, S, T, U</b>	$\leq 1000$	600
<b>B, I, M, R</b>	$\leq 1500$	500
<b>A, H, V</b>	$\leq 2000$	450
<b>G</b>	$\leq 2500$	400

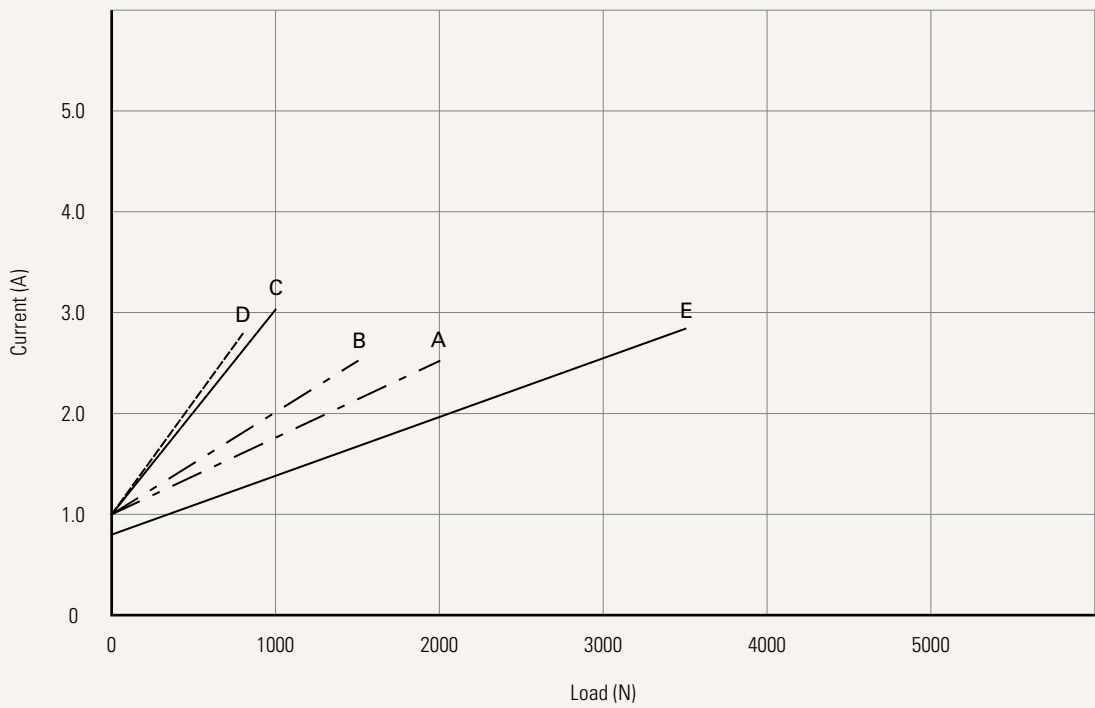
**Performance Data (24V DC Motor)**

Motor Speed (4100RPM)

