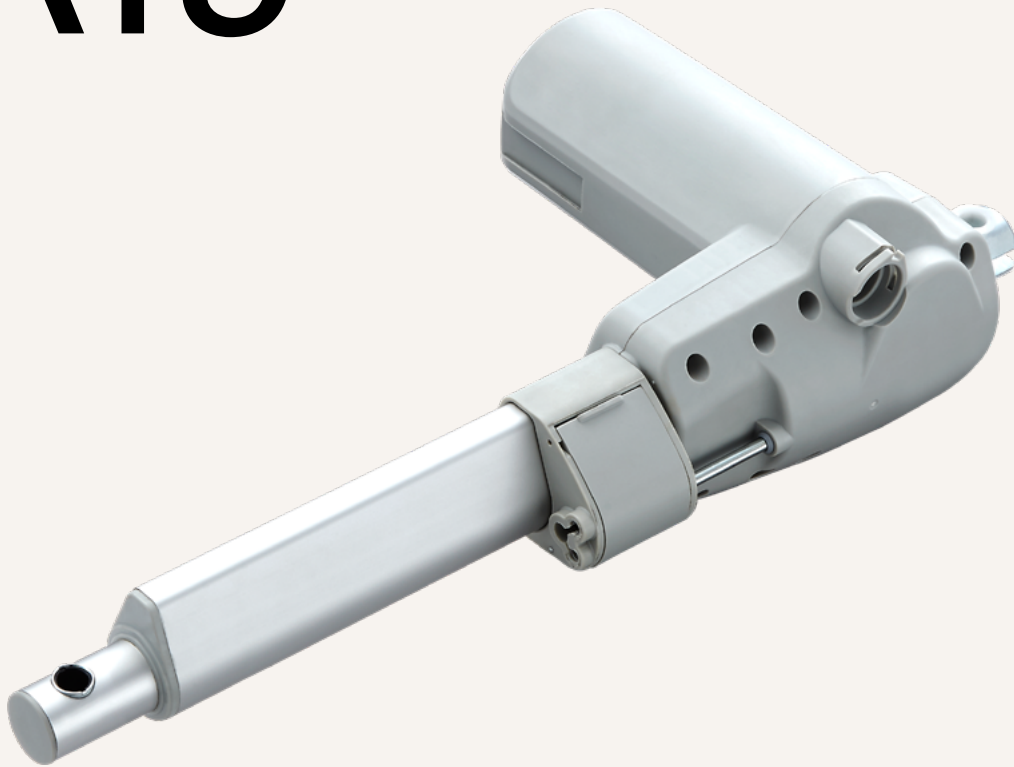


# TA15

series



## Product Segments

### • Care Motion

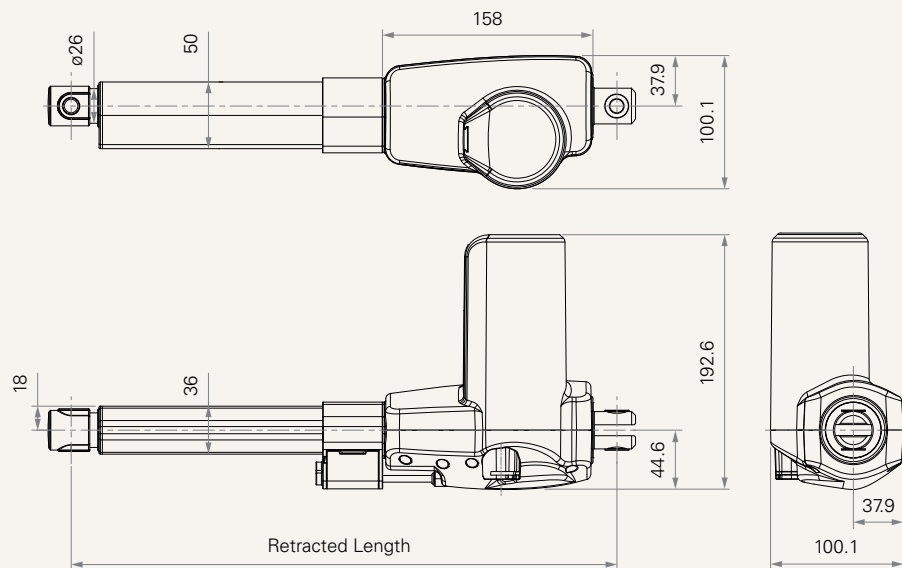
TiMOTION's TA15 series linear actuator was specifically designed for bariatric bed applications. These beds require a robust, long life solution that incorporates safety, reliability and effortless operation. A significant feature of the TA15 linear actuator is the quick release function that allows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

