TL18
series

Product Segments

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

TiMOTION's TL18 series electric lifting columns are designed for industrial applications like electric height adjustable workstations and screen or lifting tables. The TL18 is features an extruded aluminum rectangular appearance. Our high capacity, yet economical, TL18 provides stable vertical lifting. This streamlines the engineering design process and replaces the older style, unsafe lifting mechanisms which have many moving stages and pinch points.

General Features

|	
Maximum load	4,500N
Maximum dynamic bending moment	250Nm
Maximum static bending moment	500Nm
Maximum speed at full load	28mm/s (with 500N in a push condition)
Minimum installation dimension	Stroke + 147mm
Stroke	100~700mm
Operational temperature range	+5°C~+45°C
Options	Hall sensor(s), cable exit from top or bottom side

Drawing

Standard Dimensions
(mm)
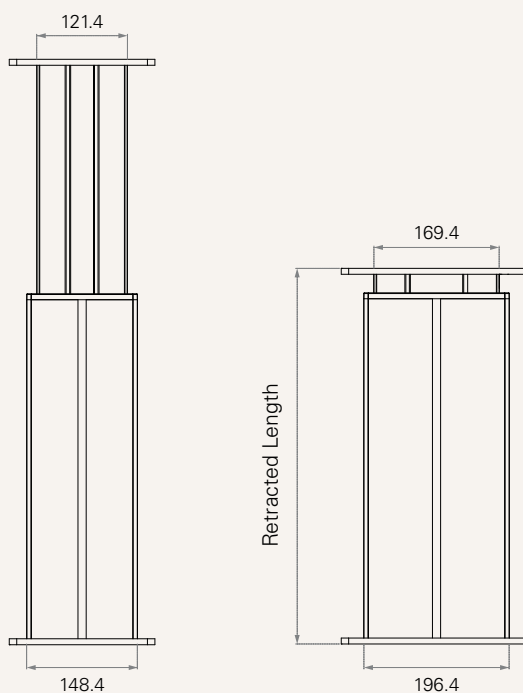
Load and Speed

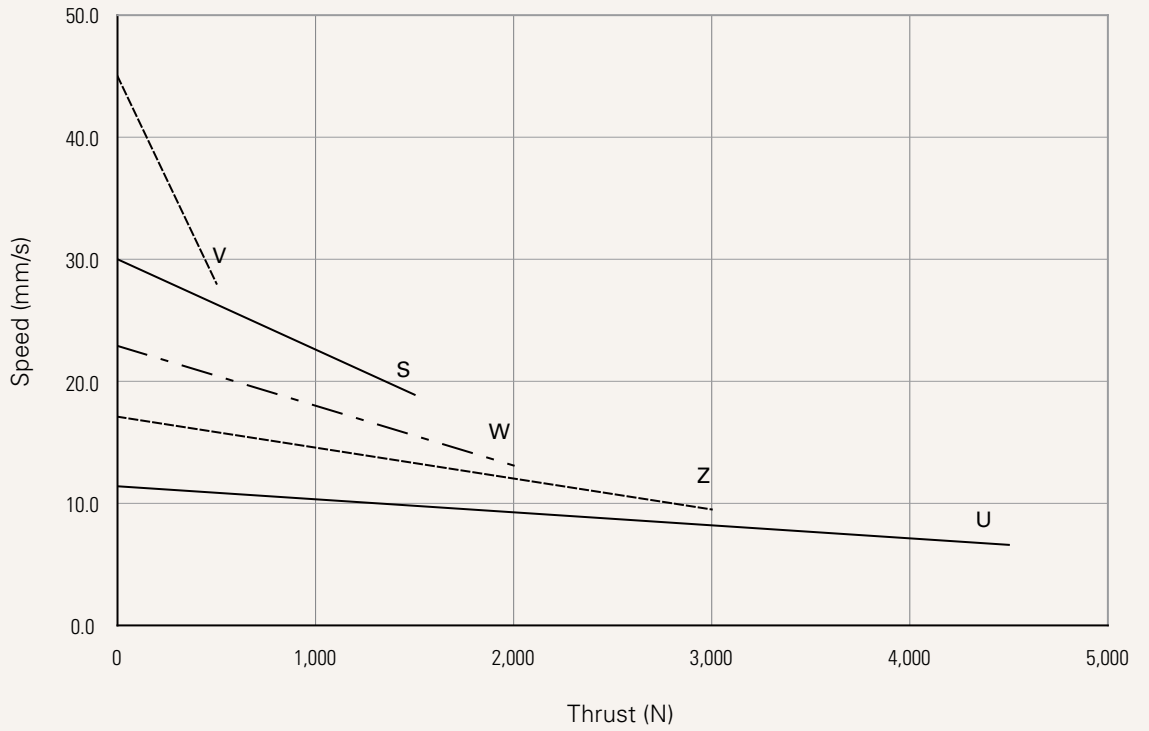| CODE	Load (N)	Bending moment- X direction (Nm)		Self Locking Force (N)	Typical Current (A)		Typical Speed (mm/s)	
	Push	Dynamic	Static		No Load 32V DC	With Load 24V DC	No Load 32V DC	No Load 24V DC
Motor Speed (3800RPM)								
U	4500	250	500	4500	2.5	4.9	11.4	6.6
Z	3000	250	500	3000	2.5	5.5	17.1	9.5
W	2000	250	500	2000	2.5	4.8	22.9	13.1
S	1500	250	500	1500	2.5	4.7	30.0	18.9
V	500	250	500	500	2.5	4.0	45.0	28.0

