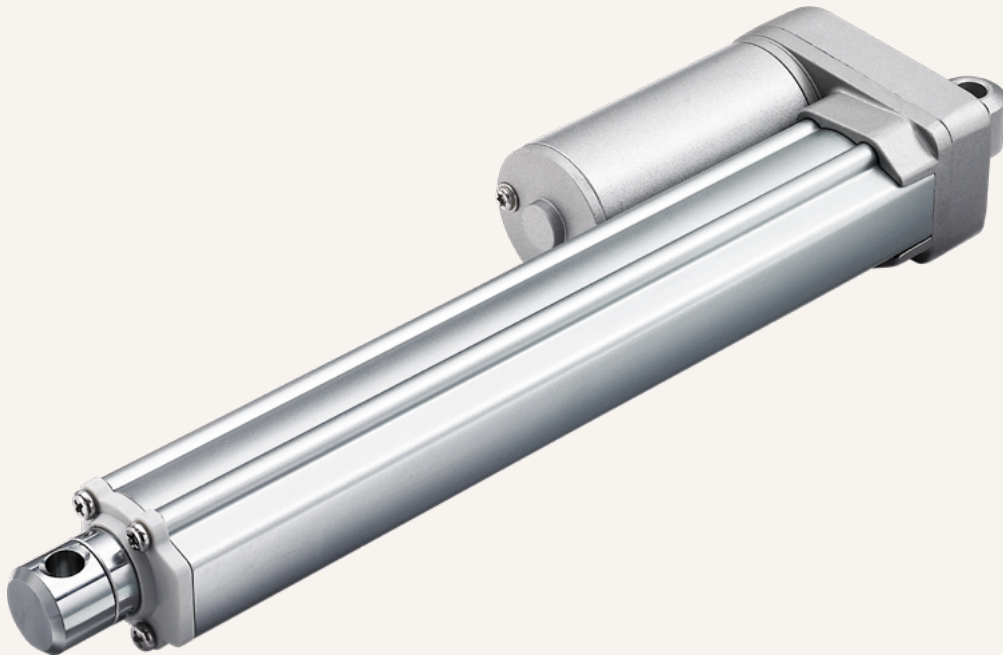


# TA2

series



## Product Segments

- **Industrial Motion**

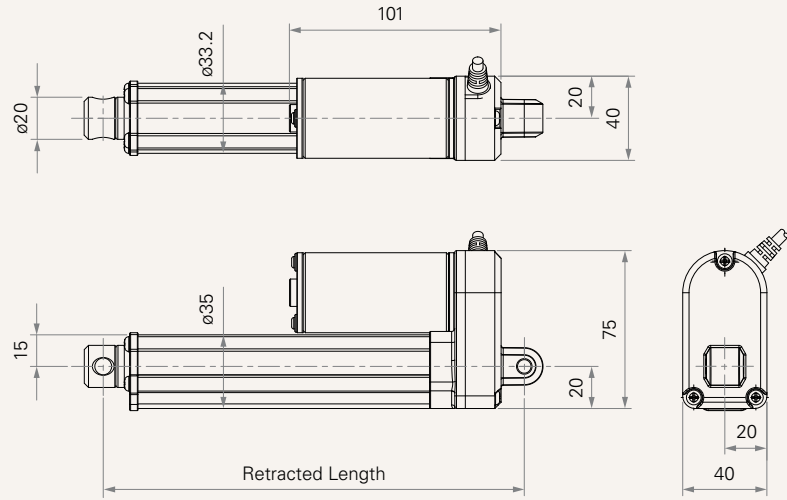
TiMOTION's TA2 series linear actuator is compact, robust and capable of performing well in certain outdoor environments. This linear actuator is perfect for use in small spaces where force or capability cannot be sacrificed. Options include feedback sensors, signal sending limit switches and 90 degree clevis mounting.