#### General Features

Max. load	10,000N (push); 5,500N (pull)
Max. speed at max. load	4.5mm/s
Max. speed at no load	14.4mm/s
Retracted length	≥ Stroke + 210mm
IP rating	IP66
Certificate	IEC60601-1, ES60601-1, IEC60601-1-2
Stroke	30~800mm
Output signals	POT, Reed, Hall sensors
Voltage	24V/36V DC, thermal protector
Color	Black, grey
Operational temperature range	+5°C~+45°C
Quick release	

## 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
Motor Speed (3000RPM, Duty Cycle 10%)							
T	8000	4000	8000	2.5	6.0	7.9	4.4
Motor Speed (3800RPM, Duty Cycle 10%)							
B	10000	4000	10000	2.5	8.5	8.0	4.5
C	8000	4000	8000	2.5	8.5	10.7	6.0
D	5500	5500	5500	2.5	8.0	14.4	8.1

## Note

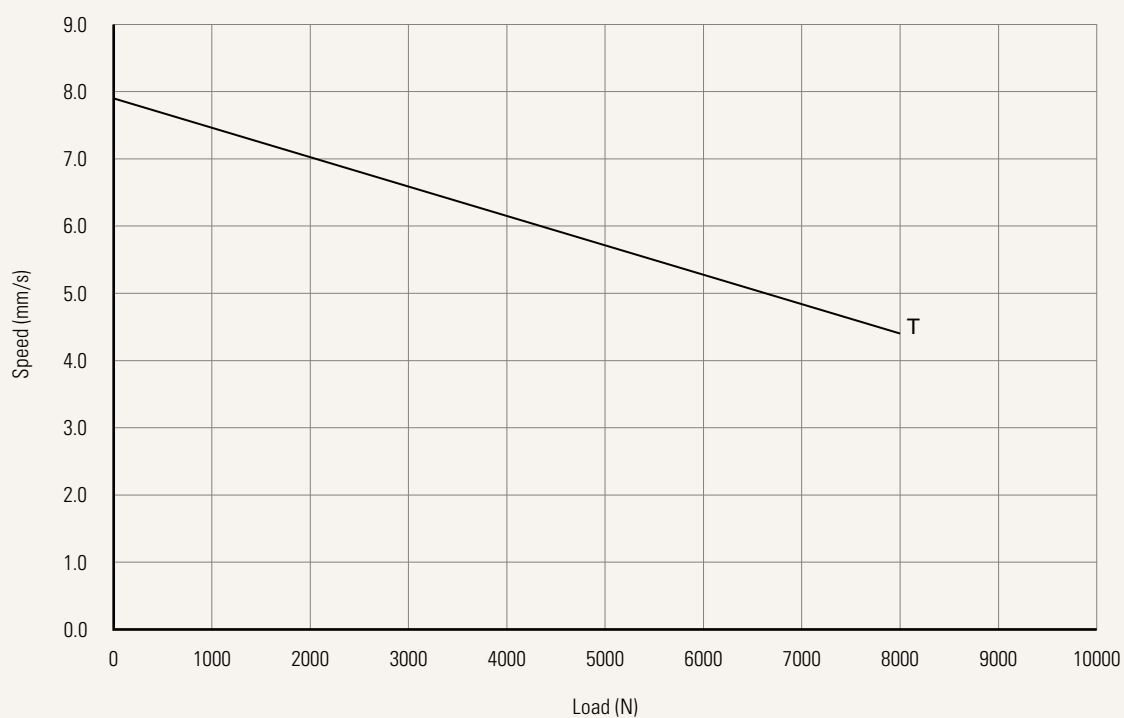
- 1 This self-locking force level is reached only when a short circuit is applied on the terminals of the motor. All the TiMOTION control boxes have this feature built-in.
- 2 The current & speed in table are tested with 24V DC motor. With a 12V DC motor, the current is approximately twice the current 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.
- 3 The current & speed in table are tested when the actuator is extending under push load.
- 4 Standard stroke: Min.  $\geq 30$ mm, Max. please refer to below table.