Note

1 With a 12V motor, the current is approximately twice the current measured in 24V; speed will be similar for both 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.
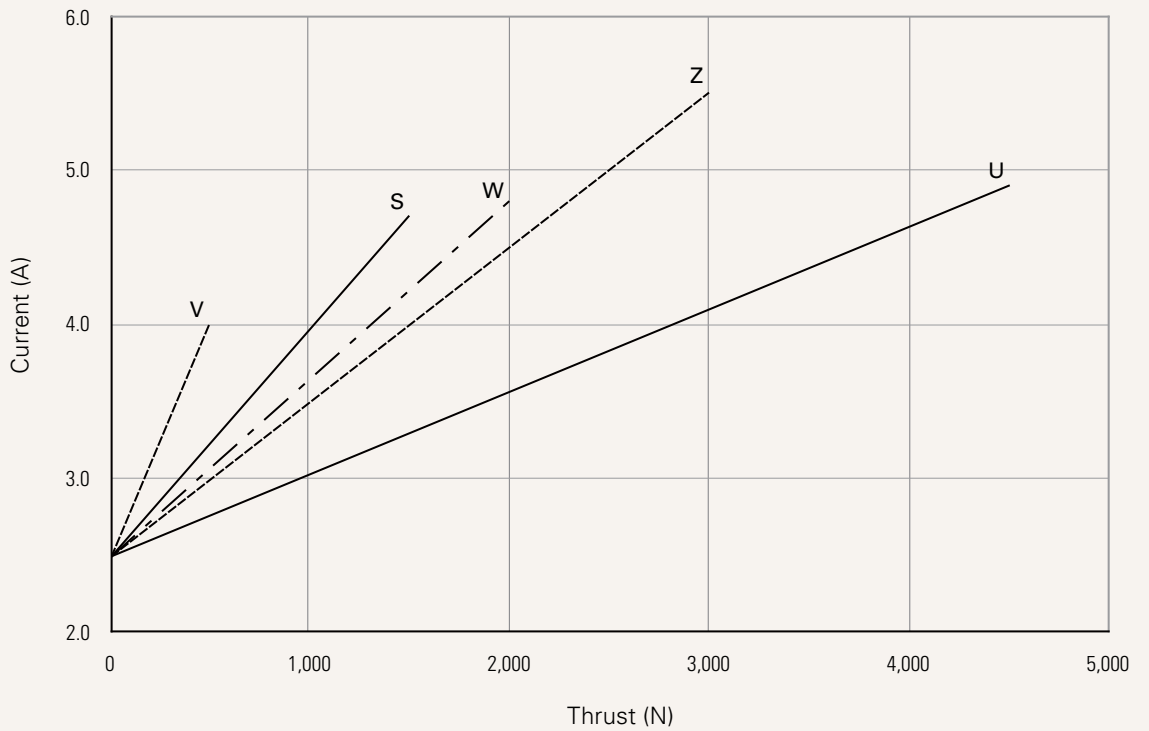
3 Bending Moment Y direction = X*0.8

