

## CXY2 - April 15, 2024

Item # CXY2 was discontinued on April 15, 2024. For informational purposes, this is a copy of the website content at that time and is valid only for the stated product.

### SM2-COMPATIBLE TRANSLATION MOUNTS

- ▶ 2.035"-40 Threading
- ▶ Mount SM2 Lens Tubes
- ▶ Mount Ø2" (Ø50 mm) Optics



**Application Idea**  
CXY2 and SM2 Lens Tube  
Mounted in a 60 mm  
Cage System



#### OVERVIEW

This page is a compilation of all of Thorlabs' SM2 (2.035"-40) threaded translation mounts in order to allow for the quick selection of a translation mount if SM2 threading is a primary requirement. Thorlabs also has similar compilations of SM threaded translation mounts for Ø1/2" (12.7 mm) and Ø1" (25 mm) optics. If SM threading is not a primary requirement for the translation mount, consider using the manual or motorized translation mount navigation menus.

#### Post-Mountable SM2-Threaded XY Translator



- ▶ Designed to Center Ø2" (50 mm) Optics in a Beam Path
- ▶ High Resolution Adjusters Provide 250 µm/rev for Micron Sensitivity
- ▶ SM2 (2.035"-40) Threads Compatible with Our Extensive Selection of SM2 Lens Tubes
- ▶ Tip/Tilt Deviation: <100 µrad
- ▶ Max Optic Thickness: 12 mm
- ▶ Bottom-Located 8-32 (M4) Tap Enables Direct Mounting to a Ø1/2" Post

This mount utilizes two M3 x 0.25 fine adjustment screws to provide ±1 mm of travel along both axes perpendicular to the optical axis. These adjuster screws provide 250 µm of travel per revolution and include a 5/64" hex socket on the back-end of each screw. This enables the use of a hex key, which will provide a better feel than the thumb screw knob when making small incremental movements. The mounting bore for the optic is SM2 (2.035"-40) threaded, which makes the mount compatible with SM2 lens tubes and other SM2-threaded components. The optic is held in the mount using the included SM2RR retaining ring.

Please note that the moving SM2-threaded world may be manually rotated and may also rotate during translation.

Part Number	Description	Price	Availability
LM2XY/M	Customer Inspired! Translating Lens Mount for Ø2" Optics, 1 Retaining Ring Included, Metric	\$179.38	Today
LM2XY	Customer Inspired! Translating Lens Mount for Ø2" Optics, 1 Retaining Ring Included	\$179.38	Today

### XY Translator for 60 mm Cage Systems



- ▶ Accepts Ø2.00" (Ø50.8 mm) Optics Up to 0.59" (15.0 mm) Thick
- ▶ ±2 mm Travel in X and Y without Rotation
- ▶ 3/16"-100 Lockable Adjusters

The CXY2 XY Translator provides ±2 mm of travel perpendicular to the optical axis in a 60 mm cage system. The moveable carriage is internally SM2 (2.035"-40) threaded and accepts Ø2" optics up to 0.59" (15.0 mm) thick when secured using the included SM2RR retaining ring. Thicker optics can be mounted into an SM2 lens tube, which then may be attached to the front of the translator. The fixed backside is also SM2 threaded to allow SM2 lens tubes to be attached. While the mount features a non-rotating center carriage, the mount does feature horizontal and vertical tick marks to ensure proper alignment of the moveable carriage.

Part Number	Description	Price	Availability
CXY2	60 mm Cage System Translating Lens Mount for Ø2" Optics	\$277.34	Lead Time

### XY Slip Plate Positioner for 60 mm Cage Systems



- ▶ ±2 mm of X and Y Manual Adjustment
- ▶ Lockable Design
- ▶ Center-Located SM2 (2.035"-40) Internal Threading
- ▶ Tapped Mounting Hole
- ▶ 60 mm Cage System and SM2 Lens Tube Compatible

The SPT2 Slip Plate Positioner is designed to provide coarse XY positioning of Ø2" optical components within our 60 mm cage assembly system. The SM2-threaded bore can mount optics up to 0.30" (7.6 mm) thick using two SM2RR retaining rings (included). This design provides manual adjustments of ±2 mm of travel and is best utilized in conjunction with an alignment laser to monitor the centricity. The images below detail how to adjust and lock the SPT2.



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The photo above shows the SPT2 mounted within a cage system, with the slip plate centered. To begin adjustment, use a 5/32" (4.0 mm) balldriver to loosen the two locking hex screws (visible in the photo above).



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Once the locking hex screws are unlocked, manually adjust the slip plate to the desired location in the X and Y directions.



[Click to Enlarge](#)

While continuing to hold the plate in the proper position, use the 5/32" (4.0 mm) balldriver to lock the locking hex screws.

Part Number	Description	Price	Availability
SPT2/M	Coarse ±2 mm Slip Plate Positioner for 60 mm Cage System, Metric	\$85.77	Today
SPT2	Coarse ±2 mm Slip Plate Positioner for 60 mm Cage System	\$85.77	Today

### 6-Axis Kinematic Mount for Ø2" Optics



- ▶ Six Adjustment Axes with Locks
  - Kinematic Pitch/Yaw:  $\pm 2^\circ$  at 3.6 mrad/rev
  - X and Y Translation:  $\pm 2$  mm at 254  $\mu\text{m}/\text{rev}$
  - Z Translation<sup>a</sup>:  $\pm 0.13$ " ( $\pm 3.2$  mm) at 318  $\mu\text{m}/\text{rev}$
  - Continuous 360° Roll Control with 1° Graduations
- ▶ Independent X, Y, and Roll Adjustment
- ▶ SM2-Threaded Bore for  $\varnothing 2$ " (50 mm) Optics up to 0.53" (13.4 mm) Thick
- ▶ Six #8 (M4) Counterbores for Post Mounting

The K6X2 6-Axis Kinematic Optic Mount is designed as a general-purpose, high-precision positioner. The optic cell can be translated along or rotated about 6 axes, and each axis has a locking screw for stability. The mount uses 1/4"-80 adjuster screws for pitch, yaw, and z-axis adjustment, and 3/16"-100 adjuster screws for x- and y-axis adjustment.

The translating cell has SM2 (2.035"-40) threading for attaching  $\varnothing 2$ " lens tubes or mounting  $\varnothing 2$ " (50 mm) optics up to 0.53" (13.4 mm) thick using the included SM2RR Retaining Ring, which can be tightened using an SPW604 Spanner Wrench (sold separately). In testing, the X and Y axes of the K6X2 caused less than  $\pm 35$   $\mu\text{m}$  of crosstalk. If higher adjustment resolution is desired for pitch, yaw, or z-translation, the three 1/4"-80 adjusters can be replaced with DAS110 Differential Adjusters.

For more information on our 6-axis kinematic mounts, including versions for  $\varnothing 1/2$ " and  $\varnothing 1$ " optics, see our full web presentation.

- a. Z-axis translation is accomplished by turning all three tip/tilt adjusters equally in the same direction.

Part Number	Description	Price	Availability
K6X2	Customer Inspired! 6-Axis Locking Kinematic Mount for $\varnothing 2$ " Optics	\$546.69	Today