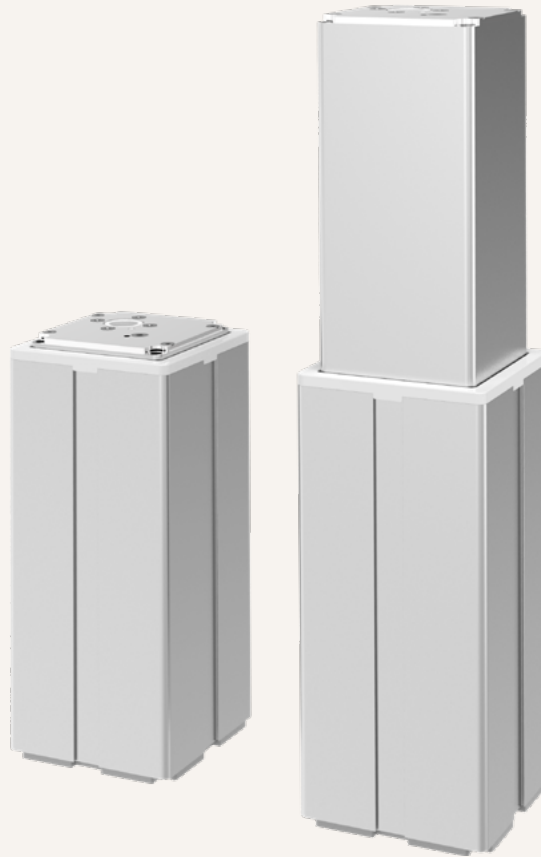


TL24

series



Product Segments

- **Care Motion**
- **Ergo Motion**

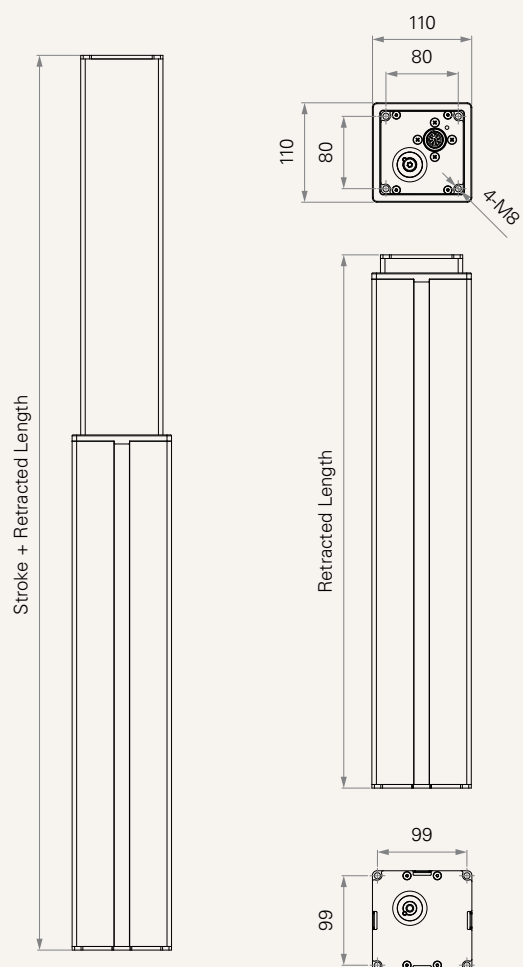
TL24 electric lifting column is designed for medical applications such as height adjustable workstations, screens and optical machines. TL24 provides multiple cable exit options, such as from top end socket or top/bottom sides; besides, TL24 also support "direct cut system" which can be operated without control box, connecting the main power and hand control directly. The TL24 features an extruded aluminum rectangular 2 stage appearance.

