

Point Source Microscope (PSM) w/ 10X Objective



Photo shown with Included 10X Nikon Objective



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SPECIFICATIONS

General

Type:

Teledyne FLIR BFS-U3-16SM

Compatible Objectives:

4X, 10X, and 20X Nikon Objectives

Teledyne FLIR BFS-U3-16SM		Type of Camera:
Integrated 635nm LED and 640nm laser diode for lighting		Note:
1		Angular Sensitivity (arcsec):
Physical & Mechanical Properties		
189 x 107 x 31		Dimensions (mm):
600		Weight (g):
0.1 with 10X objective		Lateral Sensitivity (µm):
±2 with 10X objective		Axial Sensitivity (µm):
+/- 1.4		Angular Range (°):
Optical Properties		
> 17 mm with 10x objective		Working Distance (mm):
Hardware & Interface Connectivity		
USB3		Connector:
Regulatory Compliance		
View		Certificate of Conformance:

PRODUCT DETAILS

- High Precision Inspection Tool Without Interferometers
- Measures Radius of Curvature, Checks Lens Orientations
- Portable And USB-Powered
- Enables Precise Optical Alignment

The Point Source Microscope is an advanced tool designed to facilitate rapid and precise optical system alignment. Utilizing confocal bright field imaging and auto-stigmatic microscopy, this microscope ensures that each component is perfectly centered and focused according to the design specifications. It significantly lowers system costs by allowing more relaxed mechanical tolerances on optics and mounts, making it ideal for simple optics, to complex systems like spectrometers and aspheric mirrors. The Point Source Microscope is completely powered by USB, it offers unmatched portability and ease of use, ready to operate immediately with its included software package. The high sensitivity and ability to verify optical performance make it ideal for quality control and production environments.

TECHNICAL INFORMATION

PSMAITM software is designed to measure the distance of a reflected or transmitted focused point image relative to the PSM optical axis. It also provides detailed image size and shape through a 16-bit intensity file, which can be downloaded in CSV or PNG format. Additionally, when the microscope objective is removed, the PSM functions as an autocollimator to measure angles by converting µm shown in the software to arc seconds.

Key Features:

- Two windows for tracking image location: one displays the camera view in pixels, the other in µm, depending on magnification.
 - Adjustable zoom via mouse scroll, with an orange box indicating the object space location in the camera window.
 - Magenta cross marks the optical axis of the PSM, and coordinates show the image centroid relative to the cross.
 - Automatic exposure control, adjustable shutter speed, and gain settings to prevent pixel saturation.
 - Intensity control for two light sources within the PSM using sliders.
 - The Bright laser enhances visibility under most lighting conditions, aiding alignment.
- Open source and Python-based, the software allows users to modify it for specific needs. A forthcoming update will include data logging with a customizable time base.