### General Features

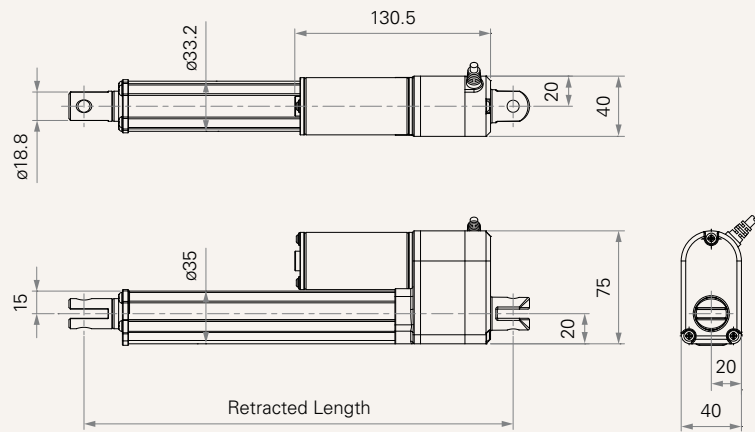
Max. load	1,000N (push/pull)
Max. speed at max. load	7.6mm/s
Max. speed at no load	67.5mm/s
Retracted length	≥ Stroke + 105mm (without output signals)
IP rating	IP66M
Certificate	EMC
Stroke	20~1000mm
Output signals	Mechanical pot., embedded reed switch, NPN Hall sensor, Outer Adjustable Reed switch
Voltage	12/24/36/48V DC; 12/24/36/48V DC (PTC)
Color	Silver
Operational temperature range	+5°C~+45°C (Load < 500N); -25°C~+65°C (Load ≥ 500N)
Operational temperature range at full performance	+5°C~+45°C

**Drawing**

Dimensions without  
Output Signals  
(mm)



Dimensions with  
Output Signals  
(mm)



## Load and Speed

CODE	Load (N)		Self Locking Force (N)	Typical Current (A)		Typical Speed (mm/s)	
	Push	Pull		No Load 24V DC	With Load 24V DC	No Load 24V DC	With Load 24V DC
<b>Motor Speed (4200RPM, duty cycle 25%)</b>							
<b>A</b>	120	120	120	0.8	1.0	44.0	33.0
<b>B</b>	240	240	240	0.7	1.0	22.0	16.5
<b>C</b>	500	500	500	0.6	0.9	11.0	8.5
<b>D</b>	750	750	750	0.6	0.9	7.5	6.2
<b>E</b>	1000	1000	1000	0.6	0.9	5.6	4.6
<b>Motor Speed (6000RPM, duty cycle 25%)</b>							
<b>F</b>	120	120	120	1.0	1.8	67.5	51.0
<b>G</b>	240	240	240	0.9	1.7	33.5	26.5
<b>H</b>	500	500	500	0.8	1.5	17.0	14.0
<b>K</b>	750	750	750	0.8	1.5	11.0	10.0
<b>L</b>	1000	1000	1000	0.8	1.5	9.0	7.6

