

Compact Motorized Actuators

TRB Series



TRB linear actuators offer mid-range load capacity with a wide range of travel and motor choices. They can easily motorize manual positioners and mirror mounts with flexible cable routing and a non-reflective surface coating.

Flexible Cable Routing Options

The cable outlet is located on the side which allows for a number of cable management advantages and reduces the overall length of the actuator compared to other linear actuators.

Slim/Lightweight Design

The TRB series actuators feature a slim, light-weight design that allows them to be used in compact spaces with a variety of manual stages, mirror mounts, and OEM applications.

Replace Manual Actuators on Stages and Mounts

TRB actuators work great as replacements for adjustment screws or micrometers on manual stages and optical mounts. For more details refer to the Stage-to-Actuator Selection Guide. Once upgraded, the set-up can be automated for hands-free positioning or controlled remotely.

Optical Limit Switches

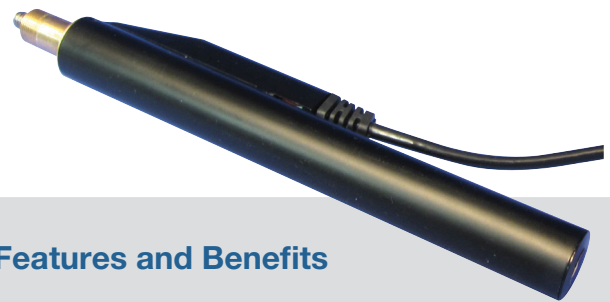
All TRB actuators include integrated optical limit switches to protect your investment from over travel damage. It also provides a method for repeatable referencing and homing after power up.

Hard-Coated Steel Ball Tip

TRB actuators feature a hard-coated steel ball tip that minimizes wear on the contact surface when compared to other designs using regular steel ball tips.

TRB Actuators with CONEX Controllers

A CONEX-TRB-CC is a CONEX-CC DC motor controller/driver coupled with a TRB-CC actuator. The unit is a miniature, low-cost option which offers precision motion in space-confined applications.



Features and Benefits

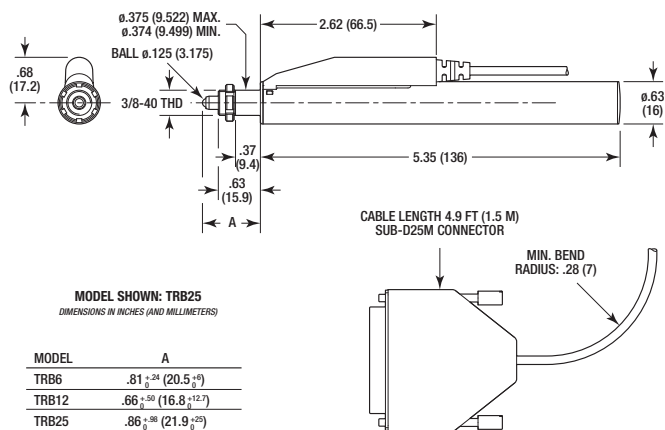
- Slim and lightweight design
- Flexible cable routing on the side
- Integrated optical limit switches
- Used to motorize manual stages and mounts



Design Details

Base Material	Stainless steel body
Drive Mechanism	Rolled lead screw
Drive Screw Pitch	1 mm
Reduction Gear	TRB-CC: 1:67.5 TRB-PP: 1:256
Feedback	TRB-CC: Motor mounted rotary encoder, 1024 cts/rev. TRB-PP: Open loop (no encoder)
Limit Switches	Optical switches, both ends
Origin	Uses minimum travel limit for homing, typically <4 μm repeatability
Motor	CC: DC servo motor PP: 2-phase stepper motor, 20 steps/rev
Cable Length	1.5 m

Dimensional Drawing



Specifications

	TRB-CC	TRB-PP
Travel Range (mm)	6; 12; 25	
Minimum Incremental Motion (μm)	0.1	0.1
Uni-directional Repeatability, Typical (Guaranteed) (μm)	TRB6CC: ±0.05(+0.25) TRB12CC: ±2.0 (±4.0) TRB25CC: ±2.0 (±5.0)	±0.08 (±0.25)
Bi-directional Repeatability with Compensation Typical (Guaranteed) (1) (2) (μm)	+/-0.13 (+/-0.75)	±0.15 (±0.75)
Accuracy (1), Typical (Guaranteed) (μm)	TRB6: ±2.0 (±3.0) TRB12: ±2.0 (±4.0) TRB25: ±2.0 (±5.0)	±2.0 (±4.0) ±2.0 (±4.0) ±2.0 (±5.0)
Maximum Speed (3) (mm/s)	2	0.3
Push force(N)	90 N	

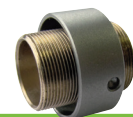
Recommended Controllers/Drivers

Model	Description
XPS-Dx	1- to 8-axis universal high-performance motion controller/driver
XPS-RLDx	1- to 4-axis universal high-performance motion controller/driver
XPS-DRV01	PWM drive module for DC brush and stepper motors, 3 A/43 V max.
ESP302-xN	1- to 3-axis motion controller/driver
SMC100CC	Single-axis DC motor controller/driver
SMC100PP	Single-axis stepper motor controller/driver

Ordering Information

Model	Description
TRB6CC	Motorized Actuator, 6 mm Travel, DC Servo Motor
CONEX-TRB6CC	TRB6CC Actuator, Integrated with CONEX-CC Controller
TRB6PP	Motorized Actuator, 6 mm Travel, Stepper Motor
TRB12CC	Motorized Actuator, 12 mm Travel, DC Servo Motor
CONEX-TRB12CC	TRB12CC Actuator, Integrated with CONEX-CC Controller
TRB12PP	Motorized Actuator, 12 mm Travel, Stepper Motor
TRB25CC	Motorized Actuator, 25 mm Travel, DC Servo Motor
CONEX-TRB25CC	TRB25CC Actuator, Integrated with CONEX-CC Controller
TRB25PP	Motorized Actuator, 25 mm Travel, Stepper Motor

Accessories



Model	Description
ADAPT-TRA25	Actuator Adapter, TRA25, Opto-Mechanical Components