

## LCP02R - June 10, 2020

Item # LCP02R was discontinued on June 10, 2020. For informational purposes, this is a copy of the website content at that time and is valid only for the stated product.

### ROTATION MOUNT FOR SCIENTIFIC CAMERAS

- ▶ Precise Rotational Adjustment of a Camera in a Microscope System
- ▶  $\pm 8^\circ$  of Fine Rotation;  $360^\circ$  Manual Coarse Rotation
- ▶ 60 mm Cage System and SM1 Lens Tube Compatible



Thorlabs' Scientific Camera Mounted to a Nikon Eclipse Ti using an LCP02R Rotation Mount, SM1 Lens Tubes, and SM1A44 Camera Port Adapter

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#### OVERVIEW

##### Features

- Control Rotation of Thorlabs' Scientific CCD Cameras in Microscopy Systems
- $1^\circ$  Engraved Graduations, Labeled Every  $2^\circ$
- Front and Back Plates Have Internal SM1 (1.035"-40) Threads for  $\varnothing 1"$  Lens Tubes
- Suitable for Stable Mounting of Cantilevered Loads with up to 0.5 ft-lbs (0.68 N·m) Torque

Thorlabs' LCP02R Rotation Mount is designed to provide  $\pm 8^\circ$  of fine, bi-directional rotation angle adjustment of a Thorlabs Scientific CCD Camera that is mounted on a microscope. Three setscrews around the edge of the front face can be loosened using a  $1/16"$  (1.5 mm) hex key to allow manual  $360^\circ$  rotation. Once these screws are tightened, fine rotation adjustment is achieved via a threaded adjuster. A fine adjustment scale engraved on the side of the mount has graduations every  $1^\circ$  with a range of  $\pm 8^\circ$ . For motorized adjustments, the manual adjuster can be replaced with a Z812 servo motor actuator that provides a total of  $13^\circ$  of fine rotation adjustment.

##### Mounting Thorlabs' Scientific CCD Cameras

The back plate of the mount features four through holes for ER cage rods that are compatible with Thorlabs' 60 mm cage system. A scientific CCD camera can be attached using these through holes, as shown in the middle photo to the right. Recessed areas in the front and back of the mount provide clearance for the camera's input aperture and minimize the adjustments needed to correct the camera's parfocal distance. Thorlabs' Quantalux™ sCMOS cameras must be mounted using the SM1 aperture as described below.



Click to Enlarge  
A recess in the back plate of the mount accepts a C-mount-threaded scientific camera's aperture.



Click to Enlarge  
The LCP02R rotation mount is attached to a Scientific Camera using four ER Cage Rods.



Click to Enlarge  
A USB C-Mount camera can be mounted to the LCP02R using the SM1A39 thread adapter.

### Mounting Other Cameras or Devices

The front and back plates of the mount have 0.20" (5.1 mm) deep internal SM1 (1.035"-40) threads, allowing  $\varnothing$ 1" lens tubes and other SM1-threaded components, such as Thorlabs' Quantalux sCMOS cameras, to be integrated with the rotation mount. Alternatively, Thorlabs' USB C-Mount CCD or CMOS cameras can be attached to one of the SM1-threaded bores in the LCP02R rotation mount via the SM1A39 SM1 to C-Mount Adapter, as shown in the photo above and to the right.

A side-located setscrew that accepts a 0.050" hex key helps to prevent the rotation angle from being displaced by accidental contact. Two 1/4"-20 (M6) taps in the back plate allow the LCP02R to be post mounted.