### Note

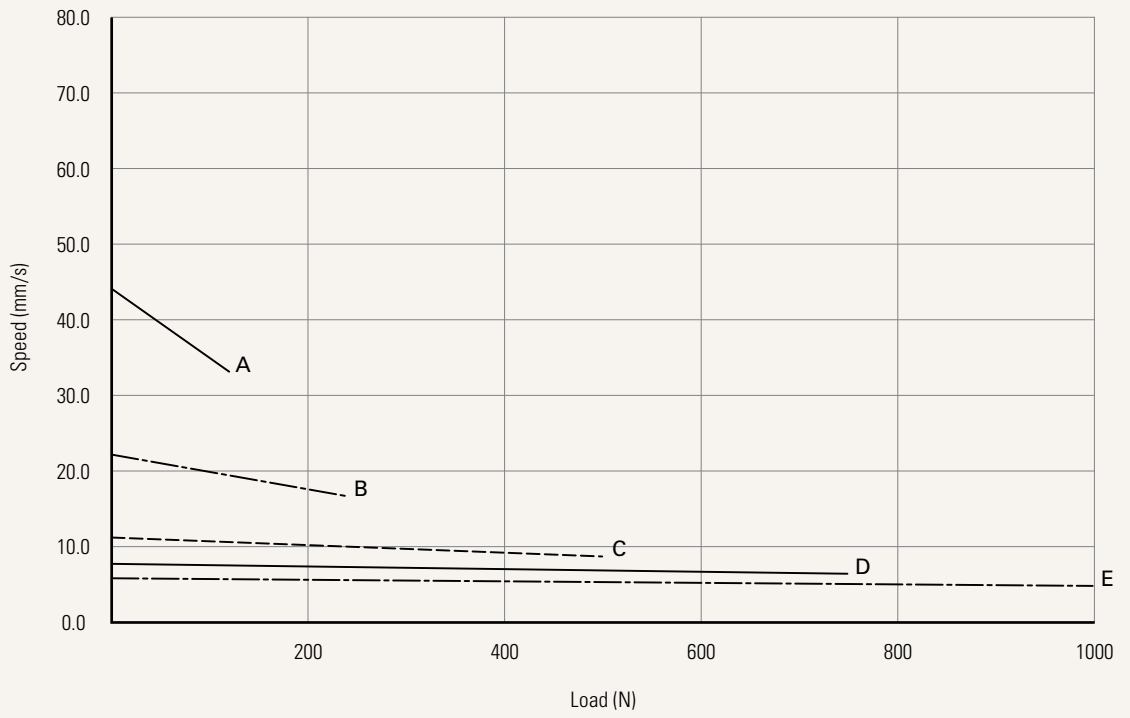
- 1 Please refer to the approved drawing for the final authentic value.
- 2 This self-locking force level is reached only when a short circuit is applied on the terminals of the motor. All the TiMOTION control boxes have this feature built-in. The self-locking force is a minimum value and can be actually higher.
- 3 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. With a 48V DC motor, the current is approximately half the current measured in 24V DC. Speed will be similar for all the voltages.
- 4 The current & speed in table is tested when the actuator is extending under push load.
- 5 The current & speed in table and diagram are tested with a stable 24V DC power supply.
- 6 Without load, noise level  $\leq 74\text{dBA}$  (by TiMOTION test standard, ambient noise level  $\leq 36\text{dBA}$ )
- 7 Standard stroke: Min.  $\geq 20\text{ mm}$ , Max. please refer to the table below. A, B, F, G options, reserve space for equipotential braking is needed, the minimum value is  $\geq 40\text{mm}$ , if minimum stroke  $< 40\text{mm}$ , a customized thrust bearing is required.

CODE	Load (N)	Min. Stroke (mm)	Max. Stroke (mm)
<b>A, B, F, G</b>	$\leq 250$	40	1000
<b>C, D, H, K</b>	$\leq 750$	20	800
<b>E, L</b>	$\leq 1000$	20	600

