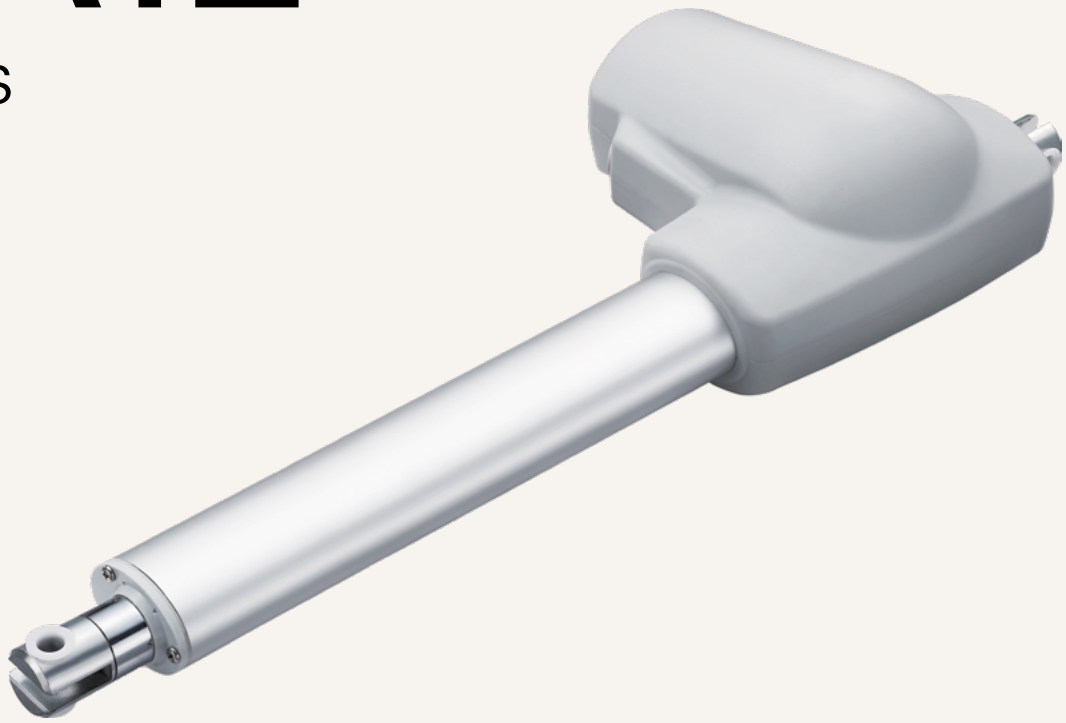
TA12

series



Product Segments

- **Care Motion**

TiMOTION's TA12 series linear actuator is designed primarily for high-load patient lifts and bariatric beds. These sensitive applications require a linear actuator whose design is focused on safety, reliability and effortless operation. A significant feature of the TA12 is the manual release function that allows for lowering of the patient in the event of an emergency or electrical power outage. The TA12 linear actuator has obtained the IEC60601-1 certification.