Speed vs. Load



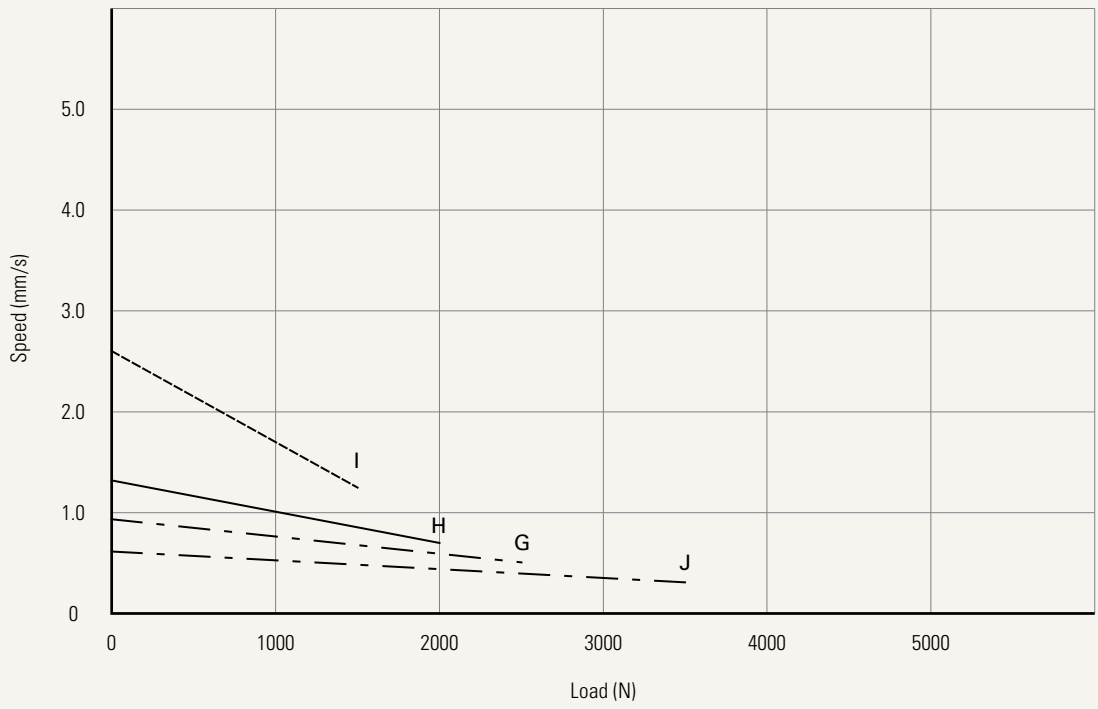
Current vs. Load



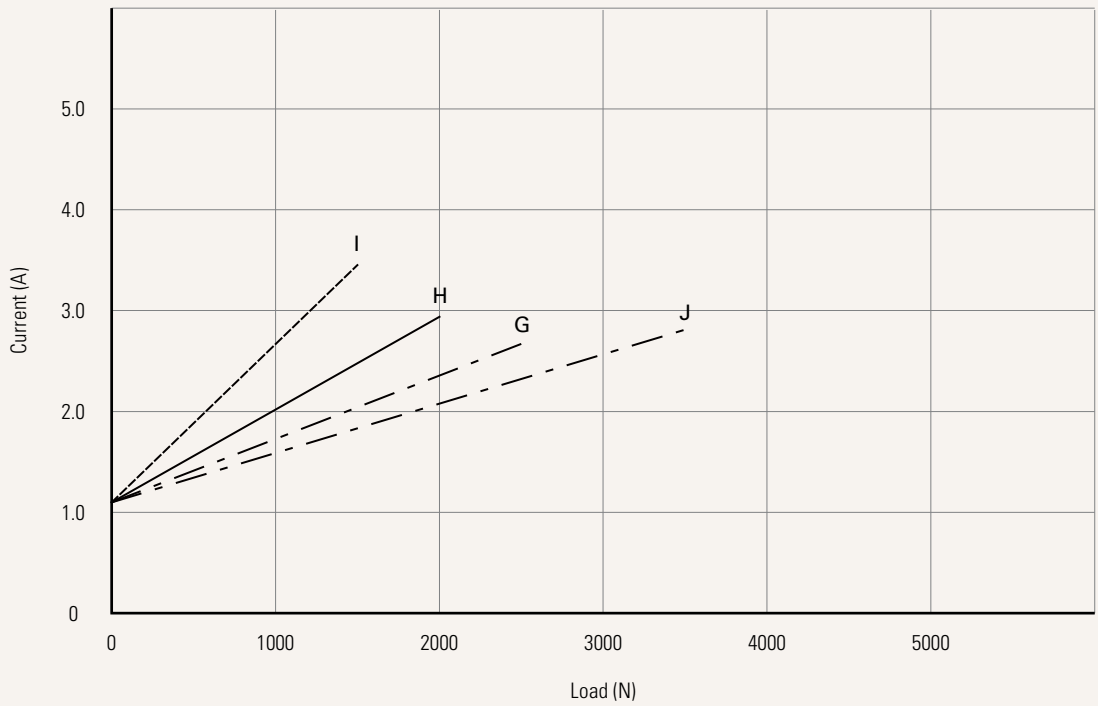
Performance Data (24V DC Motor)

