

## About the Company

Thorlabs has been an active member of the Photonics community for over 15 years.

We strive to be the ultimate resource for the photonics community—a place to find the products you need to enable your experiments, as well as the information you need to get your application working.

Thorlabs designs, develops, and manufactures building blocks for the photonics industry including equipment for opto-mechanics, motion control, nano-positioning, alignment, optical components, laser diodes, tunable lasers and vibration isolation systems. In addition to core photonics building blocks, we now provide system level solutions including complete OCT and imaging systems.

## Trademarks

THORLABS is a registered trademark of Thorlabs Inc.

## Technical Support

Thorlabs provide a comprehensive after sales service. Contact us through your local representative, or at the address below:

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## Product Warranty

*Opto-Electronics, Control Electronics, Optics, and Nano-Positioning Product Lines.*

Thorlabs offers a two year warranty on the above mentioned product lines, provided normal use and maintenance of the products and when properly handled and correctly installed.

Thorlabs shall repair or replace any defective or nonconforming product as detailed above. We ask that buyer contact Thorlabs for a Return Material Authorization number (RMA #) from our Customer Service>Returns department in order to most efficiently process the return and/or repair.

Products returned for repair that are not covered under warranty, a Thorlabs standard repair charge shall be applicable in addition to all shipping expenses. This repair charge will be quoted to the customer before the work is performed.

## Customer Feedback

It is always helpful to have detailed and accurate information about any problems encountered by customers

We welcome comments or suggestions about any aspect of the equipment and instruction handbooks.

The logo for Thorlabs, featuring the word "THORLABS" in a bold, red, sans-serif font. The letters are outlined in white, giving it a 3D or embossed appearance.

DM10B

Precision Micrometer

## 1.1 Introduction

The Thorlabs High Precision Adjuster offers exceptional resolution and repeatability, with 8mm of travel. The lever mechanism design provides a precision mechanical advantage, which multiplies the resolution of its high-precision fine adjustment threads, that results in a small displacement of the spindle. This approach provides uniformly smooth motion that is largely independent of loading.

Two large knobs are provided for coarse and fine adjustment. The coarse adjustment provides 8 mm of travel at 0.5 mm per revolution, while the fine adjustment provides 0.3 mm travel at 0.5  $\mu$ m resolution.

The DM10B has a 9.5 mm (3/8") mounting barrel and is compatible with our RollerBlock™ series of linear stages, or any stage with a 3/8" (9.5 mm) mounting clamp.



Fig. 1.1 DM10B Differential Actuator

## 1.2 Specification

<b>Coarse Travel Range:</b>	8 mm (0.59")
<b>Coarse Travel Per Revolution:</b>	0.5mm
<b>Fine Travel Range:</b>	300 $\mu$ m
<b>Fine Adjustment:</b>	300 $\mu$ m over 6 Turns
<b>Fine Resolution:</b>	0.5 $\mu$ m
<b>Mounting Barrel:</b>	$\varnothing$ 9.5 mm (3/8")

## 1.3 Dimensions

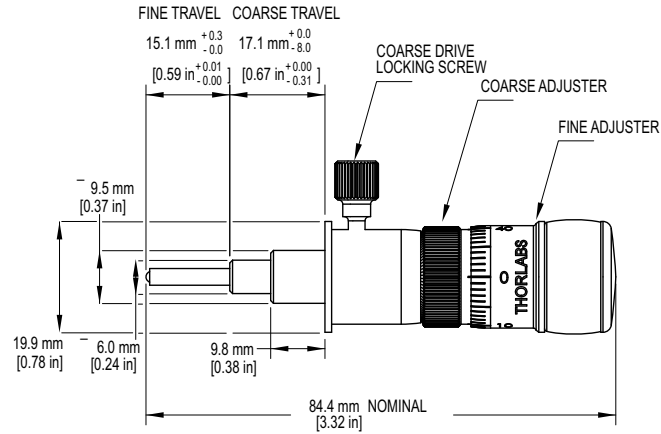


Fig. 1.2 Dimensions

## 1.4 Fitting the Adjuster

The spindle of the DM10B features a 3/8" (9.5 mm) mounting bush which can be fitted into any stage with a 3/8" (9.5 mm) mounting clamp.

- 1) Loosen the Lock Screw on the adjuster.
- 2) Rotate the coarse adjuster knob *counter-clockwise* a few turns to retract the drive rod.
- 3) Insert the drive into the stage ensuring that mounting bush is seated correctly in the clamp.
- 4) Tighten the clamp locking mechanism to secure the drive in position. Do not overtighten.

## 1.5 Using The DM10B Differential Drives

Turn the coarse adjustment clockwise until the platform of the stage begins to move. By use of the fine adjustment, sub-micron resolution is now achievable.

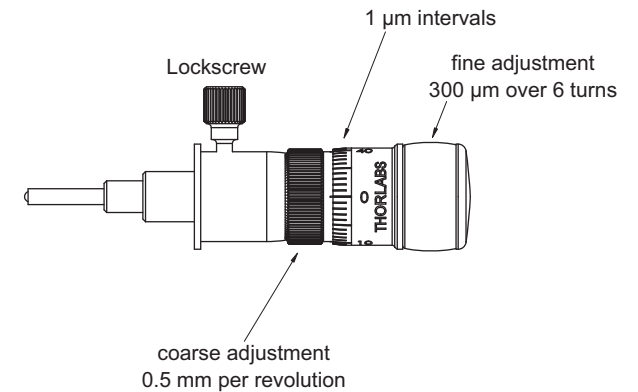


Fig. 1.3 DM10B Scale Graduations



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