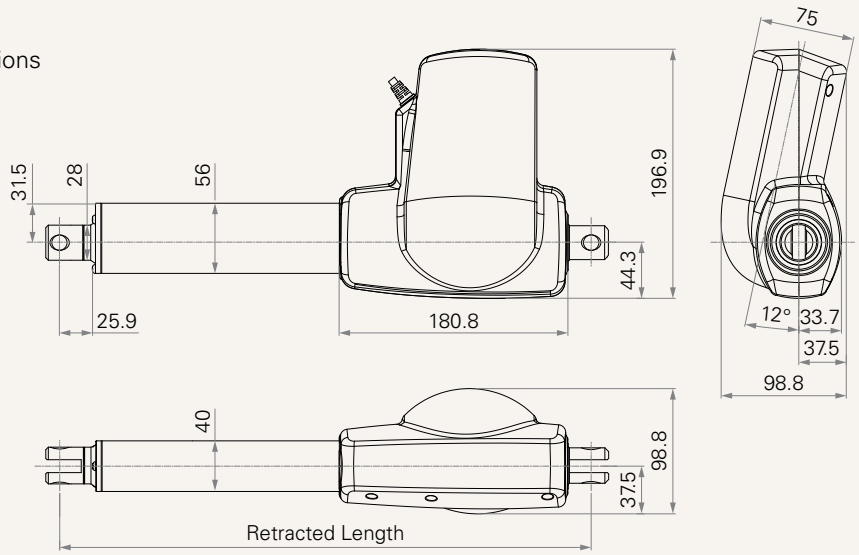
General Features

Voltage of motor	12, 24V DC (PTC); 24V DC, thermal protector (for patient hoist)
Maximum load	12,000N in push
Maximum load	6,000N in pull
Maximum speed at full load	32.3mm/s (with 1,500N in a push or pull condition)
Stroke	≥ 25~1000mm
Minimum installation dimension	≥Stroke + 210mm
Color	Black or grey
IP rating	Up to IP66W
Certificate	IEC60601-1, ES60601-1, IEC60601-1-2, EMC
Operational temperature range	+5°C~+45°C
Options	Safety nut, Hall sensors, POT, quick release, manual release

Suitable for patient hoist application

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 (3800RPM, Duty Cycle 10%)							
B	12000	6000	12000	2.0	10.0	7.2	4.0
C	7000	6000	7000	2.5	9.0	14.4	8.1
D	4000	4000	4000	2.5	9.5	28.7	16.2
E	2500	2500	2500	2.5	8.5	43.1	24.3
F	1500	1500	1500	2.5	7.5	57.3	32.3
Motor Speed (3000RPM, Duty Cycle 10%)							
G	10000	6000	10000	2.0	10.0	11.0	5.2
H	12000	6000	12000	2.0	7.5	5.5	3.1
J	7000	6000	7000	2.0	7.5	11.3	6.0
K	4000	4000	4000	2.0	7.0	22.7	12.7
L	2500	2500	2500	2.0	6.5	34.0	19.1
M	1500	1500	1500	2.0	6.0	45.3	25.5

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.

3 Operational temperature range at full performance: +5°C~+45°C

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

5 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)

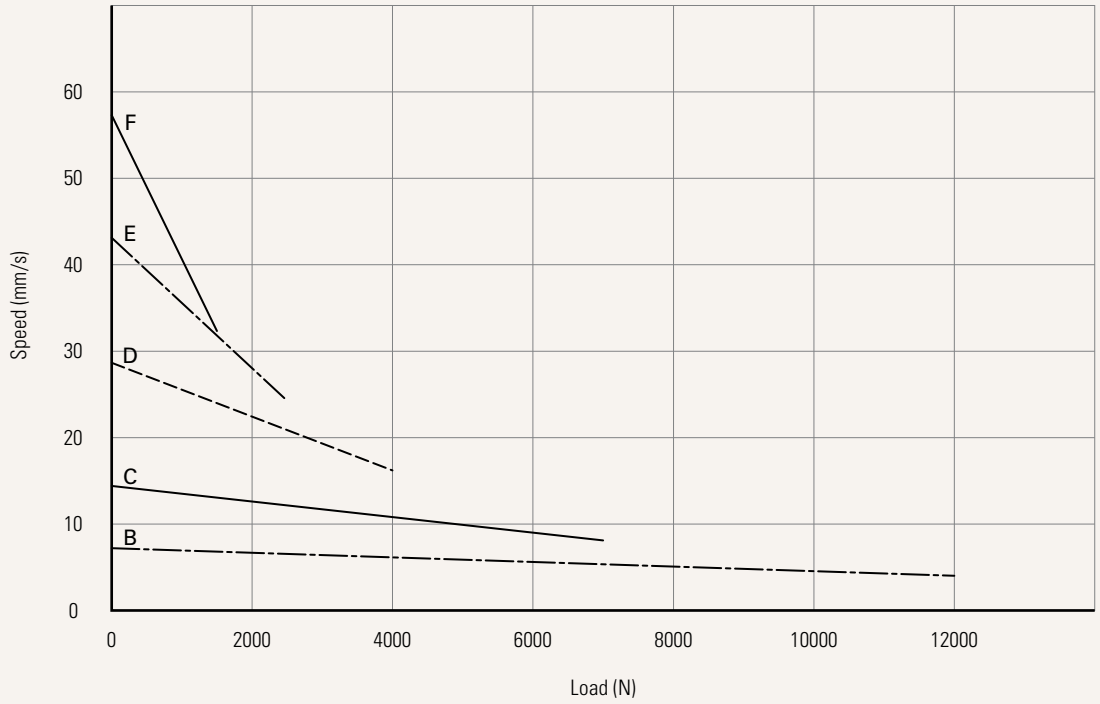
6 Standard stroke: Min. ≥ 25mm, Max. please refer to below table.