General Features

Max. load	3,300N (push)
Max. dynamic bending moment	200Nm
Max. static bending moment	400Nm
Max. speed at max. load	6.5mm/s
Max. speed at no load	36mm/s
Retracted length	≥ Stroke + 188mm
IP rating	IPX6
Outer profile	110*110mm square
Stages	2-stage
Stroke	100~600mm
Output signals	Hall sensor * 2, POT
Options	Cable exit from top or bottom side, direct cut system
Voltage	12/24V DC

Drawing

Standard Dimensions
(mm)



Load and Speed

CODE	Load (N)	Self Locking Force (N)	Typical Current (A)		Typical Speed (mm/s)	
	Push		No Load 32V DC	With Load 24V DC	No Load 32V DC	With Load 24V DC
4129 Motor Speed (5200RPM, Duty Cycle 10%)						
G	3300	3300	2.0	4.7	12.0	6.5
J	1800	1800	2.0	4.0	17.0	10.5
L	800	800	2.5	3.6	36.0	22.0

Note

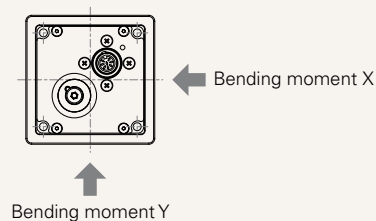
- Parameters above are from tested average, please refer to approval drawing for final value.
- The current & speed in table are tested with 24V DC motor. With a 12V DC motor, the current is approximately twice the current measured in 24V DC; speed will be similar for both voltages.
- This self-locking 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.
- Operational temperature range: +5°C~+45°C
- Standard stroke: Please refer to below table

CODE	Load (N)	Min. Stroke (mm)	Max. Stroke (mm)
	Push		
G	3300	100	≤300
J	1800	100	≤450
L	800	100	≤600

6 Dynamic bending moment (Nm) - X direction

Stroke (mm)	Retracted Length (mm)
	S+188
100-400	200
401-600	200
601-800	200

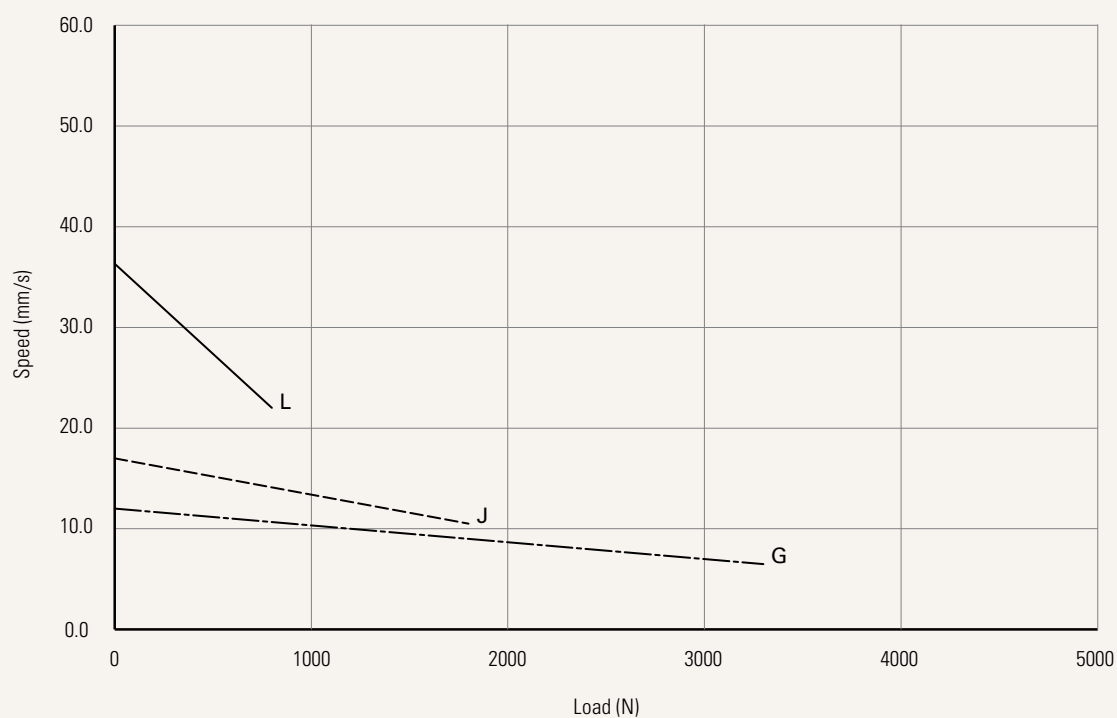
- * Bending moment Y direction = X
- * Static bending moment = dynamic*2