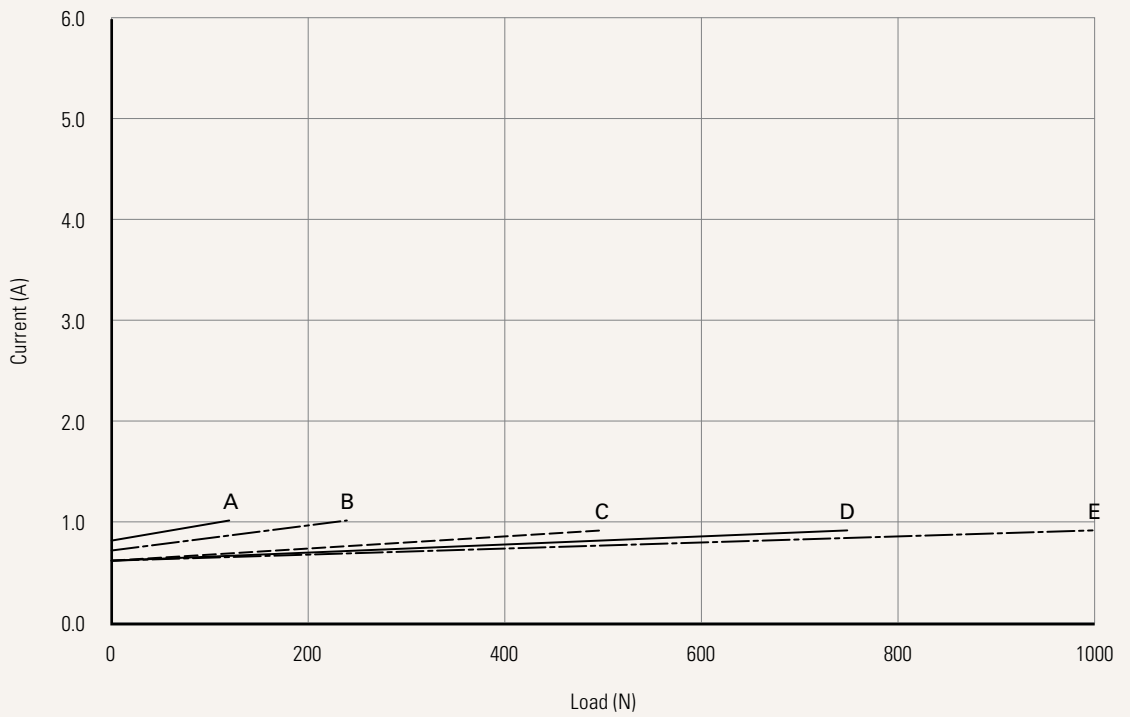
**Performance Data (24V DC)**

Motor Speed (4200RPM, duty cycle 25%)