Motor Speed (3800RPM)

Speed vs. Load



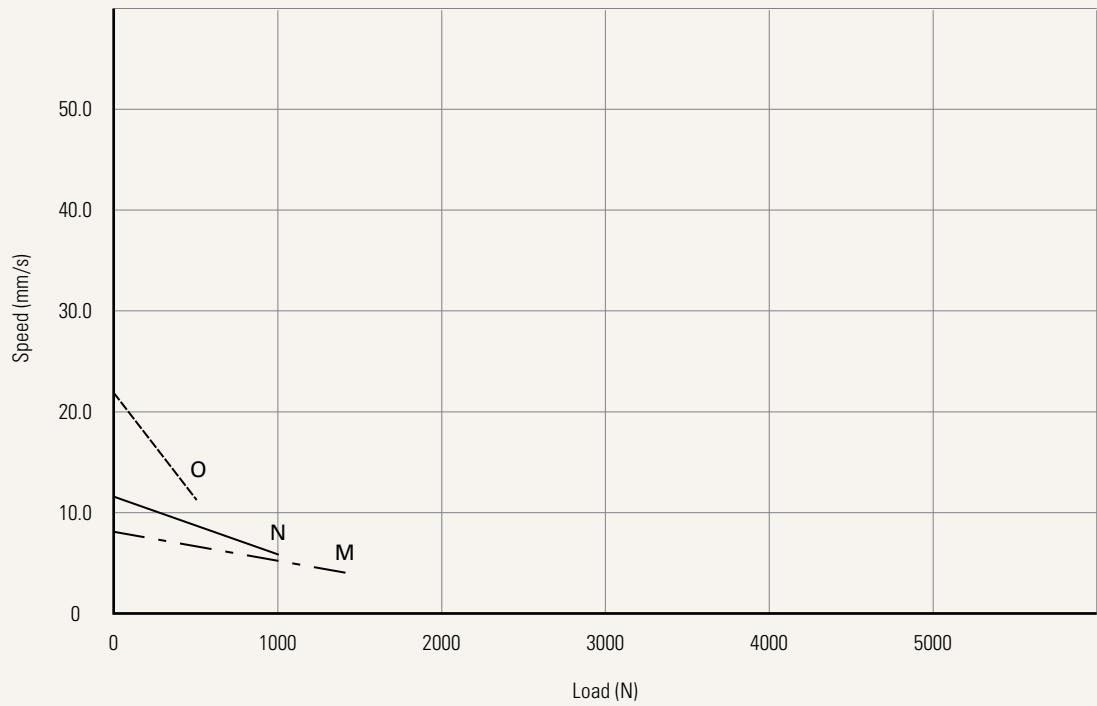
Current vs. Load