CODE	Load (N)	Max Stroke (mm)
B, G, H	≥ 8000	450
D, E, F, K, L, M	< 6000	1000

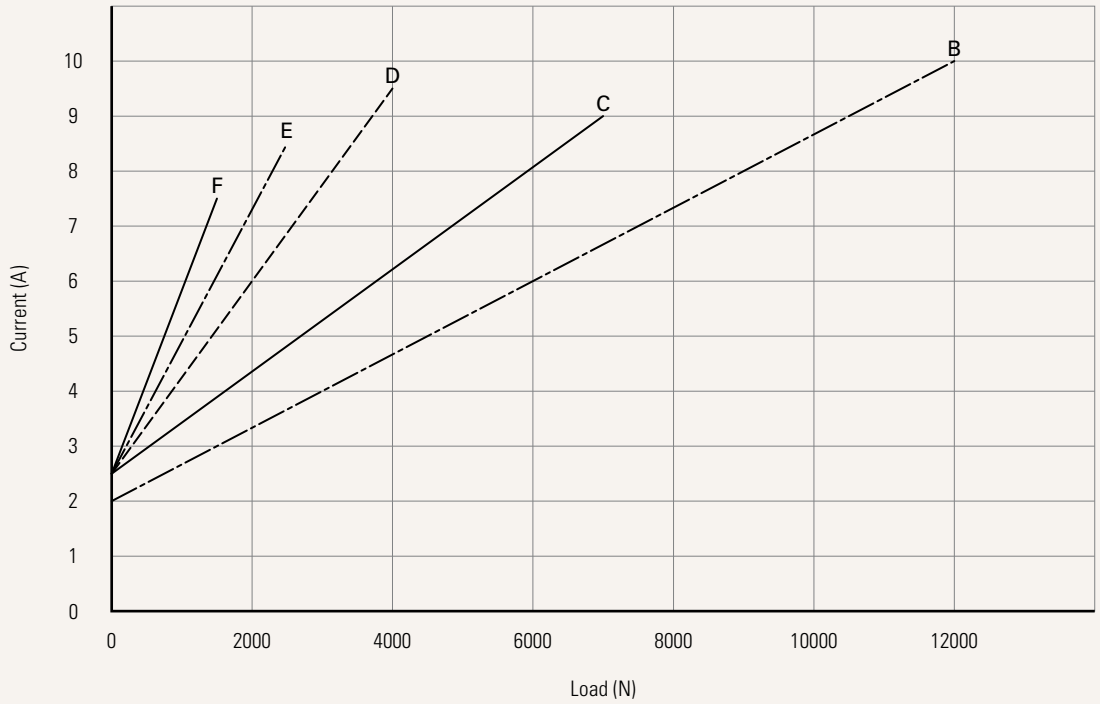
Performance Data (24V DC Motor)

Motor Speed (3800RPM, Duty Cycle 10%)