Speed vs. Load



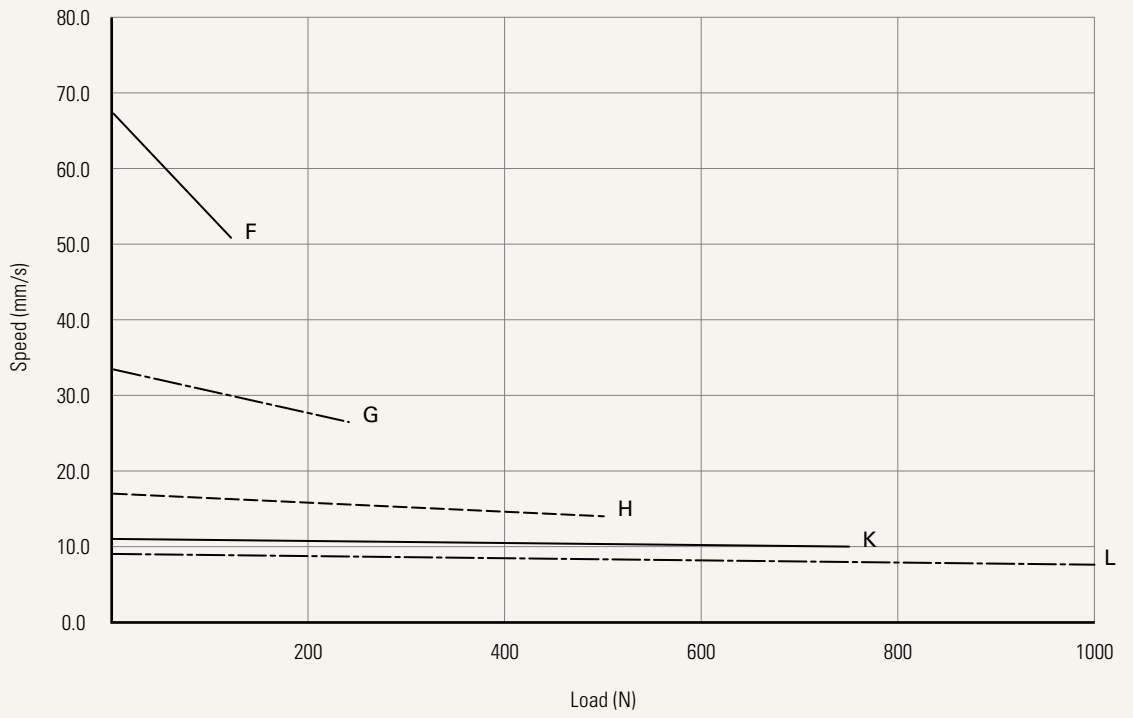
Current vs. Load



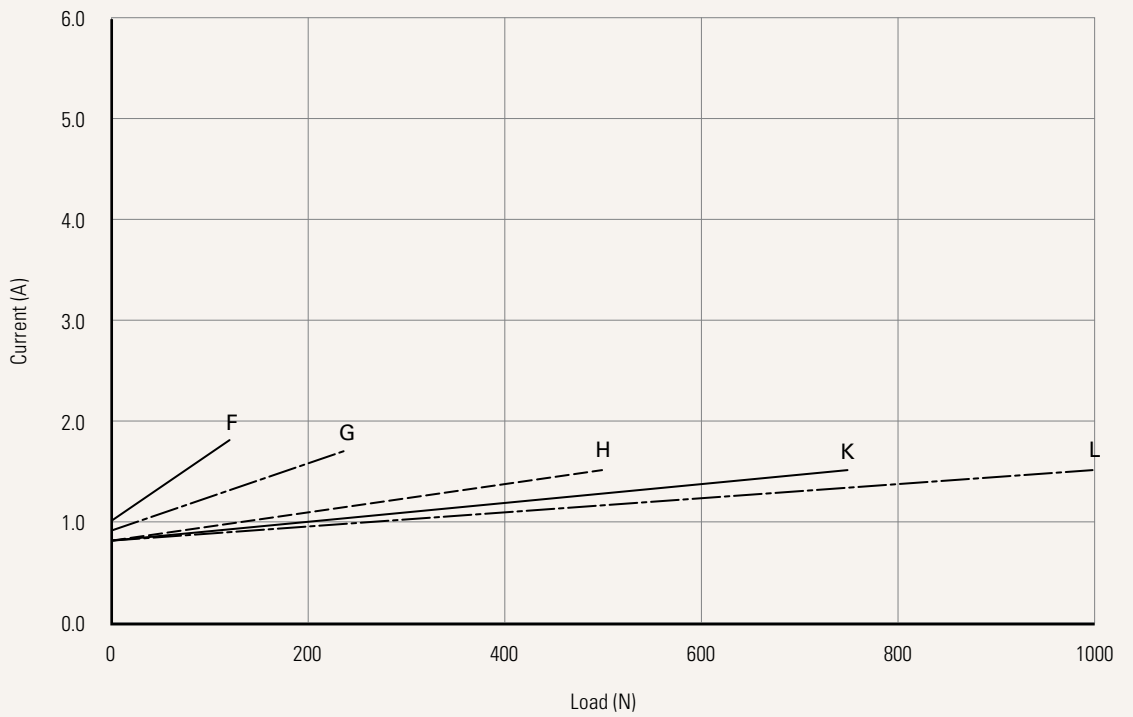
**Performance Data (24V DC)**

Motor Speed (6000RPM, duty cycle 25%)

Speed vs. Load



Current vs. Load



<b>Voltage</b>	1 = 12V DC 2 = 24V DC	3 = 36V DC 4 = 48V DC	5 = 24V DC, PTC 6 = 12V DC, PTC	7 = 36V DC, PTC 8 = 48V DC, PTC
<b>Load and Speed</b>	<a href="#">See page 3</a>			
<b>Stroke (mm)</b>	<a href="#">See page 3</a>			
<b>Retracted Length (mm)</b>	<a href="#">See page 7</a>			
<b>Rear Attachment (mm)</b> <a href="#">See page 8</a>	1 = Aluminum, slotless, hole 6.4, one piece casting with gearbox 2 = Aluminum, slotless, hole 8.0, one piece casting with gearbox 3 = Aluminum, slotless, hole 10.0, one piece casting with gearbox	4 = Aluminum, U clevis, slot 6.0, depth 10.5, hole 6.4, one piece casting with gearbox 5 = Aluminum, U clevis, slot 6.0, depth 10.5, hole 8.0, one piece casting with gearbox 6 = Aluminum, U clevis, slot 6.0, depth 10.5, hole 10.0, one piece casting with gearbox		
<b>Front Attachment (mm)</b> <a href="#">See page 9</a>	1 = Aluminum, slotless, hole 6.4 2 = Aluminum, slotless, hole 8.0 3 = Aluminum, U clevis, slot 6.0, depth 16.0, hole 10.0	4 = Aluminum, U clevis, slot 6.0, depth 16.0, hole 6.4 5 = Aluminum, U clevis, slot 6.0, depth 16.0, hole 8.0 6 = Aluminum, slotless, hole 10.0		
<b>Direction of Rear Attachment (Counterclockwise)</b> <a href="#">See page 9</a>	1 = 90°	2 = 0°		
<b>Functions for Limit Switches</b>	1 = Two micro switches cut off the actuator at end of stroke (EOS) 2 = Two micro switches cut off the actuator at end of stroke + in-between third one sends signal 3 = Two micro switches send signal at end of stroke 4 = Two micro switches send signal at end of stroke + in-between third one sends signal			
<b>Output Signal</b>	0 = Without 1 = Mechanical pot. 3 = Embedded reed switch	8 = Outer Adjustable Reed switch*1 9 = Outer Adjustable Reed switch*2 N = NPN Hall sensor*2		
<b>Connector</b> <a href="#">See page 10</a>	1 = DIN 6P, 90° plug	2 = Tinned leads		
<b>Cable Length (mm)</b>	1 = Straight, 300	2 = Straight, 600	3 = Straight, 1000	
<b>IP Rating</b>	1 = Without	2 = IP54	3 = IP66	6 = IP66M