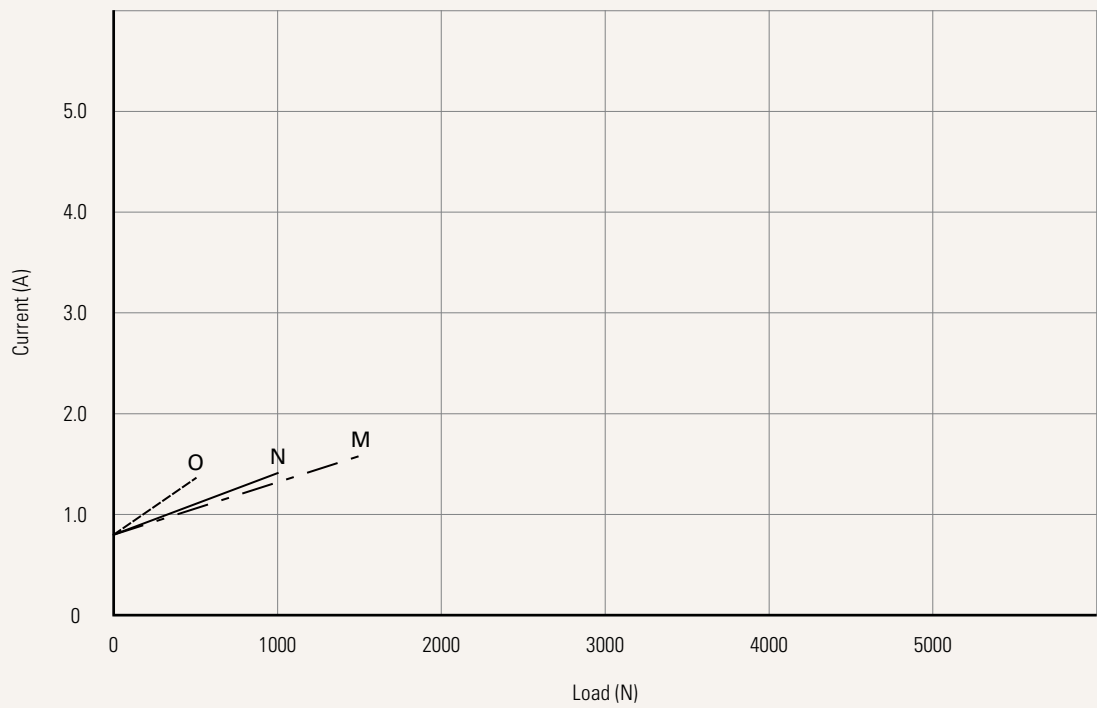
Performance Data (24V DC Motor)

Motor Speed (3400RPM)