Speed vs. Load



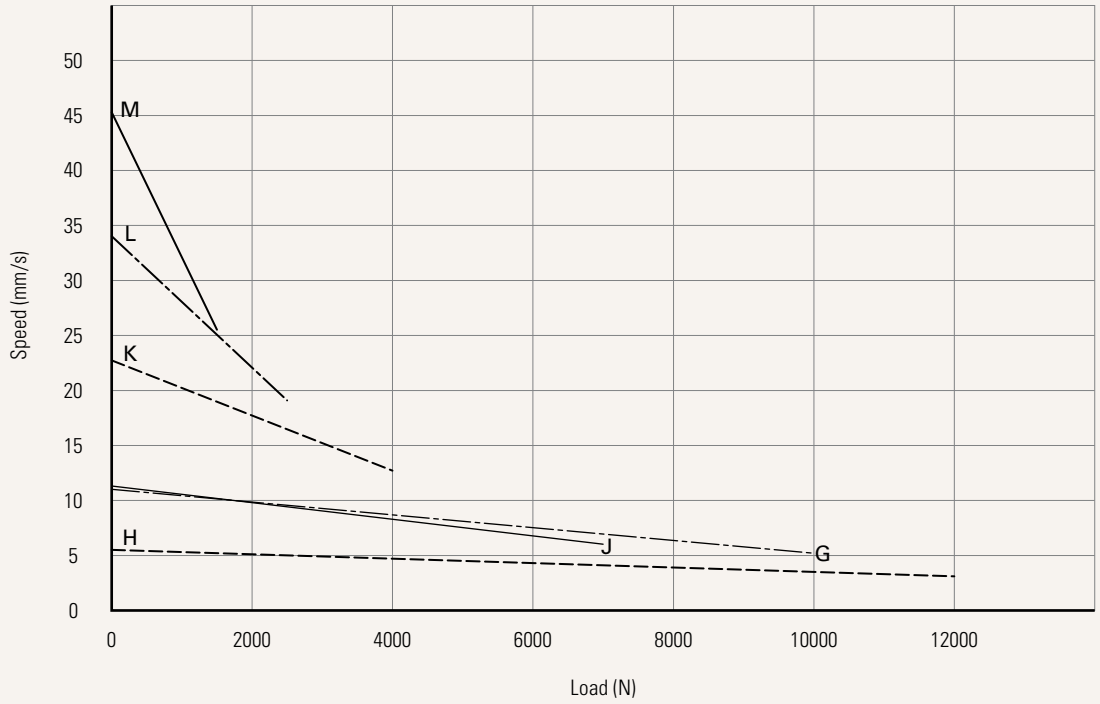
Current vs. Load



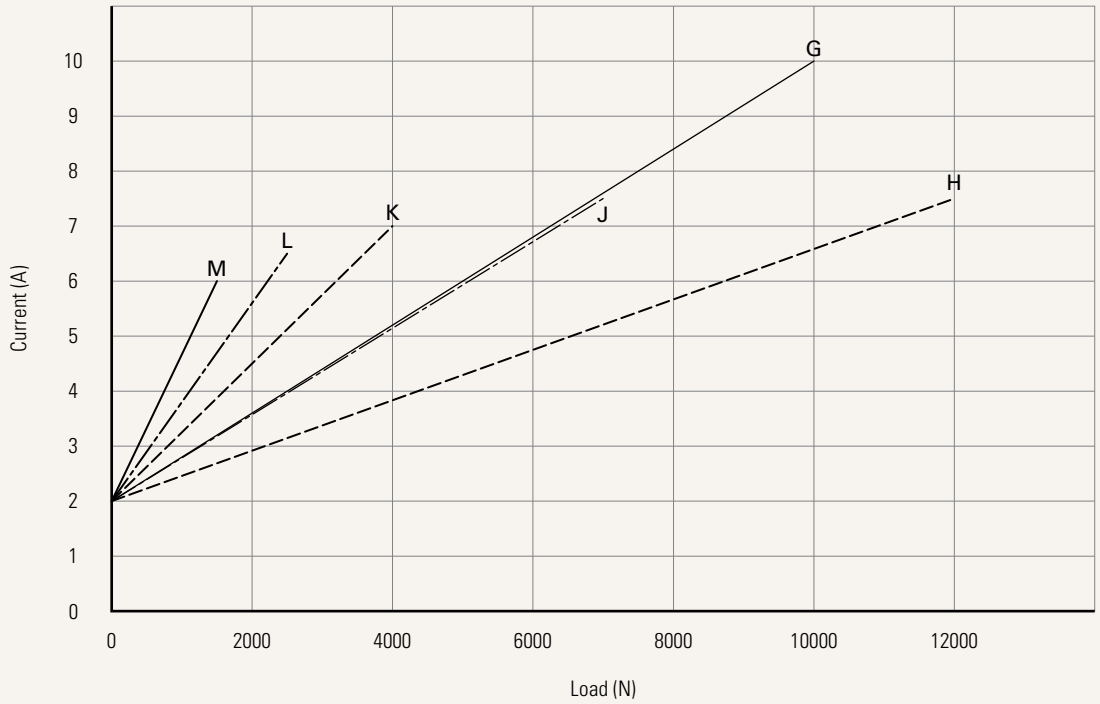
Performance Data (24V DC Motor)