CODE	Load (N)	Max Stroke (mm)
<b>B</b>	10000	500
<b>T, C</b>	8000	500
<b>D</b>	5500	800

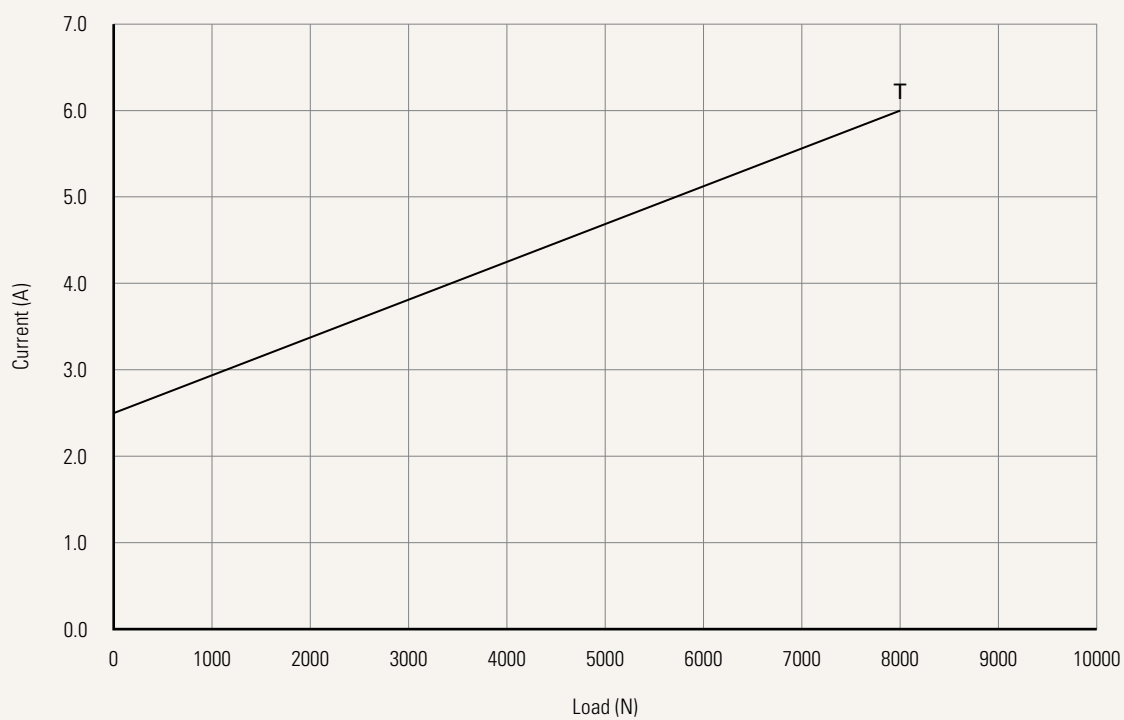
## Performance Data (24V DC Motor)

Motor Speed (3000RPM, Duty Cycle 10%)