Bending moment X

Bending moment Y
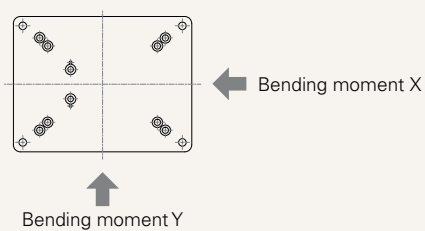
Performance Data (24V DC Motor)

Motor Speed (3800RPM)

Speed vs. Thrust

Current vs. Thrust

Note

1 The performance data in the curve charts shows theoretical value.

TiMOTION

TL18 Ordering Key

ToMOTION logo

TL18

Version: 20170711-E

Voltage	1 = 12V	2 = 24V
Load and Speed	See page 2	
Stroke (mm) See page 3	100 ~ 700	
Retracted Length (mm)	See page 5	
Cable Exit See page 5	2 = Bottom side cable	3 = Top side cable
Special Functions for Spindle Sub-Assembly	0 = Without (standard)	1 = Safety nut
Functions for Limit Switches See page 6	1 = Two switches at full retracted / extended positions to cut current 3 = Two switches at full retracted / extended positions to send signal	
Color	1 = Body - white (anodized) ; top / bottom plates - black (electrodeposition) 2 = Body - black (anodized) ; top / bottom plates - black (electrodeposition)	
IP Rating	1 = Without	
Output Signals	0 = Without	2 = Two Hall sensors
Top Plate See page 7	1 = Small plate	2 = Big plate
Bottom Plate See page 7	1 = Small plate	2 = Big plate

Connector See page 6	1 = DIN 6P, 90° plug	C = Y cable, for direct cut system	E = MOLEX 8P, plug
Cable Length (mm)	1 = Straight, 500 2 = Straight, 750 3 = Straight, 1000	4 = Straight, 1250 5 = Straight, 1500 6 = Straight, 1750	A = For direct cut system see page 6

Note

* TL18 is designed especially for push applications, not suitable for pull applications.

TL18 Ordering Key Appendix

Retracted Length (mm)

1. Retracted length needs to ≥ Stroke + A

A. Plate	Bottom Plate	
Top Plate	1	2
1	+147	+151
2	+151	+155

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

Cable Exit
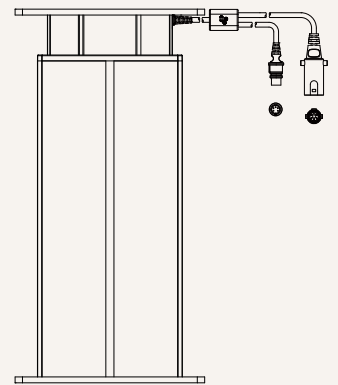
2 = Bottom side cable
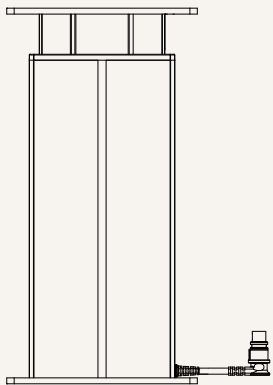
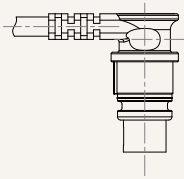2 = Bottom side - Y cable for TH + TP (direct cut system)
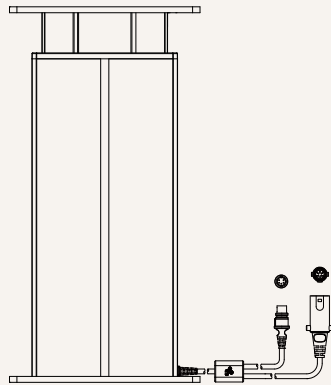
3 = Top side cable
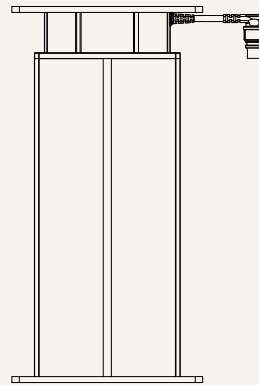
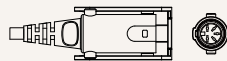3 = Top side - Y cable for TH + TP (direct cut system)