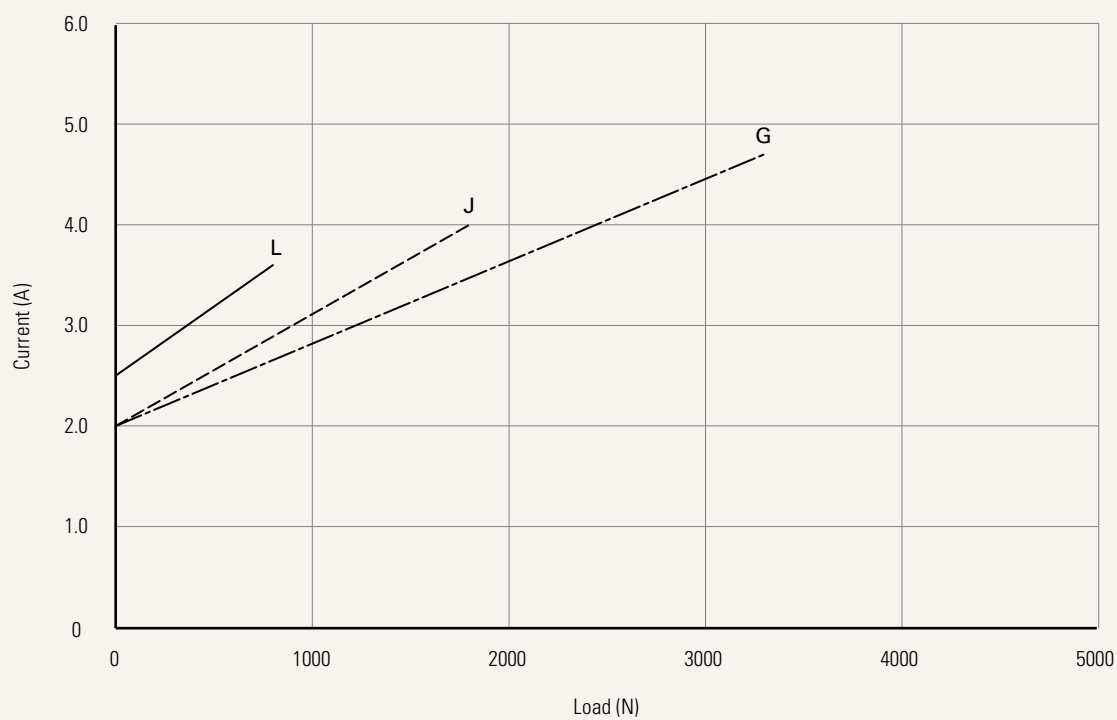
Performance Data (24V DC Motor)

4129 Motor Speed (5200RPM, Duty Cycle 10%)

Speed vs. Load



Current vs. Load



TL24 Top End Socket Ordering Key

TL24

Version: 20260428-N



Voltage 1 = 12V DC 2 = 24V DC



Load and Speed [See page 3](#)



Stroke (mm) [See page 3](#)



Retracted Length (mm) [See page 8](#)



Cable Exit 1 = Top end socket
[See page 9](#)



Special Functions for Spindle Sub-Assembly 0 = Without (Standard) 1 = Safety nut



Functions for Limit Switches 1 = Two switches at full retracted / extended positions to cut current
3 = Two switches at full retracted / extended positions to send signal
[See page 9](#)



IP Rating 1 = Without 2 = IPX4 3 = IPX6



Output Signals 0 = Without 2 = Hall sensor * 2 3 = POT



Connector 1 = DIN 6P, socket
[See page 10](#)



Cable Length 1 = Without (the corresponding extension cable TEC needs to be ordered separately)



Color 1 = Black 2 = Matte silver



Tubes Direction 0 = Thinner on top 1 = Wider on top
[See page 11](#)