Speed vs. Load



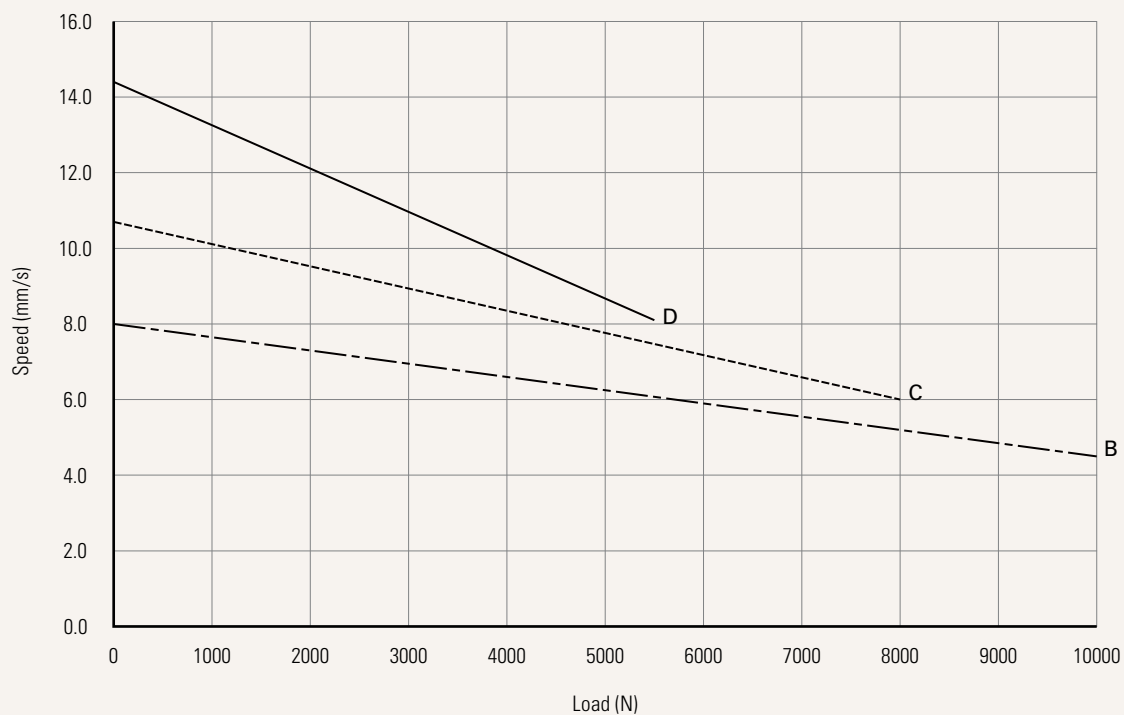
Current vs. Load



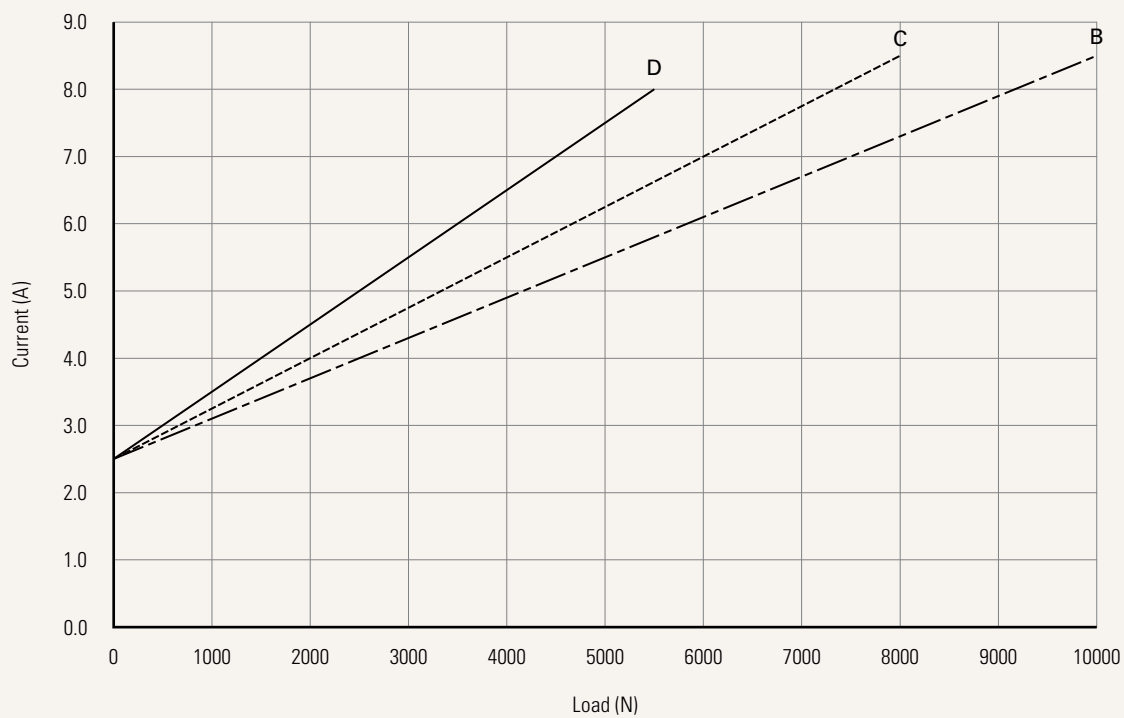
## Performance Data (24V DC Motor)

Motor Speed (3800RPM, Duty Cycle 10%)