## Retracted Length (mm)

1. Calculate  $A+B+C = Y$
2. Retracted length needs to  $\geq$  Stroke + Y
3. IP66M with industrial wiper and gear box cover. The retracted length should refer to the table on the right.

### A. Rear / Front Attachment

Front Attachment	Rear Attachment	
	1, 2, 3	4, 5, 6
<b>1, 2, 6</b>	+105	+109
<b>3, 4, 5</b>	+115	+119

### IP66M Min. Retracted length

Front Attachment	Rear Attachment	
	1, 2, 3	4, 5, 6
<b>1, 2, 6</b>	$\geq 148$	$\geq 151$
<b>3, 4, 5</b>	$\geq 158$	$\geq 162$

### B. Stroke (mm)

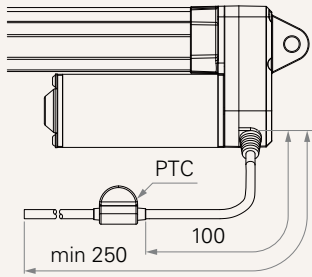
<b>20~150</b>	-
<b>151~200</b>	+2
<b>201~250</b>	+2
<b>251~300</b>	+2
<b>301~350</b>	+12
<b>351~400</b>	+22
<b>401~450</b>	+32
<b>451~500</b>	+42
<b>501~550</b>	+52
<b>551~600</b>	+62
<b>601~650</b>	+72
<b>651~700</b>	+82
<b>701~750</b>	+92
<b>751~800</b>	+102
<b>801~850</b>	+112
<b>851~900</b>	+122
<b>901~950</b>	+132
<b>951~1000</b>	+142

### C. Output Signal

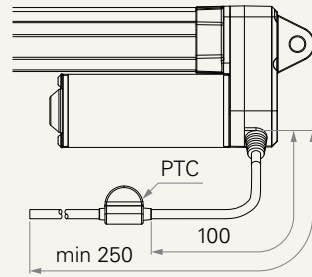
CODE	
<b>0</b>	-
<b>1, 3, N</b>	+30
<b>8, 9</b>	+8

## Voltage

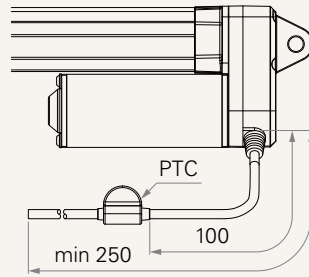
5 = 24V DC, PTC



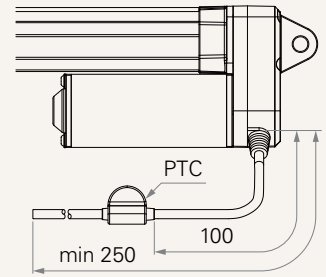
6 = 12V DC, PTC



7 = 36V DC, PTC

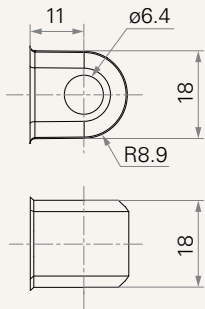


8 = 48V DC, PTC

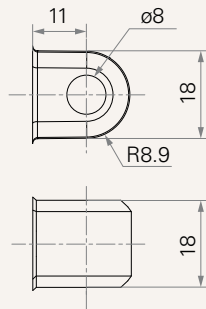


## Rear Attachment (mm)

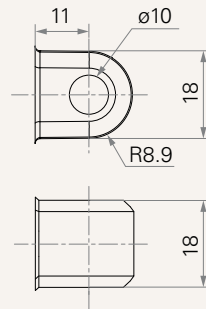
1 = Aluminum, slotless, hole 6.4, one piece casting with gearbox