Top Plate 1 = Small plate
[See page 11](#)



Bottom Plate 1 = Small plate
[See page 11](#)



Grounding Function 0 = Without

Note

1 The TL24 is designed especially for push applications, not suitable for pull applications.

TL24 Side Cable Ordering Key

TL24

Version: 20260428-N

	Voltage	1 = 12V DC	2 = 24V DC	
	Load and Speed	See page 3		
	Stroke (mm)	See page 3		
	Retracted Length (mm)	See page 8		
	Cable Exit	2 = Bottom side cable	3 = Top side cable	
	Special Functions for Spindle Sub-Assembly	0 = Without (Standard)	1 = Safety nut	
	Functions for Limit Switches	1 = Two switches at full retracted / extended positions to cut current 3 = Two switches at full retracted / extended positions to send signal		
	IP Rating	1 = Without	2 = IPX4	3 = IPX6
	Output Signals	0 = Without	2 = Hall sensor * 2	3 = POT
	Connector	1 = DIN 6P, 90° plug 2 = Tinned leads	3 = Molex 6P, 90° plug F = DIN 6P, 180° plug	S = Molex 6P, 180° plug
	Cable Length (mm)	1 = Straight, 500	3 = Straight, 1000	5 = Straight, 1500 7 = Straight, 2000
	Color	1 = Black (Black cable set) 2 = Matte silver (428C color cable set)	3 = Matte silver (Black cable set) 4 = Black (428C color cable set)	
	Tubes Direction	0 = Thinner on top	1 = Wider on top	
	Top Plate	1 = Small plate		
	Bottom Plate	1 = Small plate		
	Grounding Function	0 = Without		

Note

1 The TL24 is designed especially for push applications, not suitable for pull applications.

TL24 Direct Cut Ordering Key

TL24

Version: 20260428-N



Voltage	1 = 12V DC	2 = 24V DC
Load and Speed	See page 3	
Stroke (mm)	See page 3	
Retracted Length (mm)	See page 8	
Cable Exit See page 9	B = Top side- for TH; Bottom side- for TP C = Bottom side- Y cable, for TH + TP D = Top side- for the 2nd column; Bottom side- for TH & TP; direct cut operation with 2 columns E = Top side- for the 2nd column & TH; Bottom side- for TP; direct cut operation with 2 columns	
Special Functions for Spindle Sub-Assembly	0 = Without (Standard)	1 = Safety nut
Functions for Limit Switches See page 9	1 = Two switches at full retracted / extended positions to cut current	
IP Rating	1 = Without	2 = IPX4 3 = IPX6
Output Signals	0 = Without	
Connector See page 10	C = Direct cut, water proof, anti-pull	
Cable Length (mm) See page 10	B = Cable exit #B, L2=L3=100 C = Cable exit #C, L1=L2=L3=100	D = Cable exit #D, L2=L3=L4=100 E = Cable exit #E, L2=L3=L4=100
Color	1 = Black (Black cable set) 2 = Matte silver (428C color cable set)	3 = Matte silver (Black cable set) 4 = Black (428C color cable set)
Tubes Direction See page 11	0 = Thinner on top	1 = Wider on top
Top Plate See page 11	1 = Small plate	
Bottom Plate See page 11	1 = Small plate	
Grounding Function	0 = Without	

Note

1 The TL24 is designed especially for push applications, not suitable for pull applications.

Retracted Length (mm)

1. Minimum retracted length needs to $\geq A+B+C$

A.

Load (N)	800	1800	3300
	S+188	S+188	S+188

* Different retracted length is relative to different bending moment, [See page 3](#).