Speed vs. Load



Current vs. Load



<b>Voltage</b>	5 = 24V, thermal protector    7 = 36V, thermal protector			
<b>Load and Speed</b>	<a href="#">See page 2</a>			
<b>Stroke (mm)</b>	<a href="#">See page 2</a>			
<b>Retracted Length (mm)</b>	<a href="#">See page 6</a>			
<b>Rear Attachment (mm)</b> <a href="#">See page 6</a>	1 = Iron CNC, U clevis, slot 8.2, depth 17.0, hole 10.2, T bushing 2 = Iron CNC, U clevis, slot 8.2, depth 17.0, hole 12.2	3 = Iron CNC, U clevis, slot 10.2, depth 17.0, hole 10.2, T bushing 4 = Iron CNC, U clevis, slot 10.2, depth 17.0, hole 12.2		
<b>Front Attachment (mm)</b> <a href="#">See page 6</a>	1 = Iron CNC, U clevis, slot 8.2, depth 17.0, hole 10.2, T bushing 2 = Iron CNC, U clevis, slot 8.2, depth 17.0, depth 17.0, hole 12.2	3 = Iron CNC, U clevis, slot 10.2, depth 17.0, hole 10.2, T bushing 4 = Iron CNC, U clevis, slot 10.2, depth 17.0, hole 12.2		
<b>Direction of Rear Attachment (Counterclockwise)</b> <a href="#">See page 7</a>	1 = 0°	3 = 90°		
<b>Color</b>	1 = Black	2 = Pantone 428C		
<b>IP Rating</b>	1 = Without	2 = IP54	3 = IP66	
<b>Quick Release</b>	0 = Without	2 = Cable type quick release (not including cable)		
<b>Special Functions for Spindle Sub-Assembly</b>	0 = Without (Standard) 1 = Safety nut	2 = Standard push only 3 = Standard push only + safety nut		
<b>Functions for Limit Switches</b> <a href="#">See page 7</a>	1 = Two switches at full retracted / extended positions to cut current 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 Signal</b>	0 = Without	2 = Hall sensors * 2	3 = Reed Sensor	4 = POT
<b>Connector</b> <a href="#">See page 7-8</a>	0 = DIN 6P, socket on gear box 1 = DIN 6P, 90° plug	2 = Tinned leads 3 = Small 01P, plug 4 = Big 01P, plug	E = Molex 8P, plug F = DIN 6P, 180° plug G = Audio plug	Q = Molex 6P, 90° plug
<b>Cable Length (mm)</b>	0 = Without, for socket on gear box	1 = Straight, 500 3 = Straight, 1000	5 = Straight, 1500 6 = Straight, 2000	7 = Curly, 200 8 = Curly, 400

## Retracted Length (mm)

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

### A. Front Attach.

1, 2, 3, 4	+220
B, C	+210

### C. Load.

B	+5
T, C, D	-

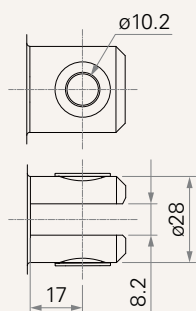
### B. Stroke (mm)

0~150	-
151~200	-
201~250	-
251~300	-
301~350	+10
351~400	+20

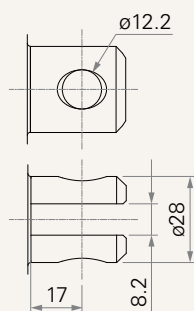
\* For stroke over 300mm, +10mm for each increment of 50mm stroke.

## Rear Attachment (mm)

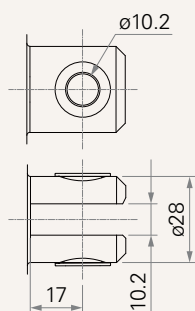
1 = Iron CNC, U clevis, slot 8.2, depth 17.0, hole 10.2, T bushing



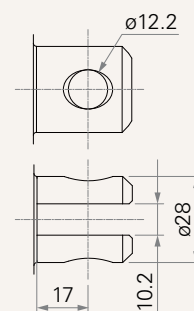
2 = Iron CNC, U clevis, slot 8.2, depth 17.0, hole 12.2