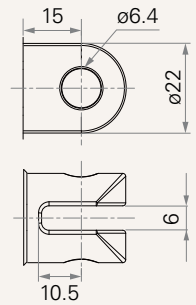
2 = Aluminum, slotless, hole 8.0, one piece casting with gearbox



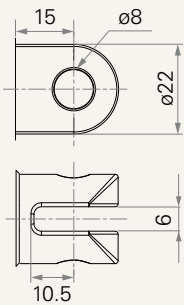
3 = Aluminum, slotless, hole 10.0, one piece casting with gearbox



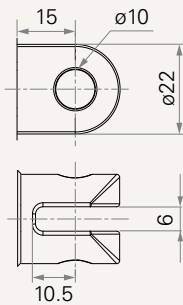
4 = Aluminum, U clevis, slot 6.0, depth 10.5, hole 6.4, one piece casting with gearbox



5 = Aluminum, U clevis, slot 6.0, depth 10.5, hole 8.0, one piece casting with gearbox



6 = Aluminum, U clevis, slot 6.0, depth 10.5, hole 10.0, one piece casting with gearbox





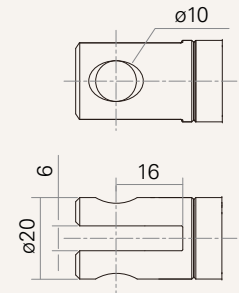
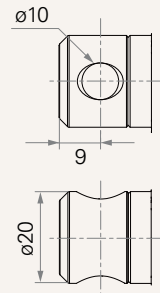
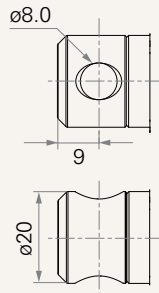
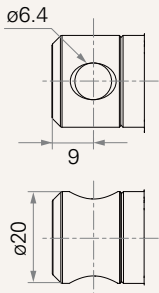
## Front Attachment (mm)

1 = Aluminum, slotless, hole 6.4

2 = Aluminum, slotless, hole 8.0

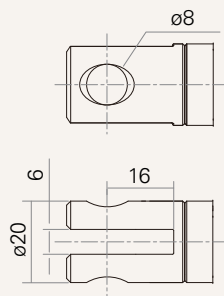
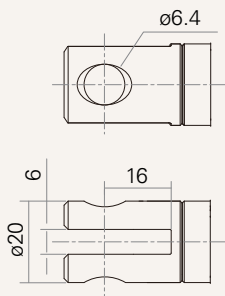
6 = Aluminum, slotless, hole 10.0

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



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

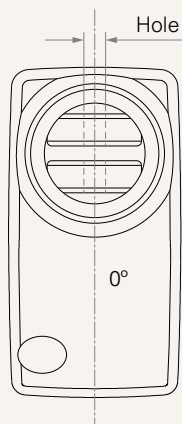
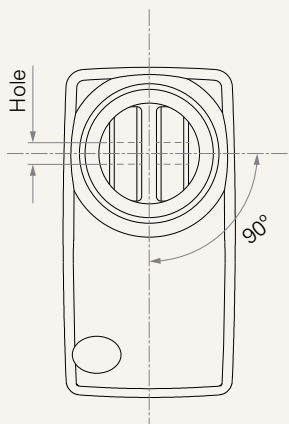
5 = Aluminum, U clevis, slot 6.0, depth 16.0, hole 8.0



## Direction of Rear Attachment (Counterclockwise)

1 = 90°

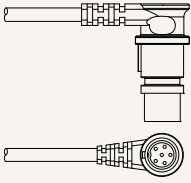
2 = 0°



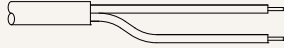
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## Connector

1 = DIN 6P, 90° plug



2 = Tinned leads



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## 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.