

## Optomechanics

Mounting Basics

Optical Rails

Mirror Mounts

Lens Mounts

Filter Mounts

Rotation Mounts

Adapters

V-Mounts

Apertures & Iris Diaphragms

Lens Tubes

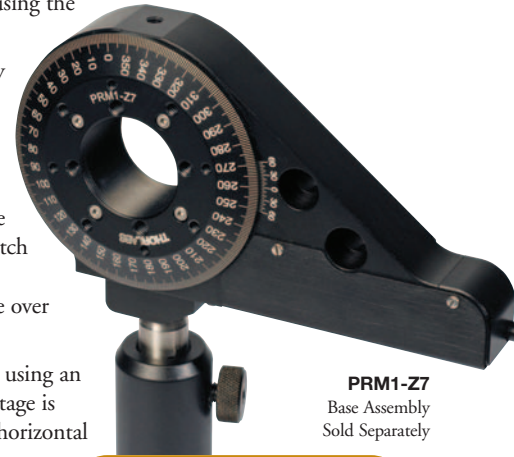
Cage Systems

# 1" Motorized High-Precision Rotation Mount

The PRM1-Z7 is a small, compact, motorized rotation stage that accepts 1" optics and is based on our popular PRM1 rotation mount (see page 175). Manual and automated control is possible using the new TDC0001 DC servo controller, which can be found on page 352.

Rotation is driven via a DC servo motor that is equipped with a 256:1 gearbox and a rotary encoder for accurate closed-loop position control. The TDC001 DC servo controller is the ideal companion for achieving smooth, continuous motion, which can be automated via the software interface. The user can measure the angular displacement by using the Vernier dial in conjunction with the graduation marks that are marked on the rotating plate in 1° increments. The precision DC motor actuator provides one arcsecond of resolution over the entire 360° of rotation. This rotation stage is also equipped with a precision home limit switch to facilitate automated rotation to the zero datum position, thus ensuring absolute angular positioning thereafter. The limit switch is designed to allow continuous rotation of the stage over multiple 360° cycles.

For complete flexibility, the stage can be mounted either vertically on a post or horizontally using an adapter plate (PRM1-SP2). When in the vertical orientation, the reduced thickness of the stage is extremely beneficial for optical path applications where space is limited. When used in the horizontal orientation, an upper adapter plate (PRM1-SP1) can be fitted to provide a compact and useful rotation stage for any motion control applications.



**PRM1-Z7**  
Base Assembly  
Sold Separately

### Specifications

- Resolution: 1arcsec
- Range: 360° Continuous
- Max Velocity: 24°/s
- Backlash: <100arcsec

### Features

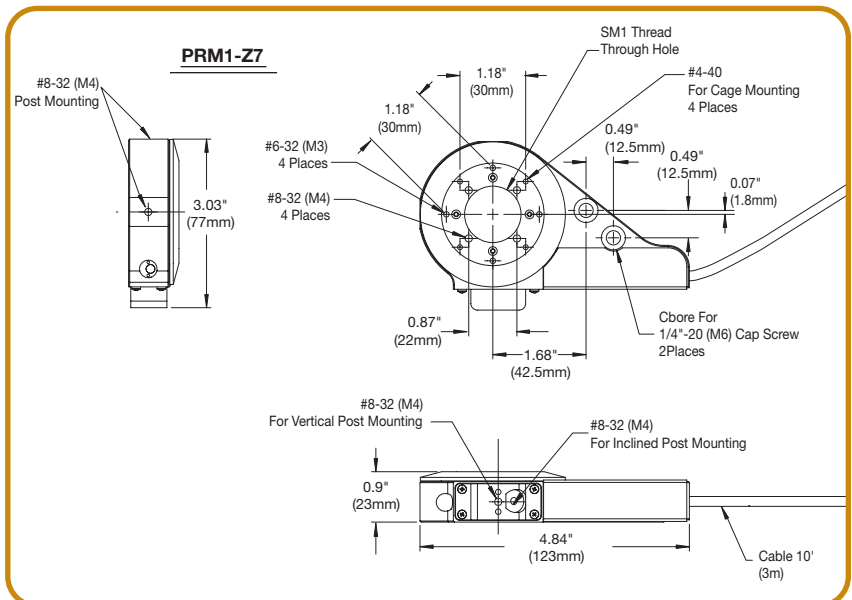
- 360° Coarse Rotation
- 1° Graduations on Main Dial
- Compact Design
- High Load Capabilities
- Precision Home Limit Switch
- Post Mountable
- Ideal for SM1 (1.035"-40) Compatible Accessories
- Directly Accepts Ø1" Optics up to 0.50" (12.5mm) Thick
- Fully Compatible With Our Lens Tube (SM1 1.035"-40 Thread) Accessories (Starting on Page 207)



**PRM1-Z7E**

Compact Motorized Rotation Stage w/ Servo Motor Controller and Power Supply

The TDC001 DC Servo T-Cube is a highly flexible yet compact controller. It is possible to pre-program the jog buttons fitted to the unit with user-specified angular steps. In this way, repeated discrete and accurate angular moves are easily supported simply using these buttons. Furthermore, variable speed rotation to any angular position can be achieved using the velocity slider. All stage operations can be carried out remotely on a PC using the highly flexible apt™ support software supplied. Intuitive graphical panels provide all required stage settings and commands for quick and easy operation. In addition, a comprehensive programming library enables fully customized and automated control sequences to be readily constructed in many programming languages, including LabVIEW, Visual Basic, and C++.



ITEM#	METRIC ITEM#	\$	£	€	RMB	DESCRIPTION
PRM1-Z7*	PRM1/M-Z7*	\$ 795.00	£ 500.90	€ 739.40	¥ 7,592.30	Compact Motorized Rotation Stage
PRM1-Z7E*	PRM1/M-Z7E*	\$ 1,330.00	£ 837.90	€ 1,236.90	¥ 12,701.50	Compact Motorized Rotation Stage w/ Servo Motor Controller
PRM1SP1	PRM1SP1/M	\$ 40.00	£ 25.20	€ 37.20	¥ 382.00	Upper Solid Adapter Plate
PRM1SP2**	PRM1SP2**	\$ 40.00	£ 25.20	€ 37.20	¥ 382.00	Horizontal Mounting Plate
SM1RR	SM1RR	\$ 5.30	£ 3.30	€ 4.90	¥ 50.60	Additional Ø1" Retaining Ring

\*One SM1RR retaining ring included with each unit.

\*\* Imperial and Metric Compatible