3 = Iron CNC, U clevis, slot 10.2, depth 17.0, hole 10.2, T bushing

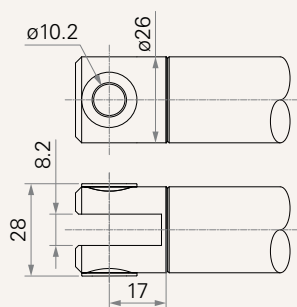


4 = Iron CNC, U clevis, slot 10.2, depth 17.0, hole 12.2

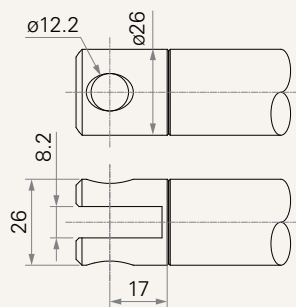


## Front Attachment (mm)

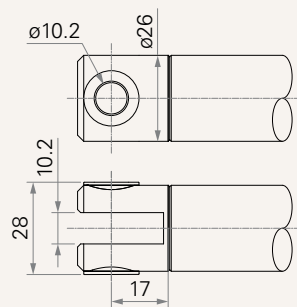
1 = Iron CNC, U clevis, slot 8.2, depth 17.0, hole 10.2, T bushing



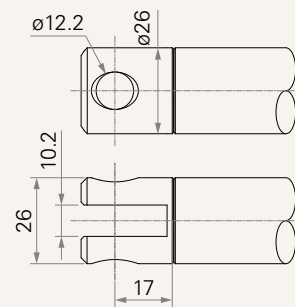
2 = Iron CNC, U clevis, slot 8.2, depth 17.0, depth 17.0, hole 12.2



3 = Iron CNC, U clevis, slot 10.2, depth 17.0, hole 10.2, T bushing

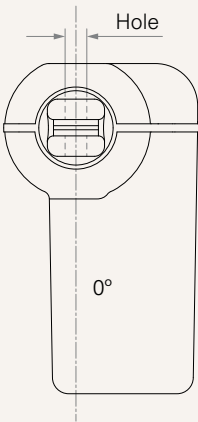


4 = Iron CNC, U clevis, slot 10.2, depth 17.0, hole 12.2

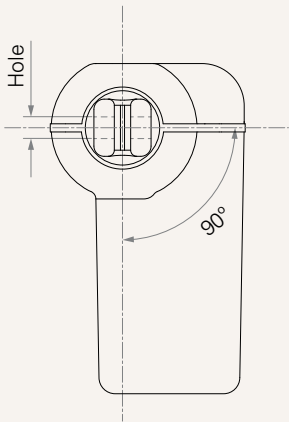


Direction of Rear Attachment (Counterclockwise)

1 = 0°



3 = 90°



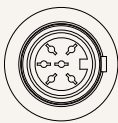
Functions for Limit Switches

Wire Definitions

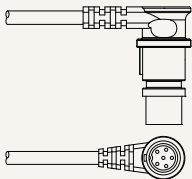
CODE	Pin					
	1 (Green)	2 (Red)	3 (White)	4 (Black)	5 (Yellow)	6 (Blue)
1	extend (VDC+)	N/A	N/A	N/A	retract (VDC+)	N/A
2	extend (VDC+)	N/A	middle switch pin B	middle switch pin A	retract (VDC+)	N/A
3	extend (VDC+)	common	upper limit switch	N/A	retract (VDC+)	lower limit switch
4	extend (VDC+)	common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

Connector

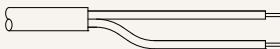
0 = DIN 6P, socket on gear box



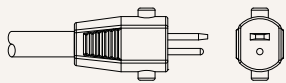
1 = DIN 6P, 90° plug



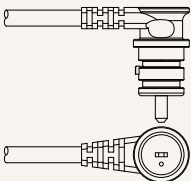
2 = Tinned leads



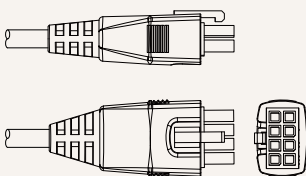
3 = Small 01P, plug



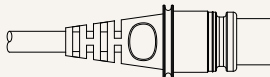
4 = Big 01P, plug



E = Molex 8P, plug



F = DIN 6P, 180° plug



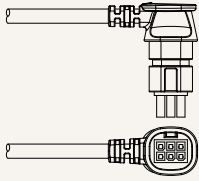
G = Audio plug



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## Connector

Q = Molex 6P, 90° plug



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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.