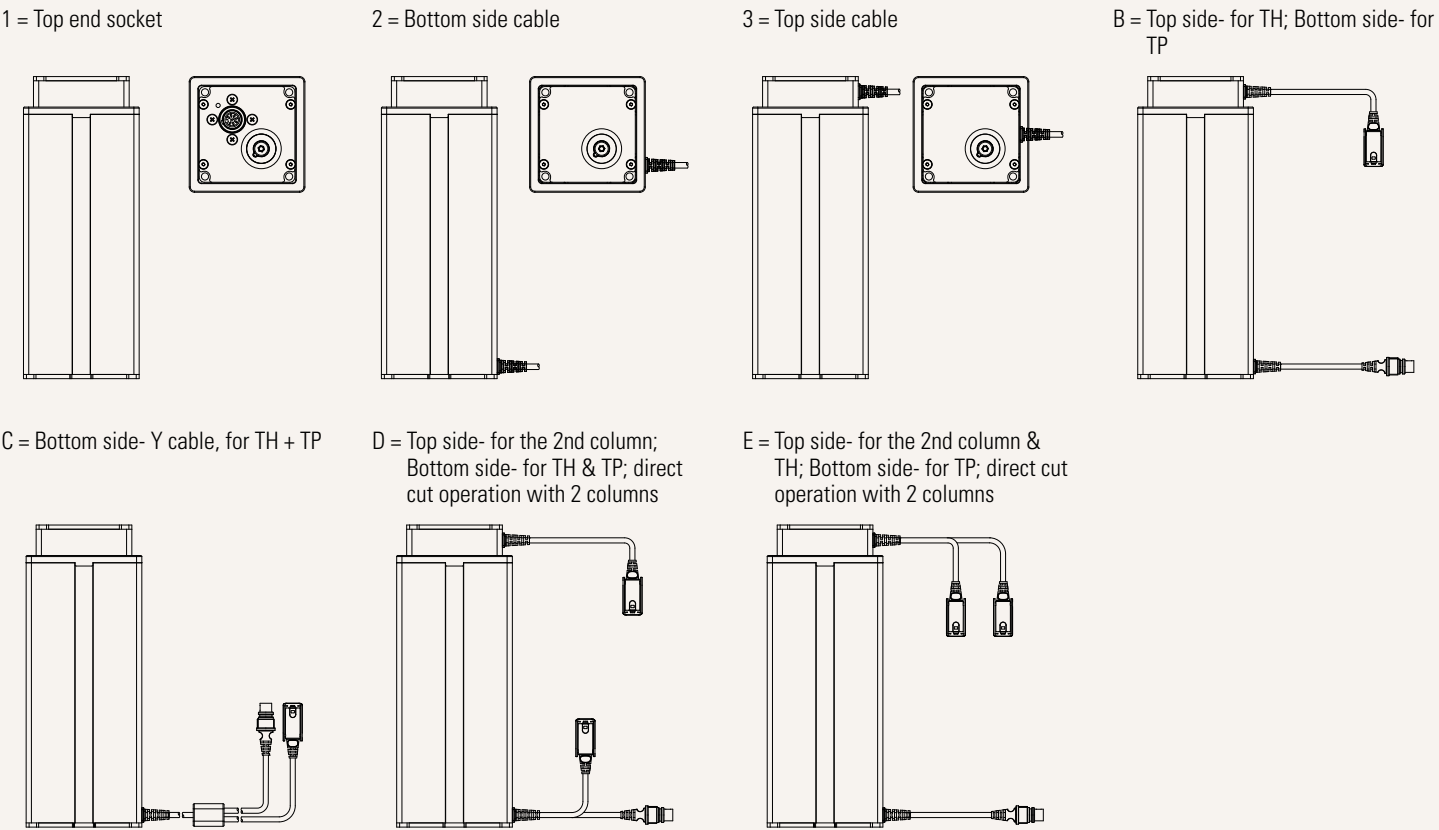
B.