Speed vs. Load



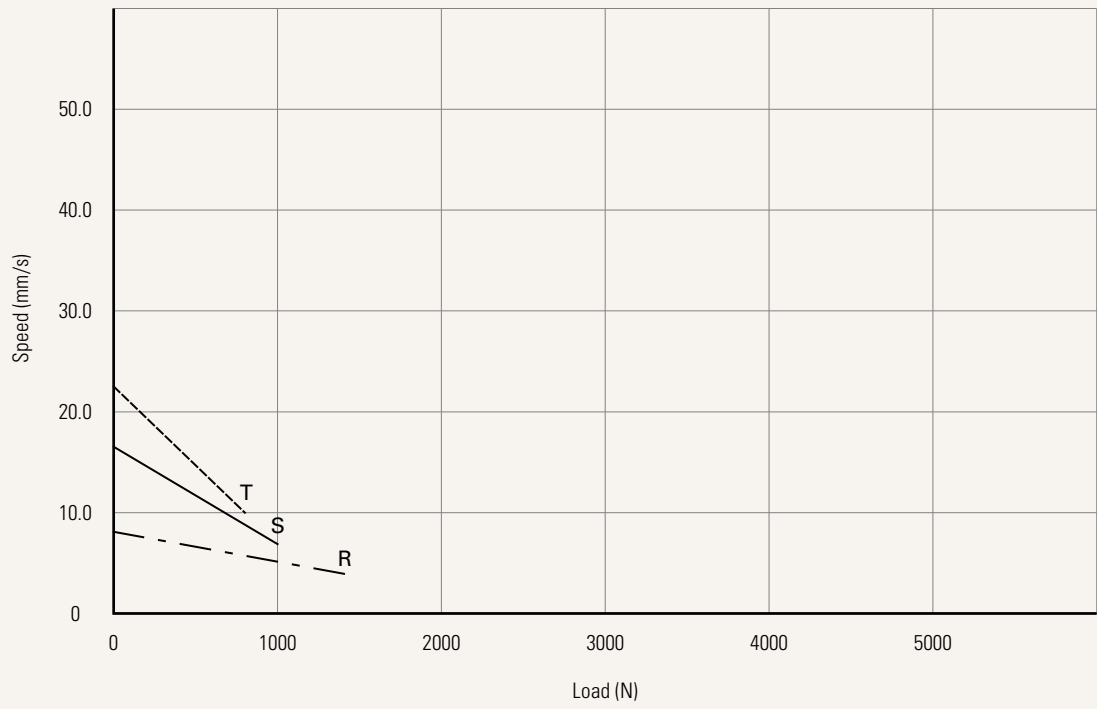
Current vs. Load



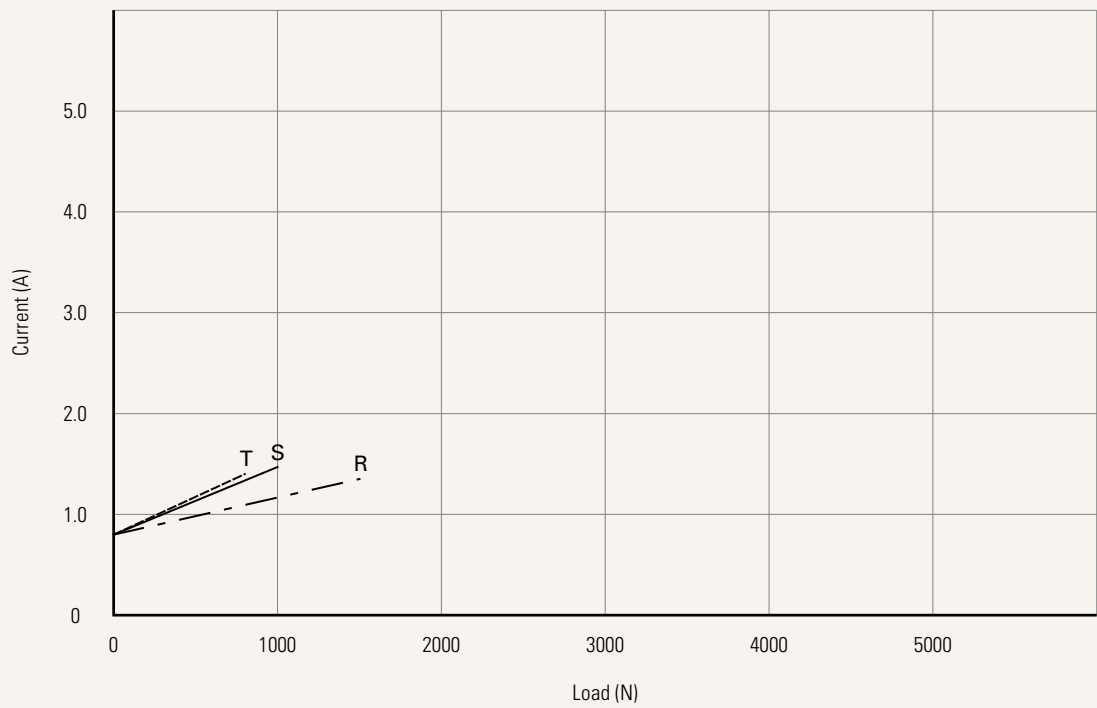
Performance Data (24V DC Motor)

Motor Speed (2200RPM)

