C Timotion

TA15 series



Product Segments



TiMOTION's TA15 series linear actuator was specifically designed for bariatric bed applications. These beds require a robust, long life solution that incorporates safety, reliability and effortless operation. A significant feature of the TA15 linear actuator is the manual release function that allows for lowering of the patient in the event of an emergency or electrical power outage.

General Features

Voltage of motor	24V DC or 36V DC
Maximum load	10,000N in push
Maximum load	5,500N in pull
Maximum speed at full load	32.2mm/s
	(with 1,500N in a push or pull condition)
Minimum installation dimension	≥ Stroke+210mm
Color	Black or grey
IP rating	Up to IP66
Operational Temperature range	+5°C~+45°C
Certificate	IEC60601-1, ES60601-1, IEC60601-1-2

TA15 series

Drawing

Standard Dimension (mm)



Load and Speed

CODE	Load (N)		Self Locking	Typical Current (A)		Typical Speed (mm/s)	
	Push	Pull	Push (N)	No Load 32V DC	With Load 24V DC	No Load 32V DC	With Load 24V DC
Motor Sp	eed (3000RPN	l, Duty cycle 1	0%)				
т	8000	4000	8000	2.5	6.0	7.9	4.4
Motor Speed (3800RPM, Duty cycle 10%)							
В	10000	4000	10000	2.5	8.5	8.0	4.5
С	8000	4000	8000	2.5	8.5	10.7	6.0
D	5500	5500	5500	2.5	8.0	14.4	8.1
F	1500	1500	1500	2.5	6.5	49.4	32.2

Note

1 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. With a 36V DC motor, the current is approximately two-thirds the current measured in 24V DC. Speed will be similar for all the voltages.

2 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.

- 3 The current & speed in table are tested when the actuator is extending under push load.
- 4 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)

5 Standard stroke: Min. ≥ 30mm, Max. please refer to below table.

Code	Load (N)	Max Stroke (mm)
В	10000	500
T/C	8000	500
D	5500	800
F	1500	1000





Performance Data (24V)

Motor Speed (3000RPM, Duty cycle 10%)



Current vs. Thrust

Thrust (N)



Speed vs. Thrust

Thrust (N)





Performance Data (24V)

Motor Speed (3800RPM, Duty cycle 10%)



Current vs. Thrust

Thrust (N)



Speed vs. Thrust

Thrust (N)



Retracted Length (mm)

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

A. Front Attachment		
1, 2, 3, 4	+220	
B, C	+210	
B. Stroke (mm)		
0 ~150	-	
151~200	-	
201~250	-	
251~300	-	
301~350	+10	
351~400	+20	

For stroke over 300mm, +10mm for each increment of 50mm stroke.

Load with Pot, the corresponding max stroke

Load	Max Stroke	Resolution
	mm	Ω/mm
T/C	400	23.08
В	200	41.38
D	540	17.14
F	920	10.00



Functions for Limit Switches

Wire De	e Definitions				
CODE*	Pin				
	1	2	3	4	
	🔵 (green)	(red)	(white)	(black)	
1	extend (VDC+)	N/A	N/A	N/A	
2	extend (VDC+)	N/A	middle switch pin B	middle switch pin A	
3	extend (VDC+)	common	upper limit switch	N/A	
4	extend (VDC+)	common	upper limit switch	medium limit switch	

Note

* See ordering key - functions for limit switches



TA15 Ordering Key



					Version: 2	
Voltage	5 = 24V thermal protector	7 = 36V therr	nal protector			
Load and Speed	See page 2					
Stroke (mm)						
Retracted Length (mm)	See page 5					
Rear Attachment	1 = Iron CNC, U clevis, slot 8.2, d 2 = Iron CNC, U clevis, slot 8.2, d	lepth 17.0, holi lepth 17.0, holi	e 10.2, T bushing e 12.2	4 = Iron CNC, U	J clevis, slot 10.2, depth 17.0, hole 12.2	
Front Attachment	3 = Iron CNC, U clevis, slot 10.2, d Front Attachment 1 = Iron CNC, U clevis, slot 8.2, d 2 = Iron CNC, U clevis, slot 8.2, d 3 = Iron CNC, U clevis, slot 8.2, d 2 = Iron CNC, U clevis, slot 8.2, d		apth 17.0, hole 10.2, 1 bushing apth 19.0, hole 10.2, T bushing apth 19.0, depth 17.0, hole 12.2 apth 19.0, hole 10.2. T bushing		4 = Iron CNC, U clevis, slot 10.2, depth 19.0, hole 12.2	
Direction of Rear	Attachment (Counterclockwise	$1 = 0^{\circ}$		3 = 90°		
Color	1 = Black	2 = Gre	y (Pantone 428C)			
IP Protection	1 = Without	2 = IP5	4	3 = IP66	5 = IP66W	
Quick Release	0 = Without	2 = Cat	ble type quick releas	e (not including c	able)	
Special Functions Spindle Sub-Asser	for0 = Without (standard)nbly1 = Safety nut	2 = Sta 3 = Sta	ndard push only ndard push only + S	afety nut		
Functions for Limit Switches	1 = Two switches at full r 2 = Two switches at full r 3 = Two switches at full r 4 = TTwo switches at full	retracted/exter retracted/exter retracted/exter retracted/exter	acted/extended positions to cut current acted/extended positions to cut current + third one in between to send signal acted/extended positions to send signal tracted/extended positions to send signal + third one in between to send signal			
Output Signals	0 = Without	2 = Two	o Hall sensors	3 = Reed sense	or 4 = POT	
Connector	0 = DIN 6P, socket on ge 1 = DIN 6P, 90° plug 2 = Tinned leads	ear box	3 = Small 01P, p 4 = Big 01P, plu E = MOLEX 8P, p	lug J Dlug	F = DIN 6P, 180° plug G = Audio plug	
Cable Length	0 = Without, for socket o 1 = Straight, 500mm 2 = Straight, 750mm	on gear box	3 = Straight, 10 4 = Straight, 12 5 = Straight, 15	00mm 50mm 00mm	6 = Straight, 2000mm 7 = Curly, 200mm 8 = Curly, 400mm	

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