Connector

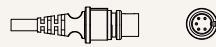1 = DIN 6P, 90°plug

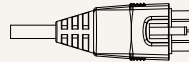C = Y cable, for direct cut system
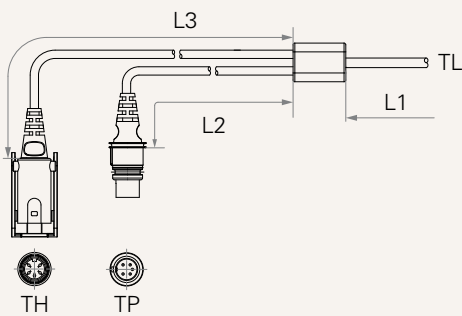
For TH: Long DIN 5P, 180° socket (with anti pull clip)

For TP: Long DIN 5P, 180° plug (with O ring)

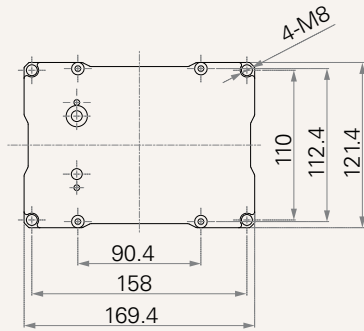E = MOLEX 8P, plug

Cable Length

A = For direct cut system

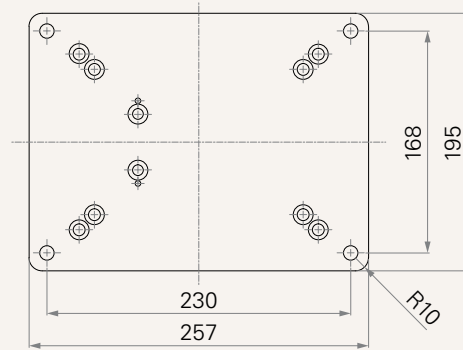| Cable length for direct cut system (mm)			
For	L1	L2	L3
Length	100	100	100

TL18 Ordering Key Appendix

Top Plate

1 = Small plate

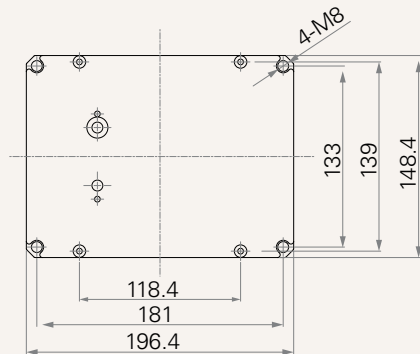Small Plate: 4 fixation holes

Thickness 4mm

2 = Big plate

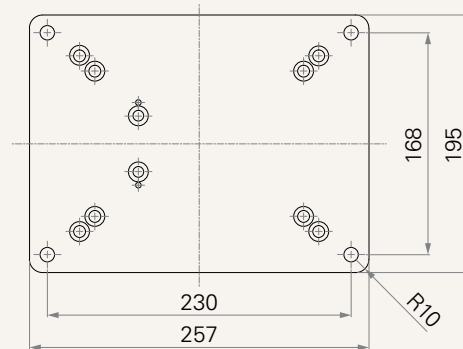Big Plate: 4 fixation holes

Thickness 8mm

Bottom Plate

1 = Small plate

Small Plate: 4 fixation holes

Thickness 4mm

2 = Big plate

Big Plate: 4 fixation holes

Thickness 8mm

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.