Motor Speed (3000RPM, Duty Cycle 10%)

Speed vs. Load



Current vs. Load



TA12 Ordering Key

TiMOTION

TA12

Version: 20190429-Q

Voltage	5 = 24V DC, PTC	6 = 12V DC, PTC		
Load and Speed	See page 2			
Stroke (mm)				
Retracted Length (mm)	See page 7			
Rear Attachment (mm) See page 8	1 = Iron CNC, U clevis, slot 8.2, depth 17.0, hole 10.2, with plastic T-bushing	7 = Aluminum casting, U clevis, slot 8.2, depth 17.0, hole 12.2, for load < 8000N		
	2 = Iron CNC, U clevis, slot 8.2, depth 17.0, hole 12.2	C = Aluminum casting, U clevis, slot 8.2, depth 17.0, hole 10.2, with plastic T-bushing, for load < 8000N		
	6 = Aluminum casting, U clevis, slot 8.2, depth 17.0, hole 10.2, for load < 8000N			
Front Attachment (mm) See page 8	1 = Iron CNC, U clevis, slot 8.2, depth 17.0, hole 10.2, with plastic T-bushing	7 = Aluminum casting, U clevis, slot 8.2, depth 15.0, hole 12.2, for load < 8000N		
	2 = Iron CNC, U clevis, slot 8.2, depth 17.0, hole 12.2	C = Aluminum casting, U clevis, slot 8.2, depth 15.0, hole 10.2, with plastic T-bushing, for load < 8000N		
	6 = Aluminum casting, U clevis, slot 8.2, depth 15.0, hole 10.2, for load < 8000N			
Direction of Rear Attachment (Counterclockwise) See page 9	1 = 0°	3 = 90°		
Color	1 = Black	2 = Grey (Pantone 428C)		
IP Rating	1 = Without	2 = IP54	3 = IP66	5 = IP66W
Emergency Release Function	0 = Without	1 = Cable type quick release (not including cable)		
Special Functions for Spindle Sub-Assembly	0 = Without (Standard)		2 = Standard push only	
	1 = Safety nut		3 = Standard push only + safety nut	
Functions for Limit Switches See page 9	1 = Two switches at full retracted / extended positions to cut current			
	3 = Two switches at full retracted / extended positions to send signal			
Output Signals	0 = Without	2 = Hall sensor * 2	P = POT	
Connector See page 9	1 = DIN 6P, 90° plug	F = DIN 6P, 180° plug, for TEC extension cable standard option		
	2 = Tinned leads	G = Audio plug		
Cable Length (mm)	1 = Straight, 500	3 = Straight, 1000	5 = Straight, 1500	7 = Curly, 200
	2 = Straight, 750	4 = Straight, 1250	6 = Straight, 2000	8 = Curly, 400