Cable Exit	Top End Socket	Bottom Side Cable	Top Side Cable	Direct Cut	
	1	2	3	B, D, E	C
	-	-	+15	+35	-

C. When with POT (When without POT, C=0)

Cable Exit	Top End Socket	Bottom Side Cable	Top Side Cable
	1	2	3
	+36	+36	+36

Cable Exit



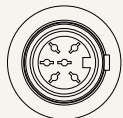
Functions for Limit Switches

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
3	extend (VDC+)	common	upper limit switch	N/A	retract (VDC+)	lower limit switch

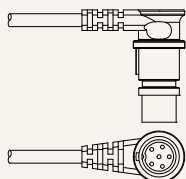
Connector (Top End Socket)

1 = DIN 6P, socket



Connector (Side Cable)

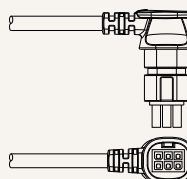
1 = DIN 6P, 90° plug



2 = Tinned leads



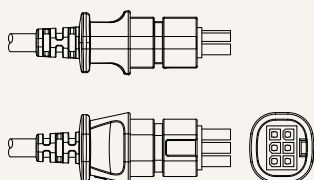
3 = Molex 6P, 90° plug



F = DIN 6P, 180° plug

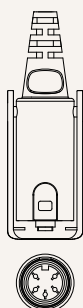


S = Molex 6P, 180° plug



Connector (Direct Cut)

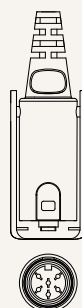
C = Direct cut, water proof, anti-pull



For TH:
long DIN 5P (Pin array 240°),
180° socket (with anti-pull clip)



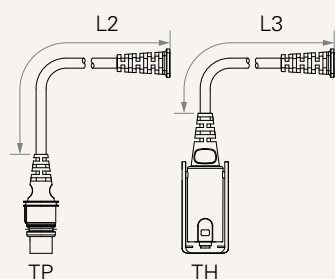
For TP:
long DIN 5P (Pin array 240°),
180° plug (with O-ring)



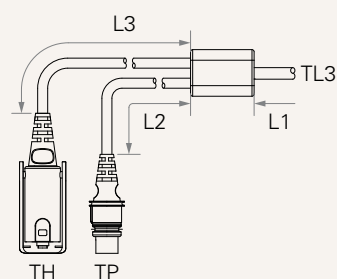
For Column 2:
long DIN 6P (Pin array 240°),
180° plug (with anti-pull clip)

Cable Length (mm)

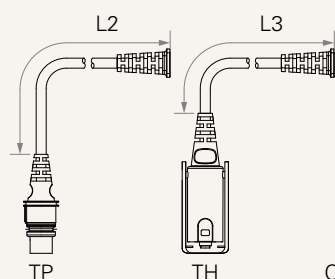
B = Cable exit #B, L2=L3=100



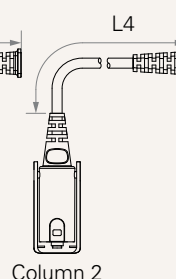
C = Cable exit #C, L1=L2=L3=100



D = Cable exit #D, L2=L3=L4=100

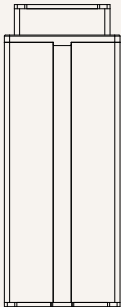


E = Cable exit #E, L2=L3=L4=100

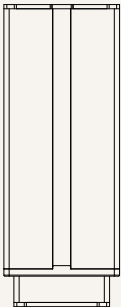


Tubes Direction

0 = Thinner on top

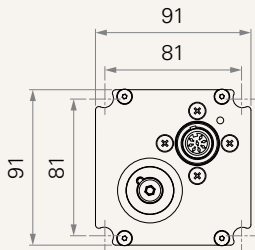


1 = Wider on top

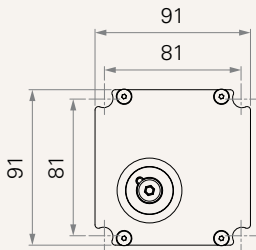


Top Plate

1 = Small plate (Top end socket)

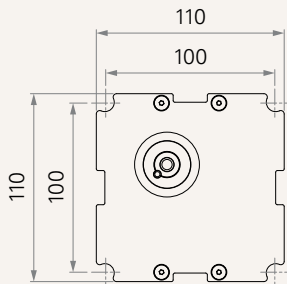


1 = Small plate (Side cable)



Bottom Plate

1 = Small plate



Terms of Use

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