Speed vs. Load



Current vs. Load



<b>Voltage</b>	1 = 12V DC	2 = 24V DC	5 = 24V DC, PTC
<b>Load and Speed</b>	<a href="#">See page 2</a>		
<b>Stroke (mm)</b>			
<b>Retracted Length (mm)</b>	<a href="#">See page 8</a>		
<b>Rear Attachment (mm)</b>	1 = Aluminum casting, U clevis, slot 6.0, width 11.0, hole 6.4		
<a href="#">See page 9</a>	2 = Aluminum casting, U clevis, slot 6.0, width 11.0, hole 8.0		
	3 = Aluminum casting, U clevis, slot 6.0, width 11.0, hole 10.0		
<b>Front Attachment (mm)</b>	1 = Aluminum casting, hole 6.4		
<a href="#">See page 9</a>	2 = Aluminum casting, hole 8.0		
	3 = Aluminum CNC, U clevis, slot 6.0, depth 16.0, hole 10.0		
	4 = Aluminum CNC, U clevis, slot 6.0, depth 16.0, hole 6.4		
	5 = Aluminum CNC, U clevis, slot 6.0, depth 16.0, hole 8.0		
<b>Direction of Rear Attachment (Counterclockwise)</b>	1 = 0°	2 = 90°	
<a href="#">See page 9</a>			
<b>IP Rating</b>	1 = Without	2 = IP54	3 = IP66
<b>Special Functions for Spindle Sub-Assembly</b>	0 = Without (standard)	2 = Standard push only	
<b>Functions for Limit Switches</b>	1 = Two switches at full retracted / extended positions to cut current		
<a href="#">See page 10</a>	2 = Two switches at full retracted / extended positions to cut current + third one in between to send signal		
	3 = Two switches at full retracted / extended positions to send signal		
	4 = Two switches at full retracted / extended positions to send signal + third one in between to send signal		
<b>Output Signals</b>	0 = Without	5 = Hall sensor * 2	
<b>Connector</b>	1 = DIN 6P, 90° plug	B = Y cable (for direct cut system, non water proof, non anti pull)	
<a href="#">See page 10</a>	2 = Tinned leads	E = Molex 8P, plug	
	3 = Small 01P, plug		
<b>Cable Length (mm)</b>	1 = Straight, 300	2 = Straight, 600	3 = Straight, 1000

## Retracted Length (mm)

1. Calculate  $A+B+C = Y$
2. Retracted length needs to  $\geq$  Stroke + Y

### A. Front Attachment

<b>1, 2</b>	+140
<b>3, 4, 5</b>	+160

### B. Load (N)

<b>&lt; 3500</b>	-
<b>= 3500</b>	+5

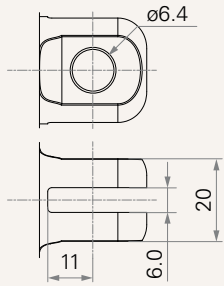
### C. Stroke (mm)

<b>20~150</b>	-
<b>151~200</b>	-
<b>201~250</b>	+5
<b>251~300</b>	+10
<b>301~350</b>	+15
<b>351~400</b>	+20
<b>401~450</b>	+25
<b>451~500</b>	+30
<b>501~550</b>	+35
<b>551~600</b>	+40
<b>601~650</b>	+45
<b>651~700</b>	+50
<b>701~750</b>	+55
<b>751~800</b>	+60
<b>801~850</b>	+65
<b>851~900</b>	+70
<b>901~950</b>	+75
<b>951~1000</b>	+80

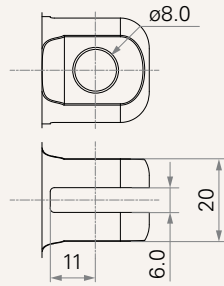


## Rear Attachment (mm)

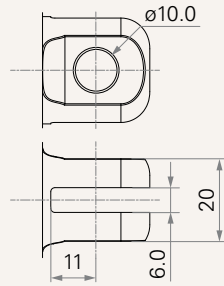
1 = Aluminum casting, U clevis, slot 6.0, width 11.0, hole 6.4