TA12 Patient Hoist Ordering Key

TA12

Version: 20190429-Q

Voltage	5 = 24V DC, thermal protector		
Load and Speed	B = 12000N	G = 10000N	
Stroke (mm)			
Retracted Length (mm)	See page 7		
Rear Attachment (mm) See page 8	C = Aluminum casting, clevis U, slot 8.2, depth 17.0, hole 10.2, T-bushing		
Front Attachment (mm) See page 8	F = Aluminum casting, clevis U, slot 8.2, depth 19.0, hole 10.2, T-bushing, for manual release		
Direction of Rear Attachment (Counterclockwise) See page 9	1 = 0°		
Color	1 = Black	2 = Grey (Pantone 428C)	
IP Rating	2 = IP54	3 = IP66	
Emergency Release Function	5 = Manual release		
Special Functions for Spindle Sub-Assembly	6 = Mechanical push only + safety nut		
Functions for Limit Switches See page 9	1 = Two switches at full retracted / extended positions to cut current		
Output Signals	0 = Without		
Connector See page 9	1 = DIN 6P, 90° plug F = DIN 6P, 180° plug, for TEC extension cable standard option G = Audio plug		
Cable Length (mm)	1 = Straight, 500	3 = Straight, 1000	

TA12 Ordering Key Appendix

Retracted Length (mm)

1. Calculate A+B+C = Y
2. Retracted length needs to ≥ Stroke + Y

A. Front Attachment

CODE		General	For Patient Hoist
1, 2, 3, 4		+220	-
6, 7, 8, 9, C	**for load < 8000N**	+210	-
E		+270	-
F		-	+267

B. Stroke

Stroke (mm)	General	For Patient Hoist
25~300	-	-
301~350	+10	+10
351~400	+20	+20

* For stroke over 400mm, + 10mm for each increment of 50mm stroke.

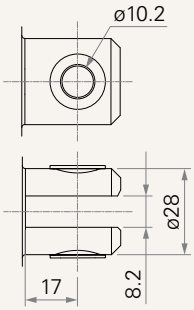
C. Spindle Sub-Assembly (Push Only)

CODE	General	For Patient Hoist
0	-	-
1	-	-
2	+15	-
3	+15	-
6	-	+15

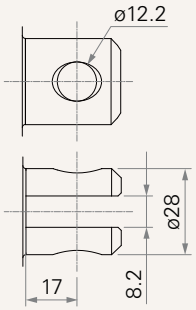
TA12 Ordering Key Appendix

Rear Attachment (mm)

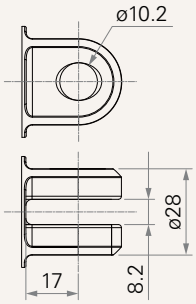
1 = Iron CNC, U clevis, slot 8.2, depth 17.0, hole 10.2, with plastic T-bushing



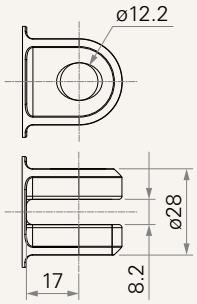
2 = Iron CNC, U clevis, slot 8.2, depth 17.0, hole 12.2



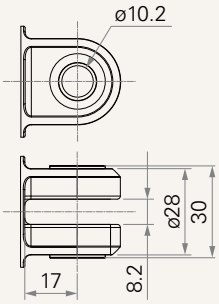
6 = Aluminum casting, U clevis, slot 8.2, depth 17.0, hole 10.2, for load < 8000N



7 = Aluminum casting, U clevis, slot 8.2, depth 17.0, hole 12.2, for load < 8000N

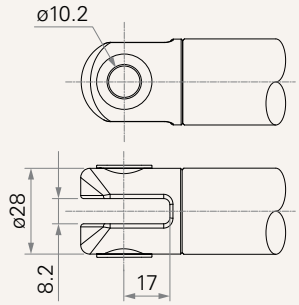


C = Aluminum casting, U clevis, slot 8.2, depth 17.0, hole 10.2, with plastic T-bushing, for load < 8000N

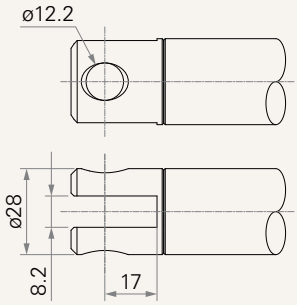


Front Attachment (mm)

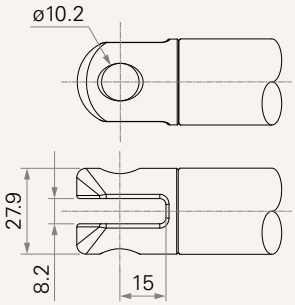
1 = Iron CNC, U clevis, slot 8.2, depth 17.0, hole 10.2, with plastic T-bushing



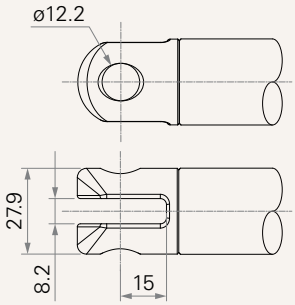
2 = Iron CNC, U clevis, slot 8.2, depth 17.0, hole 12.2



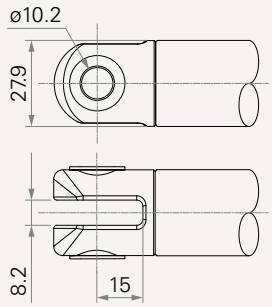
6 = Aluminum casting, U clevis, slot 8.2, depth 15.0, hole 10.2, for load < 8000N



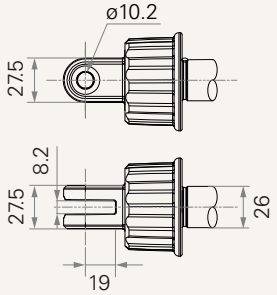
7 = Aluminum casting, U clevis, slot 8.2, depth 15.0, hole 12.2, for load < 8000N



C = Aluminum casting, U clevis, slot 8.2, depth 15.0, hole 10.2, with plastic T-bushing, for load < 8000N



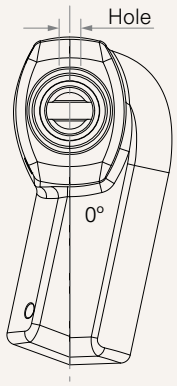
F = Aluminum casting, clevis U, slot 8.2, depth 19.0, hole 10.2, T-bushing, for manual release



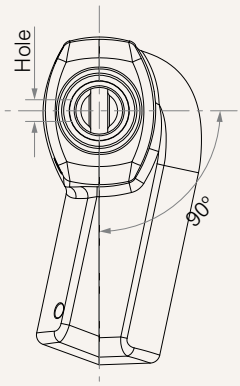
TA12 Ordering Key Appendix

Direction of Rear Attachment (Counterclockwise)

1 = 0°



3 = 90°



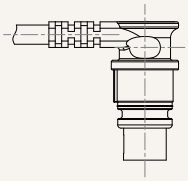
Functions for Limit Switches

Wire Definitions

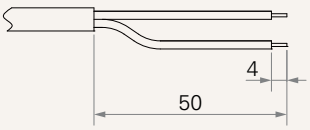
CODE	Pin					
	1 (Green)	2 (Red)	3 (White)	4 (Black)	5 (Yellow)	6 (Blue)
1	extend (VDC+)	N/A	N/A	N/A	retract (VDC+)	N/A
3	extend (VDC+)	common	upper limit switch	N/A	retract (VDC+)	lower limit switch

Connector

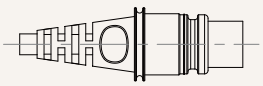
1 = DIN 6P, 90° plug



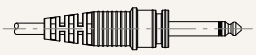
2 = Tinned leads



F = DIN 6P, 180° plug, for TEC extension cable standard option



G = Audio plug



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