2 = Aluminum casting, U clevis, slot 6.0, width 11.0, hole 8.0

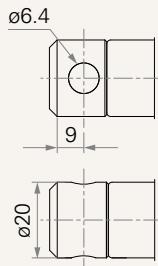


3 = Aluminum casting, U clevis, slot 6.0, width 11.0, hole 10.0

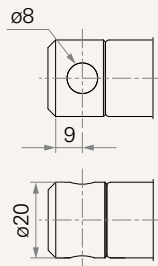


## Front Attachment (mm)

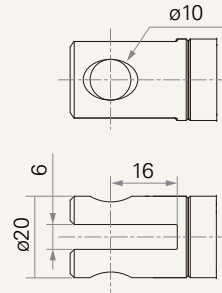
1 = Aluminum casting, hole 6.4



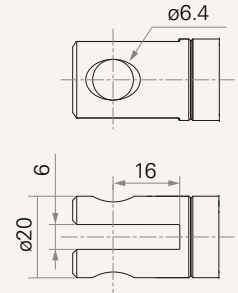
2 = Aluminum casting, hole 8.0



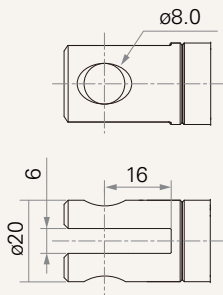
3 = Aluminum CNC, U clevis, slot 6.0, depth 16.0, hole 10.0



4 = Aluminum CNC, U clevis, slot 6.0, depth 16.0, hole 6.4

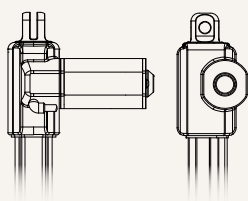


5 = Aluminum CNC, U clevis, slot 6.0, depth 16.0, hole 8.0

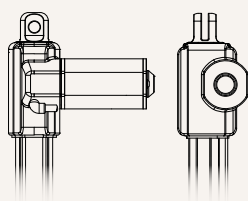


## Direction of Rear Attachment (Counterclockwise)

1 = 0°



2 = 90°



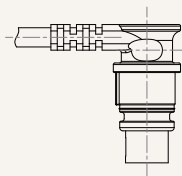
## Functions for Limit Switches

### Wire Definitions

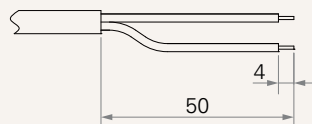
CODE	Pin					
	● 1 (Green)	● 2 (Red)	○ 3 (White)	● 4 (Black)	● 5 (Yellow)	● 6 (Blue)
1	extend (VDC+)	N/A	N/A	N/A	retract (VDC+)	N/A
2	extend (VDC+)	N/A	middle switch pin B	middle switch pin A	retract (VDC+)	N/A
3	extend (VDC+)	common	upper limit switch	N/A	retract (VDC+)	lower limit switch
4	extend (VDC+)	common	upper limit switch	medium limit switch	retract (VDC+)	lower limit switch

### Connector

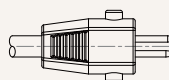
1 = DIN 6P, 90° plug



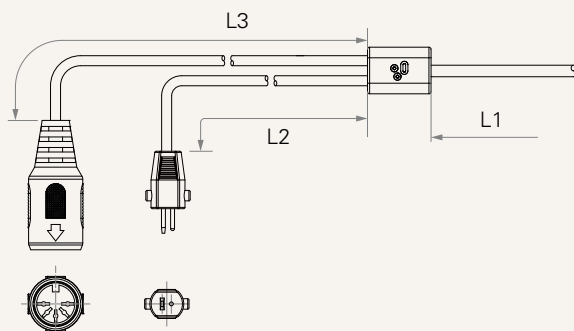
2 = Tinned leads



3 = Small 01P, plug



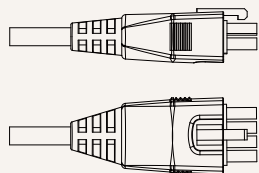
B = Y cable (for direct cut system, non water proof, non anti pull)



### Cable length for direct cut system (mm)

CODE	L1	L2	L3
B	100	100	100
C	100	1000	400
D	100	2700	500
E	1000	100	100
F	100	600	1000
G	1500	1000	1000
H	100	100	1200

E = MOLEX 8P, plug



### Terms of Use

The user is responsible for determining the suitability of TiMOTION products for a specific application. TiMOTION products are subject to change without prior notice.